

THE EFFECTIVENESS OF VISUAL AND TEXT FRAMES IN
HEALTH COMMUNICATION

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ABSTRACT

Jennah M. Sontag: The Effectiveness of Visual and Text Frames in Health Communication
(Under the direction of Allison J. Lazard and Seth M. Noar)

Text and visual frames in health-related messages can influence the emotions and perceptions of viewers based on what is emphasized in these two frames, which can determine whether viewers will avoid or heed the message. Two separate experimental studies investigated the effectiveness of text and visual frames in depression messages. Study 1 tested three specific visual frames: suffering, treatment, and recovery. Study 2 tested the interaction of gain and loss text frames and positive (i.e. recovery) and negative (i.e. suffering) visual frames.

In both studies, participants were randomly assigned to message conditions; Study 1's suffering, treatment, and recovery message conditions, and Study 2's gain text with positive visual frame, gain text with negative visual frame, loss text with positive visual frame, and loss text with negative visual frame conditions. Participants viewed three messages each, then answered questions pertaining to emotion, stigma, identity, perceived behavioral attainment, aspiration, and other behavior predictors. The recovery/positive visual frames elicited positive emotion and increased viewers' aspiration to be like the exemplars depicted in the messages significantly ($p < .001$) more than the treatment and suffering/negative visual frames. Depictions of recovery imply that those who seek help will improve their lifestyle; therefore, viewers who aspire to be like the individuals depicted are more likely to seek help in order to attain the same positive experiences as those depicted. Suffering/negative visual frames elicited significantly greater negative emotion and decreased aspiration ($p < .001$). A path analysis also revealed that

positive emotion mediated the relationship between recovery/positive visual frames and aspiration. There were no significant differences in outcomes for text frames except for emotion; gain text frames elicited significantly greater ($p < .001$) positive emotion, while loss text frames elicited negative emotion ($p < .001$). Based on these findings, it is suggested that message designers consider how negatively framed visuals may deter individuals from heeding the message, while using exemplars that inspire viewers through recovery-related depictions may more effectively motivate individuals to seek help when they experience depressive symptoms. Implications beyond the context of depression are discussed, along with study limitations and suggestions for future research.

To Jesus Christ, my parents, and Micah.
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CHAPTER 1: INTRODUCTION

Media messages are sometimes designed to persuade audiences to change their behavior by changing viewers' perceptions about that particular behavior and its outcomes. Health communication is one area of communication that uses persuasion to influence behavior; therefore, health messages pertaining to depression, one of the most common mental illnesses nationwide (U.S. Department of Health and Human Services) will provide context for this dissertation. Viewers' perceptions about behavior and its outcomes can be influenced by how a particular point-of-view is emphasized, or made salient, in the message through the use of visual and text frames. Visual framing involves the use of visuals to depict or symbolize issues, moral evaluations of those issues, or solutions by what they make visually salient to viewers (Entman, 1993; Rodriguez & Dimitrova, 2011); text frames are similar but involve the use of text to make certain points salient to viewers.

What is emphasized to viewers through text and visuals not only prompts them to think about certain issues, but to think about them in a particular way (Gilovich, Griffin, & Kahneman, 2002; Hutchinson, Alba, & Einstein, 2004; Kahneman, Slovic, & Tversky, 1982) and cause them to focus on pieces of information that will be used in the decision-making process, which can affect behavior (Entman, 1993; Thaler & Sunstein, 2008; Tversky & Kahneman, 1981, 1986). Ample research demonstrates that viewers focus on what is made salient through visual and text frames (Andrews, Netemeyer, Kees, & Burton 2014; Arpan, Baker, Lee, Jung, Lorusso et al., 2006; Chan & Lee, 1984; Edwards, Elwyn, & Mulley, 2002; Gibson & Zillmann, 2000; Iyengar, 1991; Newhagen & Reeves, 1989; O'Neill & Nicholson-Cole, 2009; Pfau, Haigh, Fifrick, Hole,

Tedesco et al., 2006; Shoemaker, 1982; Slater, Karan, Rouner, & Walters 2002; Zillmann, Gibson, & Sargent, 1999). Other research demonstrates how framing influences how people think about a particular issue, which affects their thoughts, decisions, and actions (Goffman, 1974; Thaler & Sunstein, 2008; Tversky & Kahneman, 1981, 1986).

Visual frames can have a persuasive power because of the particular reactions they elicit, which in turn can influence message perceptions and behavior. Researchers have found that visual frames used in a variety of contexts can elicit strong emotions from viewers, which in turn influences their attitudes and beliefs about particular issues such as the Gaza conflict (Branter et al., 2011), risky health-related behaviors (Andrews, Netemeyer, Kees, & Burton 2014; Slater, Karan, Rouner, & Walters 2002), environmental issues (O'Neill & Nicholson-Cole, 2009), and presidential candidates (Coleman & Banning, 2006). For example, in the Andrews et al. (2014) study, participants were exposed to health warnings against smoking, which included visuals that emphasized the negative outcomes of smoking through graphic depictions. In turn, these depictions affected fear, which influenced beliefs about the harms of smoking and lead to increased thoughts about quitting. In addition, research has demonstrated that text frames, which included visuals that were used to supplement these frames, can elicit reactions that lead to actual health behavior change. For example, Schneider, Salovey, & Pallonen, et al. (2001) found that visual and auditory messages about smoking that emphasized the benefits of quitting influenced smoking avoidance and cessation behaviors. Detweiler, Bedell, Salovey, et al. (1999) found that messages encouraging about sunscreen use through emphasis of positive outcomes increased requests for sunscreen among participants, along with self-reported intentions to apply it while at the beach. In addition, Gallagher and Updegraff's (2012) meta-analysis on health message framing effects found that messages that made positive outcomes of a health behavior salient

influenced behavior change in areas such as diet, oral health, physical activity, and safe sex, while messages that made negative outcomes of avoiding certain behaviors salient influenced behaviors such as breast cancer screenings.

The purpose of this dissertation was to assess different visual frames, text frames, and the way they interact to determine whether visual and text framing used in messages about seeking help for depressive symptoms makes a difference in audience reactions that predict behavior. The objective of this study was to demonstrate that when it comes to message design, images should be carefully and thoughtfully selected based on what designers want to make salient and the reactions they are hoping to produce – reactions that can lead to positive behavior.

Some health-related messages that are persuasive in nature warn audiences of a risky behavior, then inform them of behaviors to adopt or change in order to avoid those risks (Witte & Allen, 2000). In the context of depression, those with symptoms who do not seek help are at risk for worsening symptoms; therefore, persuasive health messages warn viewers of this risk and encourage this behavior in order to avoid this risk. These types of messages may include text along with visuals that illustrate and supplement the text, but visuals do more than simply illustrate a concept because they are mentally processed faster than text (Sibley, 2012) and can suggest meanings that go beyond what is conveyed through text (Abraham & Appiah, 2006). Visuals draw in viewers' attention as they are processed faster than text and make it easier to interpret and comprehend text (Austin, Matlack, Dunn, & Kosler, 1995; Michielutte, Bahnson, Digman, & Schroeder, 1992; Mansoor & Dowse, 2003; Hämeen-Antila, Kemppainen, Enlund, Patricia, & Marja, 2004; Leiner, Handal, & Williams, 2004; Morrow, Hier, Menard & Leirer, 1998). Visuals can also relate to viewers' needs and interests, especially through the use of exemplars portrayed in photographs (Lockwood & Kunda, 1997; Messaris, 1997). These models,

in the context of health communication, can be used to demonstrate behavior or outcomes through implied behavior that provoke lasting mental images in viewers' minds, making behavior-related messages easier to recall long after message exposure (Blackwell et al., 2015). Just because visuals have been shown to be effective in influencing health behavior (Sims, Langley, Lewis, Richardson, Szatkowski, 2014; Whatley, Mamdani, & Upshur, 2002; Roter, Rudd, Keogh, & Robinson, 1987; Delp & Jones, 1996; Ngoh & Shepard, 1997), selection of visuals based on their attention-getting quality, relevance or similarity to the viewer is not a sufficient strategy for selecting visuals. Visuals that grab a viewer's attention or portray exemplars that are similar to the viewer do not always elicit message reactions that lead to positive behavior. The way in which visuals are framed can influence what message they convey, which may or may not supplement the text or appropriately convey the message that message creators were hoping to communicate. Visual framing, therefore, can be a more sufficient strategy in making a significant difference in how audiences react to messages.

Because health-related messages pertain to people, it is logical that photos of people are used in messages because of their ability to realistically depict individuals that relate to message viewers and their ability to demonstrate behaviors and outcomes (Messaris, 1997). Individuals in photographs can be used to represent different stages of behavior, such as risks, behavior changes needed to avoid those risks, or the positive outcomes of an implied behavior change. These models serve as exemplars to which message viewers can compare themselves. Exemplars that are perceived as similar to viewers elicit viewers' need to compare themselves socially to the exemplar as a way to establish their social identity as either similar to or different from the exemplar (Brewer, 1991; Wood, 1989). The way in which exemplars are perceived can determine whether viewers are likely to assimilate their behavior with that of the exemplar or

differentiate their behavior (Lockwood & Kunda, 1997). In summary, the way that text frames and visual frames influence perceptions, frames can also influence how exemplars and their behaviors are perceived.

The following chapter of this dissertation reviews the literature on visual frames and text frames, as well as behavioral assimilation and contrast effects and the integrated behavior model, both of which can predict behavioral outcomes. Also included in the literature review is a discussion of prior work in these same areas specifically in the context of mental health (i.e. depression), further providing context for this dissertation. As one of the most common types of mental illness, depression provides a specific health-related context through which messages were developed and tested. Hypotheses that aim to close gaps in the literature are presented and divided into two experiments that were conducted simultaneously and used to assess different types of framing manipulations and their effects on message reactions. The chapter that follows explains the procedures used in each experiment to examine the impact of text and visual framing manipulations on the effectiveness of messages that encourage individuals with depressive symptoms to seek help through on-campus mental health services as a recommended behavioral response. Following this chapter are the results, discussion, and conclusion, which discuss the implications of the findings.

CHAPTER 2: LITERATURE REVIEW

Overview

Text frames and visual frames used in media messages influence viewers' perceptions and behavior (Chan & Lee, 1984; Coleman & Wu, 2006; Edwards, Elwyn, & Mulley, 2002; Gibson & Zillmann, 2000; Gilovich, Griffin, & Kahneman, 2002; Hutchinson, Alba, & Einstein, 2004; Kahneman, Slovic, & Tversky, 1982; Shoemaker, 1982; Zillmann, Gibson, & Sargent, 1999) by making a particular viewpoint more salient than another, especially when the message's purpose is to persuade viewers to engage in a certain behavior. Because of this, viewers are more likely to process information or make decisions based on perspectives presented in those frames (Thaler & Sunstein, 2008; Tversky & Kahneman, 1981, 1986).

Visual Framing

Visual framing, through the use of metaphors, depictions, or symbols, involves the use of visuals to define problems and their causes, evaluate them from a moral standpoint, or provide solutions (Entman 1993), or any combination of these, in order to capture the essence of an issue or event graphically (Rodriguez & Dimitrova, 2011). While some researchers testing visual frames define visual framing as message themes (Borah & Bulla, 2006; Patridge, 2005), others have described visual frames as ideological positions held by the visuals used in the messages, where the visuals serve as ideological representations (Griffin, 2004; Pieterse, 1992; Rodriguez & Dimitrova, 2011). Rodriguez & Dimitrova's (2011) review of visual framing studies identifies and defines four different types of visual frames: denotative, stylistic-semiotic, connotative, and ideological representations. Denotative refers to the way in which visuals are framed to represent

a particular theme, or area of focus, when covering an issue or event. Stylistic-semiotic refers to how photographic techniques, such as point-of-view, camera angle, proximity, color, shading, focal point, and detail, convey different meanings. Connotative frames refer to using visuals as symbols to convey meanings commonly understood within cultural or social contexts or to represent abstract concepts, for example, how the American flag is commonly used to symbolize patriotism. Ideological representations are visual frames that make certain ideas dominant or that emphasize a particular points-of-view in order to further an agenda or viewpoint, be it religious, political, or ethical.

For the purposes of this dissertation, visual frames refer to the perspectives made salient in photographs, through depictions of models, to promote a health-related agenda. This type of visual framing fits into Rodriguez and Dimitrova's (2011) ideological and connotative representation categories of visual frames, as the depictions of models are used to make certain social ideas (i.e. about a specific health behavior) salient and represent abstract concepts (i.e. outcomes of an implied health behavior).

Visual framing researchers have tested various visual frames, the outcomes they have produced, and the persuasive power they have had on viewers. In one study, visual frames used in news stories about war that emphasized war casualties elicited stronger negative emotions, which then reduced news audience support for U.S. military presence in Iraq (Pfau, Haigh, Fifrick, Hole, Tedesco et al., 2006). Because the focus of the visuals was on war casualties and not on the war's purpose or any positive outcomes of the war, these negative perspectives shaped viewers' negative perceptions and emotional responses toward the war. Had the visual frames focused on other aspects of the war, audiences may have had a positive emotional reaction leading to greater support for the U.S. presence in Iraq. Another study compared human-interest

visual frames with political frames used in news stories about the Gaza conflict in 2009 and found that human-interest frames elicited stronger emotional responses and higher ratings of communicative quality (Branter et al., 2011). These findings demonstrate that the emotions elicited by the visual frames had an effect on perceptions of and reactions to news stories.

Other researchers assessed how visual frames affected viewers' perceptions by testing how visual frames that focused on the causes of certain diseases and traffic accidents increased viewers' risk perceptions (Edwards, Elwyn, & Mulley, 2002; Gibson & Zillmann, 2000; Zillmann, Gibson, & Sargent, 1999). Similarly, research assessing visual frames that focused on the risks of certain health-related behaviors found that visual frames depicting threatening, graphic, negative outcomes significantly increased negative attitudes about the outcomes and elicited fear (Andrews, Netemeyer, Kees, & Burton 2014). This research demonstrates that viewers' perceptions and attitudes reflect what was emphasized through visual frames.

Other studies compared positive and negative visual frames. One study investigating the effects of presidential candidate portrayals found that negative portrayals of candidates, such as depictions of unflattering gestures and facial expressions including closed eyes, slouchy posture, passive listening, and indirect eye contact, left negative emotional impressions on viewers (Coleman & Banning, 2006). Climate-change messages that used positively-framed visuals, through depictions of houses with solar panels and fields with wind turbines, were more effective than negative, fearful visuals depicting flooded houses or houses falling off cliffs and forest fires, on viewer engagement with the message; participants who were exposed to the negative visuals reported feeling too scared and depressed to think further about the issue (O'Neill & Nicholson-Cole, 2009). Negative visual frames used in news stories about social protests that emphasized violence as a result of the protests produced feelings of negativity toward the reasons behind the

protests (Arpan, Baker, Lee, Jung, Lorusso et al., 2006; Newhagen & Reeves, 1989). Again, results from each of these studies demonstrate support for the use of visual frames to shape viewers' emotions, perceptions, and attitudes about certain issues. In summary, this literature demonstrates that visual frames influence emotions and perceptions in ways which can then influence attitudes, which in turn influence behavior (Montano, Kasprzyk, Glanz, Rimer, & Viswanath, 2008). Therefore, visual frames in health-message contexts can be used to influence behavior.

The literature demonstrates the effect that visual frames have on emotion and perceptions. In the context of depression, visual frames can emphasize different stages of depression, whether it is a pre-treatment suffering stage, treatment stage, or post-treatment recovery stage (Alvidrez, Snowden, Rao, & Boccellari, 2009; Blackwell et al., 2015; Cabassa et al., 2012; Holmes et al., 2006, 2008; Renner et al., 2016, WeBlau et al., 2015; Xia, Merinder, & Belgamwar, 2011). The suffering frame depicts a pre-behavior-change stage of emotional suffering; the treatment frame depicts individuals doing the behavior of receiving help; and the recovery frame depicts individuals at a post-behavior-change stage experiencing positive outcomes of seeking help. The following hypotheses and research questions were posed.

Study 1:

H1: Messages using the treatment or recovery visual frames will elicit significantly greater positive emotions than messages using the suffering visual frames, while messages using suffering visual frames will elicit significantly greater negative emotions than the other visual frames.

RQ1: Which visual frame – suffering, treatment, or recovery - will be perceived as most effective by participants?

Study 2:

H1: Messages using the positive visual frames will elicit significantly greater positive emotions than messages using the negative visual frames, while messages using negative visual frames will elicit significantly greater negative emotions than the other visual frames.

RQ1: Which visual frame – positive or negative - will be perceived as most effective by participants?

Visual Dominance

The way in which visuals are framed can make a significant difference in what messages communicate because of the ability of visuals to communicate more powerfully than text.

Visuals provoke automatic neurological responses faster than other message components; they are mentally processed 60,000 times faster than text (Sibley, 2012). In addition, sixty percent of people are visual learners (Walsh, 2005). Visuals have implications for decision processes and outcomes because of their ability to suggest meanings beyond the text, depending on how they are used with text (Abraham, 1998, 2003; Abraham & Appiah, 2006; Bettman & Kakkar, 1977).

Visuals can suggest meanings beyond what is conveyed in the text through the use of photographs used to depict models that illustrate a behavior or its outcome (Messaris, 1997).

Although the text may not explicitly say that a certain behavior results in a particular outcome, it can be implied in how a model is depicted. A health-related example of this is seen in print advertisements about Nicorette Gum, where the model depicted in the photograph is smiling and not smoking. Even though the text may reference using the gum to control cigarette cravings, the visual implies that the smiling individual has successfully used the product to develop self-control until he or she no longer craves cigarettes. The text and the visual do not explicitly communicate anything about the process of the 12-week program (i.e. the behavior), but they communicate the positive outcome of the behavior.

Visuals can also influence other types of reactions. Houts et al.'s (2006) review of literature examining the presence of visuals in health messages includes numerous studies that

found support for the presence of visuals in health-behavior messages to improve attention. One reason visuals draw attention is because they relate to the viewers' needs or interests (Messaris, 1997). In addition to grabbing viewer attention, visuals have a positive effect on message comprehension, especially among low-literacy audiences (Austin, Matlack, Dunn, & Kosler, 1995; Michielutte, Bahnson, Digman, & Schroeder, 1992; Mansoor & Dowse, 2003; Hämeen-Anttila, Kemppainen, Enlund, Patricia, & Marja, 2004; Leiner, Handal, & Williams, 2004; Morrow, Hier, Menard & Leirer, 1998). Visuals can make it easier for viewers to interpret information or they can make patterns more recognizable, especially if the message content is unfamiliar or if there is a language barrier. Also, the concrete representations they provide, for example, through the use of exemplars, allow viewers to form mental images that last after exposure (Blackwell et al., 2015).

Lastly, because of the ability of visuals to increase attention, comprehension, and emotional reactions, it is not surprising that they have also been shown to have significant impact on behavior change (Sims, Langley, Lewis, Richardson, Szatkowski; 2014; Whatley, Mamdani, & Upshur, 2002; Roter, Rudd, Keogh, & Robinson, 1987; Delp & Jones, 1996; Ngoh & Shepard, 1997) because these variables are predictors of behavior (Ajzen, 1991; Ajzen & Fishbein, 1980; Montano et al., 2008).

Because visuals are so effective and can be more powerful than text, the way in which they are framed makes a difference in emotional reactions or perceptions of the behaviors portrayed in those messages; these perceptions, in turn, influence whether viewers will behaviorally heed the messages (Branter et al., 2011; Coleman & Banning, 2006; Gallagher and Updegraff's, 2012; O'Neill & Nicholson-Cole, 2009; Schneider, Salovey, & Pallonen, et al., 2001).

Message Framing

Like visual framing, message framing either defines problems and their causes, evaluates them from a moral standpoint, or provides a solution (Entman, 1993), or offers a combination of these. Messages frames emphasize certain perspectives through text (i.e. text frames) and sometimes visuals that accompany it. If message designers do not carefully select or design visuals framed to support the text frame, then the two frames may conflict and only one, likely the visual frame, might influence viewers' reactions.

Text frames make certain perspectives of an issue more salient than others in order to influence decisions and how audiences think about decision outcomes (Gilovich, Griffin, & Kahneman, 2002; Hutchinson, Alba, & Einstein, 2004; Kahneman, Slovic, & Tversky, 1982; O'Keefe & Jensen, 2007; 2009). Like visual frames, text frames can elicit affective reactions, where positively framed message can elicit positive emotion and negatively framed messages can elicit negative emotion (Chang, 2008; Roney, Higgins, & Shah, 1995). Text that encourages a specific behavior can be framed to make the positive outcomes of the behavior salient, while other messages make the negative outcomes associated with avoiding the behavior more salient (O'Keefe & Jensen, 2007; 2009). This is known as gain and loss framing. Gain-framed messages about seeking help for depressive symptoms, for example, emphasize the positive outcomes of doing so, such as reducing symptom frequency, while loss frames will focus on the negative outcomes of *not* seeking help, such as increased frequency and intensity of symptoms.

In studies assessing the effects of gain- and loss-framed messages in health-related contexts, researchers found that loss-framed messages were significantly more effective in improving detection behaviors such as mammograms (Banks et al., 1995) and breast self-examinations (Meyerwitz & Chaiken, 1987). In a meta-analysis of the effects of these two

frames used in messages about prevention behaviors, O’Keefe & Jensen (2007) found that gain-framed messages were significantly more effective than loss, but only for disease prevention behaviors such as dental hygiene, not for prevention behaviors related to safer-sex, skin cancer prevention, and nutrition. Studies have also assessed the effects of gain- and loss-framed messages about prevention-related behaviors related to vaccines and exercise. Research on the impact of gain and loss text frames for messages encouraging HPV vaccines shows that gain-frames are more effective (Gerend et al., 2008). For messages pertaining to exercise intentions and cognitive elaboration about exercise, positive and negative frames were compared, and positive frames were found to be significantly more effective for these outcomes (Jones et al., 2003).

Other studies found no significant differences in the effects of gain or loss-framed messages; however, among participants with greater risk perceptions, loss frames were more effective, such as in the context of HIV testing (Apanovitch, McCarthy, & Salovey, 2003), mammography screenings (Gallagher, Updegraff, Rothman, & Sims, 2011), and cholesterol screenings (Maheswaran & Meyers-Levy, 1990).

Salovey & Wegener (2003) discuss how some behaviors can be framed as either a preventative behavior or as a detection behavior and that doing so can produce significant differences in message reactions. These authors discussed different studies they conducted to investigate the interaction of the two types of frames: prevention versus detection and gain versus loss. Prevention frames are those that take the position that certain behaviors can prevent risky outcomes by influencing viewers’ perceptions that they can do something to avoid risks by taking preventative measures (Rothman & Salovey, 1997). For example, prevention messages are likely those that encourage behaviors that prevent outcomes such as STDs or poor dental

health. Detection frames, on the other hand, give viewers the perception that certain behaviors run the risk of finding a problem that, if left unattended, will result in negative outcomes (Rothman & Salovey, 1997). These types of messages will likely encourage behaviors such as health screenings to detect whether an individual has cancer, for example.

Various studies assessed which frame was most effective on behavioral intentions when the same behavior was presented as a prevention or detection behavior. Pap smears presented as a prevention behavior may emphasize the importance of annual pap smears as part of overall health assessments; however, they may be presented as a detection behavior if messages emphasize their use for detecting cervical cancers (Salovey & Wegener, 2003). STD screenings can similarly be presented as either prevention or detection (Garcia-Retamero & Cokely, 2011). For both of these studies, the gain frame was more effective when the behavior was framed as a prevention behavior, while loss frames were more effective when the behavior was framed as a detection behavior. This literature on text frames demonstrates that both gain and loss text frames have had significant, positive effects on behavior and behavioral intentions but that the frame that was most effective was dependent upon the health issue.

This literature on text frames demonstrates that, like visual frames, text frames influence emotions and perceptions by what is made salient to audiences; gain text frames emphasize positive outcomes and loss text frames emphasize negative outcomes. Therefore, the following hypothesis and research question were posed regarding the effect of text frames on emotion and perceptions.

Study 2:

H2: Messages using gain text frames will elicit significantly greater positive emotions than messages using loss text frames, while messages using loss text frames will elicit significantly greater negative emotions.

RQ2: Which text frame – gain or loss- will be perceived as most effective by participants?

Because visual frames and text frames have been shown to elicit respective affective reactions, the following hypothesis was posed regarding the combination of both frames; in addition, the following research question was posed.

H3: Messages using gain text frames with positive visual frames will elicit significantly greater positive emotions than all other messages, while messages using loss text frames with negative visual frames will elicit significantly greater negative emotions than all other messages.

RQ3: Which text and visual frame combination will be perceived as most effective by participants?

Behavior Assimilation

When messages are relevant to the viewer and there is perceived similarity (between the viewer and the model in the message), there is an increased likelihood that social comparison will occur (Wood, 1989) so that viewers can establish their social identity. Text frames and the way models are visually framed provoke viewers to establish their identity either by assimilating with or differentiating themselves from the models (Brewer, 1991). Viewers behaviorally assimilate to models when they perceive the models to be similar in that they, too, have had similar experiences or share certain characteristics with the viewer. For example, a cancer patient sees himself or herself as similar to a recovering cancer patient in that they have both experienced cancer; in this way, recovering patients have inspired cancer patients to learn ways to cope with symptoms and survive (Taylor & Lobel, 1989). Tesser (1988) found that an individual can be positively affected by the success of someone who is similar. Also, if models are framed in a way that makes the behavior tangible and viewers perceive it as attainable, viewers will assimilate their behavior with that of the model (Lockwood & Kunda, 1997;

Meichenbaum, 1971) by taking on actual behavioral traits (Abrams, 1999). For example, frames give viewers the perception that they can do certain behaviors to avoid risks. This perception is shaped by the positive mental imagery viewers produce as they envision themselves successfully doing the behavior. When viewers can successfully visualize doing a behavior, they behave similarly (Chan & Cameron, 2012; Gregory et al., 1982; Loft & Cameron, 2013; Renner et al., 2016; Whiting and Dixon, 2013); therefore, the way in which models are visually framed influences this visualization. If a model's behavior emphasizes a positive behavior that the viewer can visualize himself or herself doing, then positive behavior will likely result. If a model's negative behavior is emphasized, such as one that negatively stereotypes individuals or reinforces stigma, viewers may assimilate with this behavior.

If viewers, on the other hand, believe that the behavior portrayed by the model is not similar or if it is perceived as unattainable because the viewer cannot visualize himself or herself doing the behavior successfully, then they are less likely to assimilate their behavior with that of the models due to the perception of a missed opportunity or lack of ability (Lockwood & Kunda, 1997).

The literature on behavioral assimilation explains how the visual portrayals of exemplars used in messages can influence behavior when the viewer identifies with the exemplar in the visual, perceives the exemplar's behavior to be attainable, and aspires to have the same experiences as the exemplar. The following research questions were posed to examine which visual frame would be best in eliciting these three outcomes.

Study 1:

RQ2a-c: Which visual frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?

Study 2:

RQ4a-c: Which text frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?

RQ5a-c: Which visual frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?

RQ6a-c: Which text and visual frame combination will elicit greatest a) identification, b) perceived behavioral attainment, and c) aspiration?

The Integrated Behavioral Model - A Theoretical Framework

According to the integrated behavioral model, which stems from the theory of reasoned action (Ajzen & Fishbein, 1977, 1980; Fishbein & Ajzen, 1975) and the theory of planned behavior (Ajzen, 1988, 1991), attitudes and perceptions predict behavior change (Montano, Kasprzyk, Glanz, Rimer, & Viswanath, 2008). The primary determinant of behavior change is behavioral intentions (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Behavioral intentions are determined by a person's attitudes, perceived norms, and personal agency about the behavior. Montano et al., (2008) describes these predictors in depth:

Attitude refers to “an individual's overall perception of favorableness or un-favorableness toward a behavior.” More specifically, there are two types of attitudes in response to messages: experiential attitude, which involves the viewer's emotional response toward the recommended behavior, and instrumental attitude, which is influenced by the viewer's beliefs about the behavioral outcomes (Ajzen, 1991; Ajzen & Fishbein, 1980; Montano et al., 2008).

Perceived norms refers to the social pressures one feels to perform or not perform a particular behavior. This construct also has two parts: injunctive norms and descriptive norms. Injunctive norms involve people's perceptions about what those close to them think they should do. Descriptive norms are the perceptions about what those in similar situations are actually doing.

The third predictor of behavioral intentions is personal agency, or the perception that the behavior is in the viewer's control. This two-part construct includes self-efficacy and perceived behavioral control. Self-efficacy is the viewers' beliefs about their ability to carry out the recommended behavior. This derives from the belief as to whether they have the perceived ability or confidence to do the behavior. Perceived behavioral control involves beliefs about the amount of control they have over the behavior, and whether there are environmental factors that might prevent them from performing the behavior.

Because framing can influence perceptions (Andrews, Netemeyer, Kees, & Burton 2014; Branter et al., 2011; O'Neill & Nicholson-Cole, 2009) it is possible that framing can influence viewers' attitudes, perceptions about norms, and perceptions about personal agency pertaining to a behavior emphasized in a health message. These message outcomes are all predictors of behavioral intentions, which is the strongest predictor of behavior (Montano et al., 2008).

Several studies demonstrate that the integrated behavioral model (or earlier models of TRA, TPB) has successfully predicted numerous behaviors. A meta-analysis of studies that tested the behavioral model found that intentions to use condoms was a function of attitudes, and that intentions were significantly related to behavior (Albarracín, Johnson, Fishbein, Muellerleile, 2001). In another study, authors tested the model to determine whether attitudes, perceived norms, and perceived personal agency predicted intentions for cancer screening behaviors including mammography, colonoscopy, prostate-specific antigen tests, exercise, eating fruits and vegetables, and dieting (Smith-McLallen & Fishbein, 2008). Results confirmed the model's assumption in that attitudes and perceptions, as influenced by health messages, predicted intentions for behaviors pertaining to each of these health-related issues.

Because of the nature of visual frames and their effect on attitudes and perceptions, as demonstrated in the literature on visual framing, the following hypotheses were posed as they pertain to outcomes outlined in the integrated behavioral model. However, because gain and loss text frames do not necessarily influence positive and negative outcomes, respectively, the following research questions pertaining to the effect of text frames were posed.

Study 1:

H2a-d: Messages using the treatment or recovery visual frames will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than messages using the suffering visual frames.

Study 2:

H4a-d: Messages using the positive visual frames will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than messages using negative visual frames.

RQ7a-d: Which text frame will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions?

RQ8a-d: Which text and visual frame combination will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than all other messages?

Depression as Context for this Study

To better examine the effects of visual frames and text frames on message reactions, this dissertation assessed messages pertaining to depression. Depression is one of the most common mental illnesses nationwide (U.S. Department of Health and Human Services), and college students experience depression at a rate greater than that of the general population (Ibrahim, Kelly, Adams, & Glazebrook, 2013). Despite the opportunities for college students to seek help on campus for their symptoms, more than 80% of them do not do so (Eisenberg, Hunt, Speer, & Zivin, 2011), because stigma and negative perceptions and beliefs discourage this behavior (Cheang, & Davis, 2014; Lannin et al., 2015; Reynders et al., 2014).

Stigma: A Barrier to Seeking Help and Prior Efforts to Reduce It

One of the most common barriers to seeking help for depression is stigma, or negative stereotypes, toward those with depression (Gulliver et al., 2010). Part of this stigma is the belief that depression is a personal weakness (Angermeyer & Dietrich, 2006; Angermeyer & Matschinger, 2003; Corrigan & Watson, 2002; Crisp, Gelder, Goddard, & Meltzer, 2005; Yap, Reavley, & Jorm, 2013). Extant research in the area of mental illness stigma identifies different types of stigma, including personal stigma and perceived public stigma, that deter individuals from seeking help (Gulliver et al., 2010). Personal stigma is an individual's own prejudices toward those with mental illness (Griffiths, Christensen, Jorm et al., 2004), which has been operationalized using measures that focus on first-person attitudes, such as, "I would willingly accept someone who has received mental health treatment to marry into my family." Perceived public stigma refers to an individual's perception of the public's prejudices toward those with mental illness (Corrigan et al., 2011). This form of stigma is operationalized using measures of third-person attitudes toward those with mental illness, such as, "*Most people* would willingly accept someone who has received mental health treatment to marry into my family."

While one type of stigma might be a significantly greater barrier to seeking help than another (Eisenberg et al., 2009; Lally, O'Conghaile, Quigley, Bainbridge, & McDonald, 2013), previous research efforts have been made to try to reduce stigma. One of the earlier approaches to reducing stigma toward individuals with depression was to improve attitudes about seeking help through education. Results from several studies found that when individuals with depression received information about mental illness, there was a significant increase in positive attitudes sustained over time about mental health and about seeking help (Esters, Cooker, & Ittenback, 1998; Paykel, Hart, & Priest, 1998; Van den Broek, O'Donoghue, Ishengoma, Mbega, 1998). Results from Esters et al.'s (1998) study demonstrate that these positive attitudes were sustained

for longer than three months. Even more promising were the results from Paykel et al.'s study (1998) that revealed that after a newspaper, magazine, radio, and television campaign, attitudes toward treatment and willingness to consult with a doctor about depression increased both at three and five years after the campaign.

McGinty, Goldman, Pescosolido, & Barry (2015) tested written messages portraying those with depression who experienced successful treatment versus those who were left untreated to determine this effect on stigma. Participants who read portrayals of untreated individuals experienced an increase in stigma toward individuals with mental illness, while those who read portrayals of successfully treated individuals showed a decrease in stigma, a decrease in desire for social distance, and an increased belief in the effectiveness of treatment. Because the messages these authors assessed were text only, researchers did not assess the effect of how visual portrayals of treatment might affect stigma. Perhaps visual portrayals that are framed to make treatment behavior salient will also decrease stigma. In addition, this study did not assess for the effects of visual frames through visual portrayals of models on message reactions that theoretically predict behavior.

Visuals in Depression Messages

Only a few studies have assessed the effects of visuals in depression messages. Visuals have been shown to reduce depression stigma related to those receiving treatment, while improving literacy, language barriers, attention to messages, comprehension, memory, and self-efficacy in identifying symptoms (Broussard, Radkins, & Compton, 2014; Cabassa, Molina, & Baron, 2012; Unger, Cabassa, Molina, Contreras, & Baron, 2013). These results are not surprising being that visual have been effective in improving recall, adherence, and comprehension within other health-behavior contexts, such as antibiotic use (Dowse & Ehlers,

2005; Mansoor & Dowse, 2003), medication instructions (Morrow et al., 1998), oral rehydration therapy (Patel et al., 1990), and penicillin information for children (Hämeen-Anttila et al., 2004).

While this literature reflects the assessment of the effects of visuals used in health-related messages, the framing of those visuals was not assessed. Previous literature (discussed above) demonstrates that visuals and the way they are framed have effectively influenced health-related behavior (Andrews, Netemeyer, Kees, & Burton 2014; Schneider, Salovey, & Pallonen, et al., 2001; Slater, Karan, Rouner, & Walters 2002). Because visuals have been effective in depression messages and other health-related contexts, it is necessary to assess different visual frames as a potentially effective strategy for provoking positive message reactions that lead to message adherence and behavior compliance.

Message Frames Used in Depression Messages

One of the greatest challenges of creating persuasive mental health messages is to determine how to persuade individuals to seek help (Lannin, Vogel, Brenner, Abraham & Heath, 2015, 2015; Reynders, Kerkhof, Molenberghs, & Van Audenhove, 2014). A lack of research in the area of text framing of mental illness-related messages requires a review of literature that has assessed messages pertaining to health issues for similar help-seeking behaviors.

Compared to the amount of research conducted to assess the effectiveness of media news frames on audiences, very little research testing depression message frames has been conducted. As expected, framing of depression messages, like framing of other messages, can produce significant results. For example, Detweiler-Bedell, J., Detweiler-Bedell, B., Baugher, Cohen, & Robertson (2013) found that gain frames were more effective than loss frames in gaining social support toward individuals with depression. Other research is more informative in nature about frames used in news coverage of mental illness or among narratives written by individuals with

depression. These studies offer insight as to how frames can impact attitudes about mental illness. Myrick et al. (2014) found that during an 18-year span of TV news coverage, mental illness was episodically framed and included sources that were mostly from psychiatrists. Authors explain that this type of framing, which does not include statistics about mental illness, may cause audiences to overestimate their own risks of either getting a mental illness or becoming a victim of someone with a mental illness. In a study by Issakainen (2015), adolescent participants with depression wrote personal narratives about what influenced their decision to open up about their depression to others. The themes found within these narratives fit into one of three categories: support, connection, handling (i.e. coping). In other words, participants opened up with others about their struggle, either to gain their support, make a connection with others, or receive help with how to handle their symptoms. A study that conducted content analyses on depression frames found that significantly more thematic, versus episodic, frames were used (in China) (Zhang et al., 2014), which typically attribute blame on society as a whole for the issue; however, in the U.S., frames that attribute causal and problem-solving responsibilities upon the individual were used more frequently (Zhang, Jin, Tang, 2016).

As demonstrated above, researchers have assessed various frames of depression messages; however, no research has been conducted to investigate how gain and loss frames have influenced help-seeking behaviors, and research has not investigated the effectiveness of visual frames in depression messages. The following hypotheses were posed based on the nature of the visual frames being tested, while research questions pertaining to text frames were also posed.

Study 1:

H3: Messages using the treatment or recovery visual frames will reduce stigma significantly more than messages using the suffering visual frames.

Study 2:

H5: Messages using positive visual frames will reduce stigma significantly more than messages using negative visual frames.

RQ9: Which text frame - gain or loss - will reduce stigma significantly more?

RQ10: Which text and visual frame combination will reduce stigma significantly more than all other messages?

The Current Study

The above literature review demonstrates that visuals and the way they are framed are an effective tool used in the decision-making process because of their ability to make certain information more salient, make interpretation of text easier to visualize, elicit emotions, and improve attention, comprehension, recall, cognitive elaboration, and behavior (Rodriguez & Dimitrova, 2011). The literature also validates the persuasive effects of text frames on the decision-making process (Gilovich, Griffin, & Kahneman, 2002; Hutchinson, Alba, & Einstein, 2004; Kahneman, Slovic, & Tversky, 1982; O’Keefe & Jensen, 2007; 2009). While several studies have investigated the effects of text frames and visuals used in depression messages, there is a lack of knowledge about the effectiveness of visual frames used in these messages. Therefore, the current study aims to close this gap in the literature by investigating the effects of several visual frames used in depression messages on viewers’ behavioral intentions to seek help.

Because of the influential power of frames and the ability of visuals to elicit emotions, visual frames can influence viewers’ experiential attitudes, a construct in the integrated model that predicts behavior intentions. Visual frames, as discussed above, make one perspective more salient than another (Entman, 1993; Rodriguez & Dimitrova, 2011). In the context of depression, visual frames can be used to make different stages related to depression more salient than others, whether it is a pre-treatment suffering stage, treatment stage, or post-treatment recovery stage (Alvidrez, Snowden, Rao, & Boccellari, 2009; Blackwell et al., 2015; Cabassa et al., 2012;

Gutiérrez-Maldonado, Caqueo-Urizar, & Ferrer-García, 2009; Holmes et al., 2006, 2008; Issakainen, 2015; Link et al., 1997; Renner et al., 2016, WeBlau et al., 2015; Xia, Merinder, & Belgamwar, 2011). Some depression messages include a visual of a person suffering with depression, which, for the purposes of this study, will be referred to as a “suffering” frame. This visual frame depicts exemplars with depression who suffer from the symptoms. Research demonstrates that a negative, symptomatic stage is what depressed individuals who do not get help for their symptoms experience (Cabassa et al., 2012; WeBlau et al., 2015), a pre-treatment stage.

An alternative visual frame tested in this study is one that depicts a depressed individual receiving help, or a “treatment” frame. Researchers have assessed how various portrayals of getting help, representative of a treatment stage, positively influence audience reactions (McGinty et al., 2015; Unger et al., 2013). Another visual frame to test, a “recovery” frame, depicts exemplars in a recovery stage. Visuals for this frame portray individuals who have presumably received help for their symptoms and are now experiencing some of the positive outcomes of doing so. Researchers have tested how perceptions related to a post-treatment recovery stage have positively influenced perceptions related to seeking help (Blackwell et al., 2015; Holmes et al., 2006, 2008; Issakainen, 2015; Link et al., 1997; Renner et al., 2016). In addition, recovery-oriented, visually-based psychoeducational tools have been shown to improve attitudes, perceptions, message adherence, as well as reduce relapse of symptoms and stigma, promote social functioning, and improve quality of life (Alvidrez, Snowden, Rao, & Boccellari, 2009; Gutiérrez-Maldonado, Caqueo-Urizar, & Ferrer-García, 2009; Xia, Merinder, & Belgamwar, 2011). As discussed in the literature on assimilation and contrast, if viewers believe they can do the behavior, they may be prompted to assimilate with the exemplar in these visual

frames. Therefore, a visual frame that depicts an individual modeling treatment in the “treatment” frame, or a model experiencing a positive outcome in the “recovery” frame, can influence the viewers’ personal agency about their ability to perform the behavior and motivate them to positive behavior. For individuals with depression, visual frames of “suffering” could lead to behavioral assimilation, and viewers would not be motivated to assimilate with positive behavior.

Hypotheses and Research Questions

This dissertation involves two studies. Study 1 investigates three visual frames: suffering, treatment, and recovery and their effect on emotion, predictors of behavior change, and stigma. Study 2 investigates two text frames, gain and loss, in combination with positive or negative visual frames and their effect on the same outcomes as Study 1. Study 2 also investigates whether there is an interaction effect between visual frame and text frame.

Based on the findings from previous research and the theoretical assumptions of the integrated behavioral model and assimilation literature, the following hypotheses and research questions were posed:

Table 1. Hypotheses and Research Questions (Study 1 and 2)

H/RQ #	Hypothesis/ Research Question
Study 1	
H1	Messages using the treatment or recovery visual frames will elicit significantly greater positive emotions than messages using the suffering visual frames, while messages using suffering visual frames will elicit significantly greater negative emotions than the other visual frames.
RQ1	Which visual frame – suffering, treatment, or recovery - will be perceived as most effective by participants?

RQ2a-c	Which visual frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?
H2a-d	Messages using the treatment or recovery visual frames will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than messages using the suffering visual frames.
H3	Messages using the treatment or recovery visual frames will reduce stigma significantly more than messages using the suffering visual frames.
Study 2	
H1	Messages using the positive visual frames will elicit significantly greater positive emotions than messages using the negative visual frames, while messages using negative visual frames will elicit significantly greater negative emotions than the other visual frames.
RQ1	Which visual frame – positive or negative - will be perceived as most effective by participants?
H2	Messages using gain text frames will elicit significantly greater positive emotions than messages using loss text frames, while messages using loss text frames will elicit significantly greater negative emotions.
RQ2	Which text frame – gain or loss- will be perceived as most effective by participants?
H3	Messages using gain text frames with positive visual frames will elicit significantly greater positive emotions than all other messages, while messages using loss text frames with negative visual frames will elicit significantly greater negative emotions than all other messages.
RQ3	Which text and visual frame combination will be perceived as most effective by participants?
RQ4a-c	Which text frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?

RQ5a-c	Which visual frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?
RQ6a-c	Which text and visual frame combination will elicit greatest a) identification, b) perceived behavioral attainment, and c) aspiration?
H4a-d	Messages using the positive visual frames will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than messages using negative visual frames.
RQ7a-d	Which text frame will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions?
RQ8a-d	Which text and visual frame combination will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than all other messages?
H5	Messages using positive visual frames will reduce stigma significantly more than messages using negative visual frames.
RQ9	Which text frame - gain or loss - will reduce stigma significantly more?
RQ10	Which text and visual frame combination will reduce stigma significantly more than all other messages?

CHAPTER 3: METHODS

Two separate studies, conducted simultaneously, examined the effects of framing on message reactions; one assessed visual frames, while the other assessed text frames, visual frames, and their interaction effects on attitudes, norms, personal agency, and intentions. As illustrated in the integrated behavioral model described in the literature, these message reactions predict behavior. Both studies also examined the effects of frames on emotion, stigma, perceived message effectiveness (PME), and behavior assimilation (i.e. identification, perceived behavioral attainment, aspiration). Study 1 assessed the effects of three visual frames. Study 2 assessed the effects of two text frames and two visual frames. The purpose of both studies, ultimately, was to assess which visual frame (Study 1) and which text and visual frame combination (Study 2) best promoted help-seeking behavior.

Study 1

Overview

The purpose of Study 1 was to determine how different visual frames impacted message perceptions and reactions that predict behavior as well as how these visual frames impact stigma. To examine this, a controlled experiment was used to investigate the influence of visual frames on attitudes, norms, personal agency, intentions, emotion, stigma, PME, and assimilation.

Research conducted in the area of depression messages recognizes a negative, symptomatic stage (i.e. suffering) of not seeking help (Cabassa et al., 2012; WeBlau et al., 2015), a treatment stage (McGinty et al., 2015; Unger et al., 2013), and a post-treatment improvement stage (i.e. recovery) (Blackwell et al., 2015; Holmes et al., 2006, 2008; Issakainen, 2015; Link et al., 1997; Renner et al., 2016). Visual frames used in messages for the experiment in Study 1 were designed to make these different stages salient to viewers: suffering, treatment, and recovery. The images used in the three message conditions represent these three stages through

depictions of behaviors that individuals with depression would likely experience: the suffering frame, which depicts a pre-behavior-change stage of emotional suffering experienced by individuals with depression; the treatment frame, depicting individuals doing the behavior of receiving help; and the recovery frame, which depicts individuals at a post-behavior-change stage experiencing positive outcomes of seeking help. Participants were randomly assigned to one of three visual frame conditions: suffering, treatment, or recovery, where they viewed messages using similar text but different visuals to represent the respective experimental visual frame treatment conditions (Figure 1).

Participants- Study 1

Participants ($N=488$) consisted of a convenience sample of undergraduate students. Undergraduates were recruited via email announcements. Email addresses were obtained through student records available to the public upon request. Recruitment emails included a link to an online survey for participants to take at their convenience, followed by a reminder email a week later to encourage those who had not yet participated to do so. As an incentive for participating, students were entered into five drawings for \$50 Amazon gift cards. The Institutional Review Board at the University of North Carolina granted approval for study procedures before Study 1 began.

The survey opened on January 16, 2017 and closed on January 28, 2017. Study participants ranged from 18 to 47 years old ($M=19.94$, $SD=2.86$), and consisted of 76.6% females. Whites made up 68.4% of the sample, followed by 14.8% Asian, 5.5% African American, and the remaining 11.3% consisted of Hispanic/Latino, mixed race, or other races. Experience with the recommended behavior (i.e. seeking professional help) may influence participants' message reactions; therefore, these experiences were measured and tested for their

moderating effects. To measure participants' experiences with help-seeking, participants were asked if they had ever sought help from a professional (i.e. psychologist, counselor, etc.) for depressive symptoms, with response choices of *yes* or *no*; 180 participants (36.9%) reported having experience with seeking professional help (Table 2).

Table 2. Study 1 participant demographics (N=488)

	% (n)
Age (year)	
Mean (SD)	19.94 (2.86)
Sex	
Female	76.6 (374)
Male	23.4 (114)
Race	
White	68.4 (334)
Asian	14.8 (72)
Black	5.5 (27)
Hispanic/Latino(a)	4.7 (23)
Mixed	4.7 (23)
Other	1.0 (5)
American Indian/Alaska Native	0.8 (4)
Past help-seeking experience	
Yes	36.9 (180)
No	63.1 (308)

Message Pretest- Study 1

The visuals were pretested to ensure that the three visual frames (i.e. suffering, treatment, recovery) were perceived as such by viewers. The pretest was conducted using undergraduate students (N=65) from the University of

North Carolina's School of Media and Journalism. Participants were recruited in-person and via email announcements. As an incentive for participation, participants were entered into a drawing for one of three ten-dollar Amazon gift cards. Participants ranged in age from 19 to 22 ($M=20.08$, $SD=.76$). The sample consisted of 84.6% females; 86.2% were White, 4.6% Asian, 4.6% Hispanic/Latino, 3.1% African American, and 1.5% mixed races.

Participants consented to participate, then viewed the following paragraph, *"You will view 30 images, then respond to several questions pertaining to each image. Each image will show an individual (or multiple people) in one of three stages of depression: suffering, treatment, recovery. Suffering refers to individuals in a state of suffering who have likely not received help for depressive symptoms such as feeling sad or worthless, having low energy, or irregular sleep patterns. Treatment refers to those receiving professional help with depressive symptoms through individual or group therapy. Recovery refers to those who have received professional help to learn how to cope with symptoms and experience positive lifestyle changes."* Participants then viewed, in random order, 10 images depicting individuals representing the suffering stage, 10 images depicting individuals representing the treatment stage, and 10 images depicting individuals representing the recovery stage.

For each image, participants responded to the following prompts to measure the extent to which the image was perceived as depicting that particular frame, using a 5-item Likert-type scale to indicate 1=Not well at all to 5=Extremely well: "How well does this image depict someone in a state of suffering; How well does this image depict someone (or multiple people) receiving treatment; How well does this image depict someone (or multiple people) in a state of recovery?" Then, participants responded to the following questions to assess valence (Bradley &

Lang, 1994): “How pleasant is the content in this image?” using a scale from 1=Not at all pleasant to 9=Very pleasant.

Final images for stimuli were selected based on category fit and pleasantness to ensure that images for each category were perceived as belonging to that category and to account for the confound of the positive and negative imagery of the images. Paired-sample t-tests were used to determine whether the means for each category were significantly different. For each category, images with the highest category fit (suffering, treatment, or recovery) means that were not significantly different from each other but significantly different ($p < .001$) from the two remaining category fit means were chosen (Table 3). For the three images that were chosen, their means for the pleasantness ratings were then compared using paired samples t-tests to ensure that they were not significantly different from each other (Table 4).

Table 3. Mean ratings for suffering, treatment, and recovery images (Study 1)

Image	Depicts Suffering Mean (SD)	Depicts Treatment Mean (SD)	Depicts Recovery Mean (SD)
Suffering 1	4.41 (0.76)¹	1.47 (0.80) ²	1.19 (0.59) ³
Suffering 2	4.56 (0.61)¹	1.32 (0.73) ²	1.24 (0.78) ³
Suffering 3	4.62 (0.66)¹	1.28 (0.58) ²	1.09 (0.30) ³
Treatment 1	1.73 (0.83) ¹	4.43 (0.82)²	2.77 (0.94) ³
Treatment 2	1.79 (0.98) ¹	4.21 (0.88)²	2.65 (1.23) ³
Treatment 3	1.48 (0.77) ¹	4.23 (0.92)²	2.45 (1.06) ³
Recovery 1	1.16 (0.37) ¹	2.87(1.50) ²	4.06 (1.09)³
Recovery 2	1.12 (0.55) ¹	1.67 (1.05) ²	3.73 (1.44)³
Recovery 3	1.12 (0.54) ¹	2.00 (1.30) ²	4.00 (1.23)³

Means in each category are in bold. Means within categories are not significantly different from each other ($p > .05$) and share the same superscript; however, means between category groups are significantly different from each other ($p < .001$).

Table 4. Pleasantness mean ratings for suffering, treatment, and recovery images (Study 1)

Image	Pleasantness
	Mean (SD)
Suffering 1	2.44 (1.61)
Suffering 2	2.09 (1.19)
Suffering 3	2.50 (1.70)
Treatment 1	5.43 (1.28)
Treatment 2	5.53 (1.29)
Treatment 3	5.65 (1.02)
Recovery 1	7.74 (1.44)
Recovery 2	7.91 (1.49)
Recovery 3	7.59 (1.37)

Pleasantness ratings within each category are not significantly different from each other but are significantly different between categories ($p < .001$).

Stimuli- Study 1

Nine final messages were selected for use in this study; three messages for each of the three visual frame conditions (Figure 1). Messages included text and one photograph depicting a model in a way to make the three stages (suffering, treatment, recovery) salient. The three images used for these messages were those determined by the pretest data. Models in photos for the suffering visual frame were depicted as being in a state of suffering: hiding face and sitting alone on a staircase, separated from friends and hiding face in hands, and sitting alone in a dark hallway, head down. Models in photos for the treatment visual frame were depicted receiving help by talking one-on-one with a counselor. Models in photos in the recovery visual frame were depicted experiencing positive consequences from seeking help: positive relationship with significant other, positive relationships with peers, positive interaction with friends. The text used in the messages within each visual frame condition used persuasive text that encouraged help-seeking behavior and provided information about depressive symptoms, risks for not seeking help, and how to seek help on campus; text differed between conditions only by the

order in which this information was given. An example of the text is as follows: *Feelings of sadness and hopelessness, problems maintaining a healthy appetite or sleep patterns, or a loss of energy can sometimes interfere with daily living. If you experience these symptoms, you are not alone. 1 in 3 college students have similar experiences, and help is available. Call University Health Services to talk to someone about what you can do to take control of your symptoms and improve your lifestyle [number and website provided].*

Figure 1. Stimuli for suffering, treatment, and recovery visual frames (Study 1)

Suffering



Treatment



Recovery



Measures- Study 1

Attitudes. Three 7-point semantic differential items were used to measure experiential attitudes, and three items were used to measure instrumental attitudes, adapted from Montano & Kasprzyk (2008). Combined, these two attitude measures (6 items total) indicate viewers' overall attitudes toward the message. Experiential attitudes capture the viewers' emotional responses to the idea of help-seeking behavior, as encouraged by the message. Items were, "In the event that I experience depressive symptoms, seeking help seems..." with responses from 1=Unpleasant to 7=Pleasant, 1=Worthless to 7=Useful, and 1=Harmful to 7=Beneficial.

Instrumental attitudes are the beliefs about the outcomes of seeking help (Montano & Kasprzyk, 2008). Using responses from 1=Extremely unlikely to 7=Extremely likely, items were, "Seeking professional help for depressive symptoms is a helpful way to learn how to manage symptoms; Those who seek professional help for depressive symptoms will experience a better life; Seeking professional help for depressive symptoms will result in fewer and/or less frequent symptoms in the future." Responses from both types of attitudes were averaged together, with higher scores indicating positive attitudes ($M = 5.40$, $SD = 1.07$, coefficient alpha = .81).

Perceived norms. Three 7-point semantic differential items were used to measure injunctive norms, and two items were used to measure descriptive norms, adapted from Montano

& Kasprzyk (2008). Combined, these two measures (5 items total) indicate viewers' overall perceived norms pertaining to help-seeking behavior. Injunctive norms capture the viewers' perceptions of what those close to them think about help-seeking behavior. Items were, "Most people who are important to me think that those with depressive symptoms should seek professional help; People whose opinion I value think that those who experience depressive symptoms should seek professional help; My closest friends/family members think that people who experience depressive symptoms should seek professional help," with responses from 1=Extremely unlikely to 7=Extremely likely.

Descriptive norms capture the viewers' perceptions of whether those close to them who experience depressive symptoms seek professional help, adapted from Montano & Kasprzyk (2008). Using responses from 1=Extremely unlikely to 7=Extremely likely, items were, "Most people in my life who experience depressive symptoms seek professional help for how to cope with their symptoms; Most people at my university seek professional help for depressive symptoms they experience." Responses from both types of norms were averaged together, with higher scores indicating greater perceived norms pertaining to help-seeking behavior ($M = 3.71$, $SD = .61$, coefficient alpha = .69).

Personal agency: Three 7-point semantic differential items were used to measure self-efficacy, and three items were used to measure perceived control. These two personal agency measures capture the viewers' self-perception of their ability to do the behavior (Montano & Kasprzyk, 2008). Self-efficacy is the belief viewers hold about their ability to perform the behavior of seeking help. Using responses from 1=Strongly disagree to 7=Strongly agree, items were, "I am confident that I could seek professional help for depressive symptoms if I needed to;

I know how to seek professional help for depressive symptoms using resources on campus; I have a way to contact on-campus resources for help if I needed them.”

Perceived control refers to the viewers’ beliefs about how much control they perceived to have over their own behavior. Using responses from 1=Strongly disagree to 7=Strongly agree, items included, “The decision to seek professional help is in my control; I am able to seek professional help if I need to; There are no constraints keeping me from seeking professional help if I need it.” Responses from both measures of personal agency were averaged together. Higher scores indicate greater personal agency. These 6 items had a coefficient alpha of .87, $M=5.66$, $SD=1.06$.

Intentions: Three 7-point semantic differential items were used to measure intentions to seek professional help (Montano & Kasprzyk, 2008). Intentions are the likelihood of performing the behavior. Items included, “In the event that I experience depressive symptoms, I plan to get help from a professional; I would want help from a professional if I experience depressive symptoms; and I will seek professional help if I experience depressive symptoms,” using responses from 1=Strongly disagree to 7=Strongly agree. These three items had a coefficient alpha of .92, $M=5.09$, $SD=1.47$. Responses were averaged, with higher scores indicating stronger intentions.

Stigma: Personal stigma. To measure personal stigma, participants responded to twelve 7-point semantic differential first-person items that were adapted for this study (Corrigan, 2004; Griffiths et al., 2004). Statements included: “I would willingly accept someone who has received treatment for depression as a close friend; I think less of a person who has received treatment for depression; I believe that someone who has received treatment for depression is just as trustworthy as the average person,” using options ranging from 1=Strongly disagree to

7=Strongly agree. Items were recoded and averaged so that high scores indicate greater stigma ($M= 1.99$, $SD= .89$, coefficient alpha = .90). See Appendix I.

Perceived public stigma. To measure perceived public stigma, participants responded to the same twelve 7-point semantic differential items that were adapted for this study for the personal stigma measure above, but statements were changed to third person (Corrigan, 2004; Griffiths et al., 2004). Sample statements include: “*Most people* would willingly accept someone who has received treatment for depression as a close friend; *Most people* think less of a person who has received treatment for depression; *Most people* believe that someone who has received treatment for depression is just as trustworthy as the average person,” using options ranging from 1=Strongly disagree to 7=Strongly agree. Items were recoded and averaged so that high scores indicate greater stigma ($M= 3.83$, $SD= .96$, coefficient alpha = .88).

Emotion. Participants’ affective reactions were measured based on emotions expected to be elicited by the messages, adapted by Crawford & Henry (2004). Participants responded to the following question, “How do you feel after looking at these messages?” using a 7-point Likert scale with 1=Not at all to 7=Extremely, to rate seven positive emotions: happy, hopeful, encouraged, proud, confident, peaceful, optimistic, and seven negative emotions: sad, hopeless, discouraged, ashamed, guilty, worried, fearful. Emotion ratings were averaged; higher scores indicate stronger positive/negative affective reactions (positive emotion: $M= 3.34$, $SD= 1.31$, coefficient alpha = .91; negative emotion: $M= 2.51$, $SD= 1.23$, coefficient alpha = .90).

Identification. Identification refers to viewers’ perceptions of whether they are similar to the exemplars visually portrayed in the messages (Escalas & Bettman, 2003). To measure this, participants rated three statements adapted by Escalas & Bettman (2003): “I feel a personal connection to the people portrayed in these messages; I can identify with the people in these

messages; The people in these messages reflect who I am,” using 1=Strongly disagree to 100=Strongly agree. Ratings were averaged, with higher scores indicating high identification ($M= 36.79$; $SD=26.79$, coefficient alpha = .89).

Perceived behavioral attainment. Perceived behavioral attainment refers to viewers’ perceptions of whether they can achieve the same behaviors visually portrayed by the exemplars in the messages. (Lockwood & Kunda, 1997). To measure this, participants rated three statements informed by Lockwood & Kunda (1997): “I can be similar (behaviorally) to the people portrayed in these messages; The behavior shown by the people in these messages is attainable by me; I can have the same experiences as the people in these messages,” using 1=Strongly disagree to 100=Strongly agree. Ratings were averaged, with higher scores indicating high perceived attainment ($M= 49.65$, $SD=28.30$, coefficient alpha = .90).

Aspiration. Aspiration refers to whether viewers desire to be like the exemplars portrayed in the messages (Lockwood & Kunda, 1997). To measure this, participants rated three statements informed by Lockwood & Kunda (1997): “I am inspired by the people in these messages; The people in these messages are role models to me; I want to be similar (behaviorally) to the people in these messages,” using 1=Strongly disagree to 100=Strongly agree. Ratings were averaged, with higher scores indicating strong aspiration ($M= 27.54$, $SD=25.41$, coefficient alpha = .87).

Perceived message effectiveness. Adapted from Dillard & Ye (2008), and commonly used to assess messages, perceived message effectiveness (PME) was used to determine if there were significant differences between message conditions and among participants with different help-seeking experiences. Participants were asked the following: “How a) effective, b) compelling, c) persuasive, and d) convincing were the messages?”, using a 5-point Likert scale

with 1=Not at all and 5=Extremely. Ratings were averaged, with higher scores indicating greater PME ($M = 2.71$, $SD = .89$, coefficient alpha = .90).

Demographics. Participants were asked to indicate their sex, age, and race/ethnicity.

Procedure- Study 1

A between-subjects experiment for Study 1 was conducted using an online questionnaire, which was provided to students in the recruitment emails. Upon clicking the survey link provided in the recruitment email, participants ($N=488$) were prompted to give consent prior to starting the survey. Participants were randomly assigned to one of three visual frame message conditions (suffering, treatment, recovery), after which viewed three messages within their assigned condition that were randomly displayed for each participant to control for order effects. After viewing the messages, participants answered questions pertaining to the measures: emotion, identification, perceived behavioral attainment, aspiration, attitudes, personal agency, intentions, stigma, perceived message effectiveness, perceived norms, and demographics, including past experiences with help-seeking. Responses to multiple stimuli, versus only one at a time, increase the chances that results are based on the visual frame category as a whole and not on one particular message (Jackson, O'Keefe, Jacobs, & Brashers, 1989). All study procedures were approved by the University of North Carolina's Institutional Review Board.

Data Analysis- Study 1

MANOVAs were used to analyze the main effects of the suffering, treatment, and recovery visual frames on the dependent variables. Multiple MANOVAs were computed, grouping dependent variables by theoretical relevance: positive and negative emotion; identification, perceived behavioral attainment, aspiration; attitudes, perceived norms, personal

agency, intentions; personal stigma and perceived public stigma. A one-way ANOVA was used to analyze the effects of visual frames on perceived message effectiveness.

Study 2

Overview

Study 2 used a 2x2 factorial design to assess how text frames and visual frames affected viewers' reactions to messages about help-seeking behavior: attitudes, perceived norms, personal agency, intentions, emotion, behavior assimilation, stigma, and PME. The between-subjects design used a 2 (text frame: gain vs. loss) by 2 (visual frame: positive vs. negative) experimental design. Participants were randomly assigned to one of four message conditions: gain text frame with a positive visual frame, gain text frame with a negative visual frame, loss text frame with a positive visual frame, and loss text frame with a negative visual frame (Figure 2).

Participants - Study 2

Participants ($N=805$) consisted of a convenience sample of undergraduate students, who were recruited via email announcements. Email addresses were obtained through student records available to the public upon request. Recruitment emails that students received included a link to an online survey for participants to take online at their convenience, followed by a reminder email a week later. As an incentive for participating, students were entered into five drawings for \$50 Amazon gift cards. University emails were collected to verify that participants did not take the survey more than once. The Institutional Review Board at the University of North Carolina granted approval for study procedures before Study 2 began.

The survey opened on January 16, 2017 and closed on January 28, 2017. Study participants ($N=805$) ranged from 18 to 55 years old ($M=20.13$, $SD=2.23$), and consisted of 78.3% females. Whites made up 73.5% of the sample, followed by 11.1% Asian, 5.1% African,

5.1% Hispanic/Latino, and the remaining 5.2% consisted of mixed race or other races. Nearly 39% (313) of participants had sought professional help for depressive symptoms in the past (Table 5).

Table 5. Study 2 participant demographics (N=805)

	% (n)
Age (year)	
<i>Mean (SD)</i>	20.13 (2.23)
Sex	
Female	78.3 (630)
Male	21.7 (175)
Race	
White	73.5 (592)
Asian	11.1 (89)
Black	5.1 (41)
Hispanic/Latino(a)	5.1 (40)
Mixed	4 (32)
Other	1 (8)
American Indian/Alaska Native	0.2 (2)
Past help-seeking experience	
Yes	38.9 (313)
No	61.1 (492)

Message Pretest- Study 2

The visual frames for Study 2 were positive visual frames and negative visual frames; therefore, the images used for the suffering and recovery conditions in Study 1 were used as the positive and negative visuals for this study. Study 1's pretest also compared pleasantness ratings, demonstrating that the three negative images were significantly different from the three positive images (Table 3).

In order to select the text to be used for the gain and loss text frames, participants (N=64, same from Study 1 pretest) randomly viewed 12 paired statements (6 gain-frame, 6 reciprocal loss-frame) responded to the following two prompts to assess for gain-frame and loss-frame category fit: “This statement describes a possible positive outcome of someone getting help for depressive symptoms; This statement describes a possible negative outcome if someone does not get help for depressive symptoms” using a 5-point Likert scale 1=Strongly disagree, 5= Strongly agree. Paired-sample t-tests were used to determine which gain-framed statements were rated significantly more positive than their reciprocal loss-framed statements, but not significantly different from each other, and which loss-framed statements were rated significantly more negative than their reciprocal gain-framed statements, but not significantly different from each other (Table 6).

Table 6. Means for category fit, gain or loss frame (Study 2)

Statement	Positive-rating	Negative-rating
	Mean (SD)	Mean (SD)
Gain 1: Seeking help will improve your quality of life.	4.43 (0.85)	1.77 (1.16)
Gain 2: By seeking help, you will learn about treatment options that can improve your lifestyle.	4.49 (0.66)	1.78 (1.01)
Gain 3: Seeking help will improve your overall health.	4.51 (0.69)	1.88 (1.23)
Loss 1: By not seeking help, you risk diminishing your quality of life.	2.08 (1.40)	4.12 (1.23)
Loss 2: By not seeking help, you will miss out on learning about treatment options that can improve your lifestyle.	2.98 (1.48)	3.32 (1.50)
Loss 3: Your overall health is at risk if you do not seek help.	2.25 (1.45)	4.08 (1.27)

Means for category fit (bold) are not significantly different from each other; however, they are significantly different from the other category-fit means at $p < .001$.

Stimuli- Study 2

Messages used for the experiment in Study 2 were designed to influence how viewers perceived help-seeking behavior by using one of two types of text frames: gain or loss, and two types of visual frames: positive or negative. Combining text frames and visual frames, Study 2 compared four message conditions: gain text with a positive-framed visual, gain text with a negative-framed visual, loss text with a positive-framed visual, and loss text with a negative-framed visual, to assess for main effects and an interaction effect on message reactions.

Twelve final messages were assessed in this study, three messages for each of the four message conditions (Figure 2). Messages included the same persuasive text from the messages in Study 1 that encouraged help-seeking behavior and provided information about depressive symptoms, risks for not seeking help, and how to seek help on campus. An additional statement was used to make either the gain or loss frame more salient. Gain-framed messages included one of the following statements: *Seeking help will improve your quality of life; By seeking help you will learn about treatment options that can improve your lifestyle; Seeking help will improve your overall health.* Loss-framed messages included one of the following statements: *By not seeking help, you risk diminishing your quality of life; By not seeking help, you will miss out on learning about treatment options that can improve your lifestyle; Your overall health is at risk if you do not seek help.*

The positive-framed visuals used in the messages were the same three photographs used from the recovery visual frame messages in Study 1. These visuals made the positive outcomes of seeking help salient. The negative-framed visuals used in messages were the same three

photographs used from the suffering visual frame messages in Study 1. These negative visuals made the state of suffering salient to viewers.

Figure 2. Study 2 stimuli for text and visual frame messages

Gain text frame, positive visual frame



Gain text frame, negative visual frame



Loss text frame, positive visual frame



Loss text frame, negative visual frame



Measures- Study 2

The measures used for this study were the same as those used in Study 1.

Procedure- Study 2

A between-subjects experiment for Study 2 was conducted with an online questionnaire, which was provided to students in the recruitment emails. Upon clicking the survey link provided in the recruitment email, participants ($N=805$) were prompted to give consent prior to starting the survey. After they were randomly assigned to one of the four message conditions, they viewed three messages within their assigned condition that were randomly displayed for each participant to control for order effects. After viewing the messages, participants answered questions pertaining to the measures: emotion, identification, perceived behavioral attainment, aspiration, attitudes, personal agency, intentions, stigma, perceived message effectiveness, perceived norms, and demographics, including past experiences with help-seeking. As described for Study 1, responses to multiple stimuli, versus only one at a time, increase the chances that results are based on the message category as a whole and not on one particular message (Jackson, O'Keefe, Jacobs, & Brashers, 1989). All study procedures were approved by the University of North Carolina's Institutional Review Board.

Data Analysis- Study 2

MANOVAs were used to analyze the main effects and interaction effects of the visual frames and text frames on the dependent variables. Multiple MANOVAs were computed, grouping dependent variables by theoretical relevance: positive and negative emotion; identification, perceived behavioral attainment, aspiration; attitudes, perceived norms, personal agency, intentions; personal stigma and perceived public stigma. A one-way ANOVA was used to analyze the effects of the frames on perceived message effectiveness.

CHAPTER 4: RESULTS

Study 1

Positive and Negative Emotion (H1)

A MANOVA was used to examine differences between visual frames on positive and negative emotion. A significant main effect for visual frame was found (Wilks' Λ (4, 968) = 0.84, $F = 22.00$, $p < .001$, $\eta^2 = 0.08$). A Tukey post-hoc test revealed that recovery and treatment visual frames elicited significantly greater positive emotion than suffering frames ($p < .001$), which supports the hypothesis. As expected, the reverse was true for negative emotion. Suffering visual frames elicited significantly greater negative emotion than treatment and recovery visual frames ($p < .001$). See Table 7.

Attitudes, Personal Agency, Norms, Intentions (H2)

A MANOVA was used to examine differences between visual frames on a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions. No significant main effect for message condition was found (Table 7); therefore, this hypothesis was not supported.

Stigma (H3)

A MANOVA was used to examine differences between visual frames on personal and perceived public stigma. No significant main effect for condition was found on either personal stigma or perceived public stigma (Table 7); this hypothesis was not supported.

Table 7. Mean ratings for outcome variables (Study 1)

Measures	Visual Frame		
	Suffering <i>M(SD)</i>	Treatment <i>M(SD)</i>	Recovery <i>M(SD)</i>
Positive emotion	2.80 (1.24)¹	3.45 (1.28)¹	3.74 (1.23)¹
Negative emotion	3.07 (1.24)^{2, 3}	2.19 (1.12)²	2.29 (1.13)³
Attitudes	5.36 (1.06)	5.39 (1.16)	5.46 (1.00)
Perceived norms	3.72 (0.63)	3.78 (0.62)	3.70 (0.58)
Personal agency	5.70 (1.03)	5.69 (1.15)	5.61 (0.99)
Intentions	5.20 (1.39)	5.18 (1.48)	4.90 (1.53)
Personal stigma	2.09 (0.96)	1.91 (0.88)	1.97 (0.82)
Perceived public stigma	3.90 (0.95)	3.85 (0.96)	3.73 (0.98)
Identification	38.78 (27.12)	37.73 (28.20)	34.01 (24.94)
Perceived behavioral attainment	48.02 (28.96)	49.42 (28.38)	51.42 (27.64)
Aspiration	14.94 (17.99)³	29.42 (24.69)³	37.57 (27.12)³
PME	2.72 (0.78)	2.80 (0.95)	2.63 (0.93)

Note. Bolded rows indicate a statistically significant main effect, $p < .001$. Means with the same superscript indicate significant differences between visual frames at $p < .001$ level.

Perceived Message Effectiveness (RQ1)

A one-way ANOVA was used to examine differences between visual frames; no main effect for visual frame on perceived message effectiveness (PME) was found (Table 7).

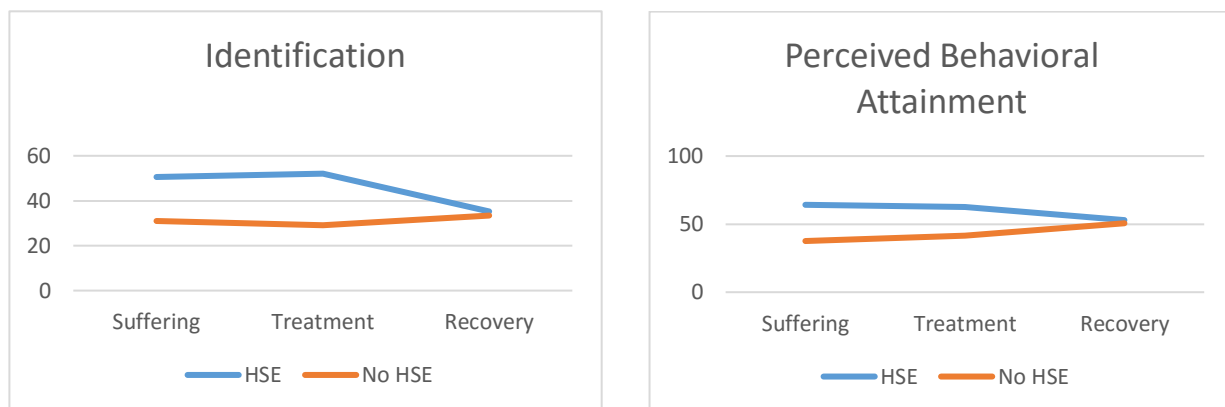
Identification, Perceived Behavioral Attainment, Aspiration (RQ2)

A MANOVA was used to examine differences between visual frames on a) identification, b) perceived behavioral attainment, and c) aspiration. A significant main effect for visual frame was found (Wilks' Lambda(6, 966) = 0.801, $F = 18.86$, $p < .001$, $\eta^2 = 0.11$), and an interaction between visual frame and past help-seeking experience was found (Wilks' Lambda(6, 960) = 0.93, $F = 6.15$, $p < .001$, $\eta^2 = 0.04$). Tukey post-hoc tests revealed that recovery visual frames elicited significantly greater aspiration than treatment visual frames ($p < .001$), which

elicited significantly greater aspiration than suffering visual frames ($p < .001$). The interaction effect revealed that help-seeking experience moderated the effect of visual frames on identification (Figure 3). Identification was rated similarly for participants who saw suffering and treatment frames, regardless of help-seeking experience. However, participants with help-seeking experience identified less with the individuals in the recovery frames, while participants with no help-seeking experience identified more with the individuals in these frames ($p < .001$).

Help-seeking experience also moderated the effect of visual frames on perceived behavioral attainment (Figure 3). Regardless of help-seeking experience, participants found the behaviors depicted in the suffering and treatment frames to be similarly attainable. However, participants with help-seeking experience found the behaviors portrayed in the recovery frames to be less attainable, while participants with no help-seeking experience found the behaviors in the recovery frames to be more attainable ($p < .001$).

Figure 3. Interaction effects between visual frame and help-seeking experience on identification and perceived behavioral attainment (Study 1)



Mediation Effects

Because affective reactions have been shown to mediate the relationship between a message manipulation (IV) and outcomes (DVs) (Emery, Romer, Sheerin, Hall-Jamieson, & Peters, 2013), it was appropriate to assess whether positive and negative emotions mediated the relationship between visual frames and aspiration. To do this, a mediation analysis was conducted to assess for direct and indirect effects. In the context of this study, a direct effect indicates that a certain visual frame (i.e. suffering, treatment, recovery) has an effect on aspiration. An indirect effect indicates that a certain visual frame has an effect on aspiration through the mediator of emotion. To conduct this analysis, PROCESS (Hayes, 2009) was carried out in SPSS using model 6 with 1,000 bootstrap simulations; results are reflected in Figures 4-6. Hayes' approach to mediation analysis is superior to that of Barron and Kenny (1986) because it has greater statistical power while controlling for Type I error (Preacher & Hayes, 2008), and it makes no assumptions regarding the shape of the sampling distribution of the indirect effect (Hayes, 2013). Two separate mediation analyses comparing participants with help-seeking experience versus those without revealed no substantive differences in mediation results; therefore, the following analyses reflect the whole sample together.

As reflected in Figure 4 with the unstandardized path coefficients, the significant, negative association between suffering visual frames and aspiration was strong ($\beta = -12.38$, $SE = 2.28$, $p < .001$), showing that suffering visuals lead to a decrease in aspiration. The significant, negative association between suffering visual frames and positive emotion ($\beta = -0.80$, $SE = 0.12$, $p < .001$) indicates that suffering frames decrease positive emotion. However, the significant, positive effect of suffering visual frames on negative emotion ($\beta = 0.72$, $SE=0.12$, $p < .001$)

indicates that suffering frames will increase negative emotion. Negative emotion was not associated with aspiration ($p > .05$). There was a significant positive association between positive emotion and aspiration ($\beta = 8.10, SE=0.79, p < .001$) indicating that positive emotion is associated with increased aspiration. However, as discussed above, it is unlikely that suffering frames will elicit positive emotion.

The point estimates of the indirect effect through both mediators were examined to test for mediation. A bias-corrected bootstrap confidence interval for the product of each path that does not include (or cross) zero provides evidence of a significant indirect (or mediating) effect. There was a significant indirect effect for positive emotion (effect = -6.47, LLCI = -9.26 and ULCI = -4.04) on the relationship between suffering visual frames and aspiration. This finding indicates that if a suffering visual frame is to increase aspiration, viewers must experience positive emotion otherwise suffering visual frames will decrease aspiration. In contrast, the indirect effect of negative emotion (effect = 0.19, LLCI = -1.41 and ULCI = 0.79) was non-significant, as the point estimate crossed zero of the upper and lower bootstrapping CIs. Both the total and total indirect effects of this model were significant. See Table 8.

Figure 4. Positive and negative emotion mediation of the suffering visual frames messages and aspiration (Study 1)

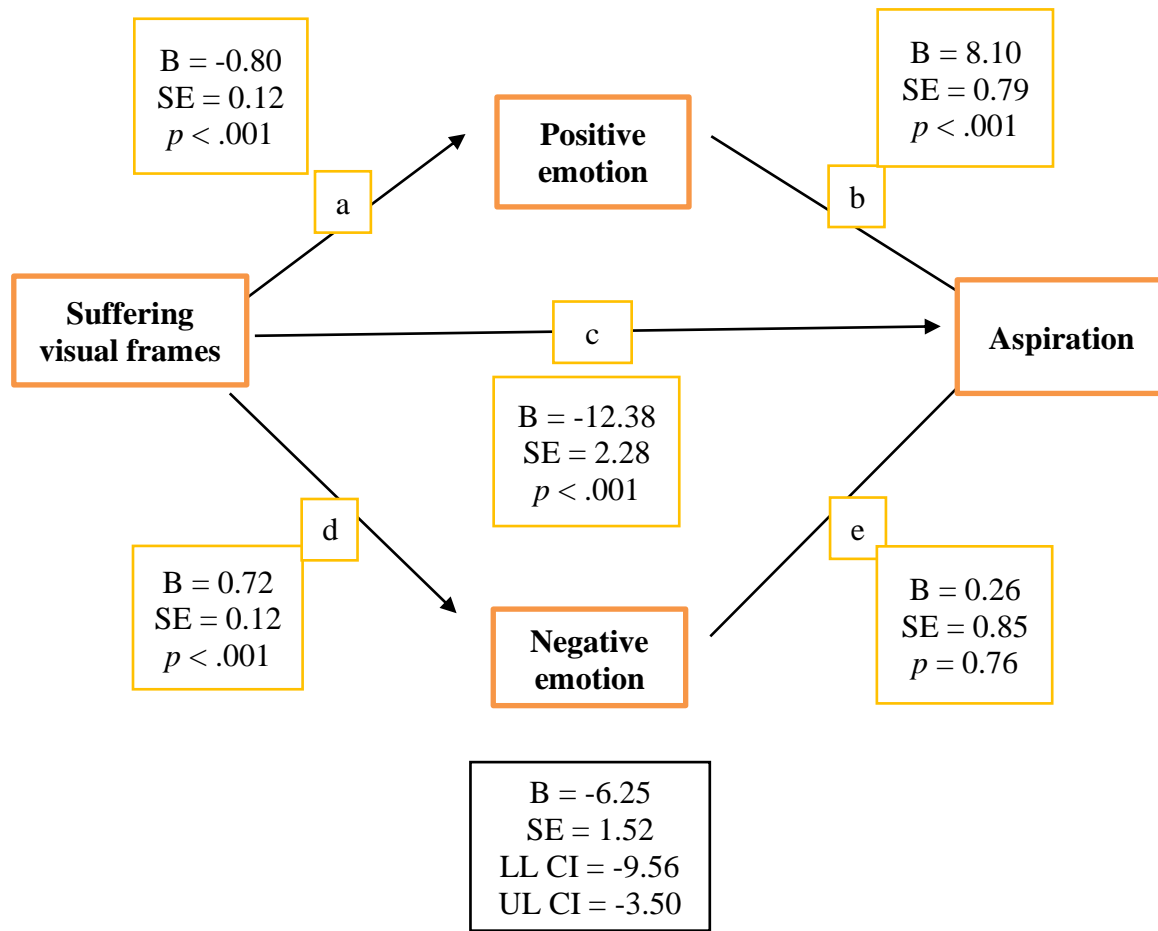


Table 8. Direct, indirect, and total effects of suffering visual frames on aspiration (Study 1)

	<i>Effect</i>	<i>SE</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
Total effect of Suffering visual frames on Aspiration	-18.63	2.31	-8.06***	-23.17	-14.09
Total direct effect of X on Y	-12.38	2.28	-5.44***	-16.85	-7.91
Indirect effects of X on Y	<i>Effect</i>	<i>BootSE</i>		<i>BootLLCI</i>	<i>BootULCI</i>
Total indirect effect of X on Y	-6.25*	1.52		-9.56	-3.50
Indirect effect 1: X > M1 > Y	-6.47*	1.33		-9.26	-4.04
Indirect effect 2: X > M2 > Y	0.19	0.63		-1.41	0.79

Note: X=Suffering visual frame, M1=Positive emotion, M2= Negative emotion, Y=Aspiration. Number of bootstrap samples for bias corrected bootstrap confidence intervals = 1,000. Level of confidence for all confidence intervals: 95. *A bias-corrected bootstrap confidence interval does not include zero, indicating a significant mediator effect.

*** $p < .001$.

Figure 5 shows that treatment visual frames were not significantly associated with aspiration (Figure 5 path c, $p > .05$), meaning treatment frames did not have any significant influence on viewers' aspiration to be like the exemplars in these visuals. Treatment visual frames were also not associated with positive emotion (Figure 5 path a, $p > .05$), but the significant, negative association between these frames and negative emotion ($\beta = -0.44$, $SE = 0.11$, $p < .001$) suggests that treatment frames may elicit negative emotion. There was a significant positive association between positive emotion and aspiration ($\beta = 9.11$, $SE = 0.79$, $p < .001$) indicating that positive emotion is associated with increased aspiration. Negative emotion was not associated with aspiration ($p > .05$).

The bias-corrected bootstrap confidence intervals for both indirect effects (positive and negative emotion) included zero, indicating no indirect (or mediating) effect for either emotion. Therefore, emotion did not mediate the relationship between treatment visual frames and aspiration. In addition, because treatment visual frames were not significantly associated with aspiration (Figure 5 path c, $p > .05$), viewers who see treatment imagery will not experience aspiration. See Table 9.

Figure 5. Positive and negative emotion mediation of treatment visual frames and aspiration (Study 1)

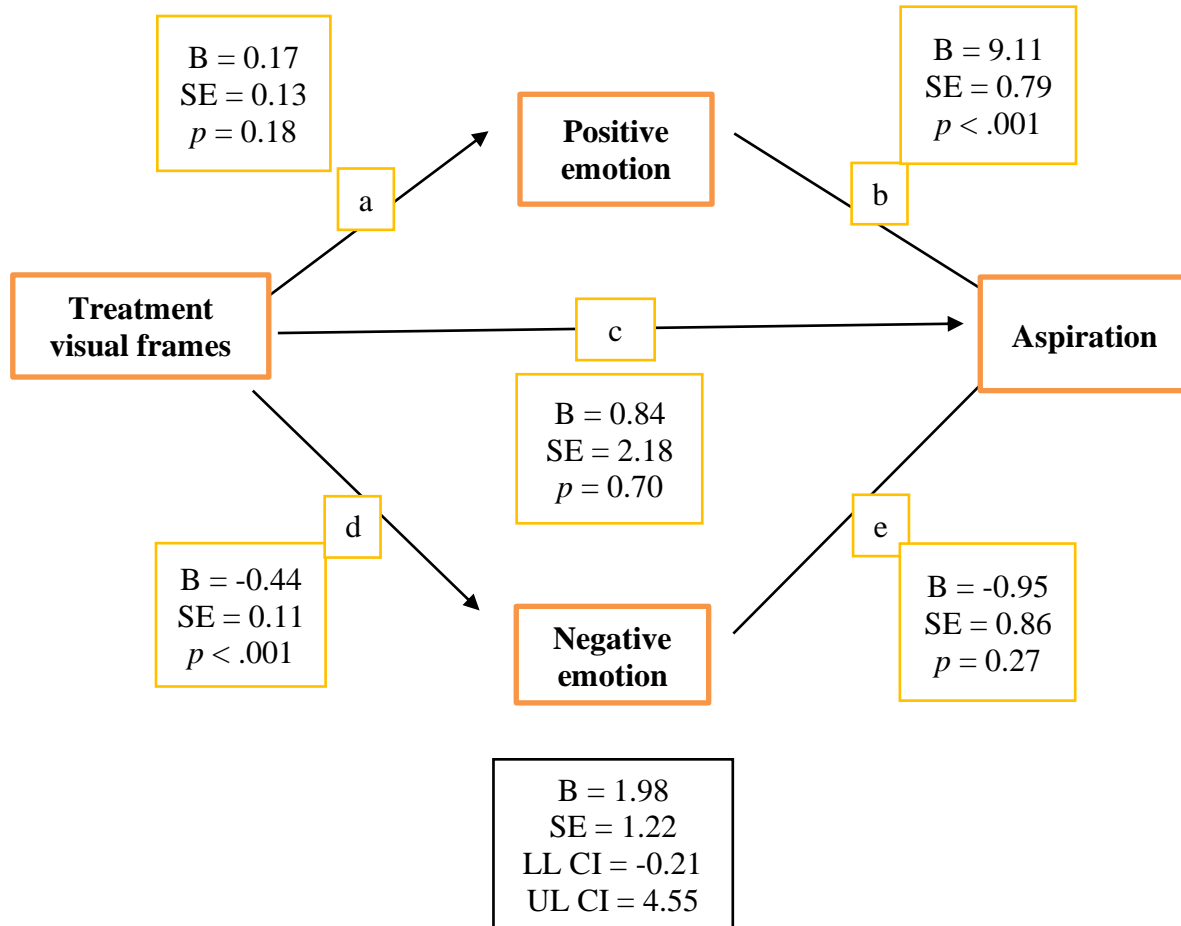


Table 9. Direct, indirect, and total effects of treatment visual frames on aspiration (Study 1)

	<i>Effect</i>	<i>SE</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
Total effect of Treatment visual frames on Aspiration	2.82	2.44	1.16	-1.98	7.62
Total direct effect of X on Y	0.84	2.18	0.38	-3.45	5.13
Indirect effects of X on Y	<i>Effect</i>	<i>BootSE</i>		<i>BootLLCI</i>	<i>BootULCI</i>
Total indirect effect of X on Y	1.98	1.22		-0.21	4.55
Indirect effect 1: X > M1 > Y	1.54	1.15		-0.53	3.93
Indirect effect 2: X > M2 > Y	0.41	0.39		-0.22	1.36

Note: X=Treatment visual frame, M1=Positive emotion, M2= Negative emotion, Y=Aspiration. Number of bootstrap samples for bias corrected bootstrap confidence intervals = 1,000. Level of confidence for all confidence intervals: 95. *A bias-corrected bootstrap confidence interval includes zero, indicating no mediator effect.

*** $p < .001$.

The mediation analysis for recovery visual frames shows that the significant, positive association between recovery visual frames and aspiration was strong ($\beta = 9.97$, $SE = 2.14$, $p < .001$). This implies that recovery visuals will lead to an increase in aspiration, meaning that viewers will aspire to be like the exemplars depicted in these visuals. The significant, positive association between recovery visual frames and positive emotion ($\beta = 0.61$, $SE = 0.12$, $p < .001$) indicates that these frames increase positive emotion. The significant, negative association between recovery visual frames and negative emotion ($\beta = -0.23$, $SE = 0.12$, $p < .05$) indicates that these frames will decrease negative emotion; however, negative emotion was not associated with aspiration ($p > .05$). The significant, positive association between positive emotion and aspiration ($\beta = 8.38$, $SE = 0.79$, $p < .001$) implies that viewers who experience positive emotion will experience increased aspiration to be like the exemplars in these visuals. See Figure 6.

There was a significant indirect effect for positive emotion (effect = 5.11, LLCI = 2.97 and ULCI = 7.65) on the relationship between recovery visual frames and aspiration. This finding indicates that recovery visual frames elicit positive emotion among viewers, which then increase aspiration. Also, because recovery visual frames have a significantly positive association with aspiration (Figure 6 path c), viewers who see this type of imagery will experience aspiration regardless of whether they experience positive emotion. In contrast, the indirect effect of negative emotion (effect = 0.15, LLCI = -0.13 and ULCI = 0.77) was non-significant, as the point estimate crossed zero of the upper and lower bootstrapping CIs. Both the total and total indirect effects of this model were significant. See Table 10.

Figure 6. Positive and negative emotion mediation of recovery visual frames and aspiration (Study 1)

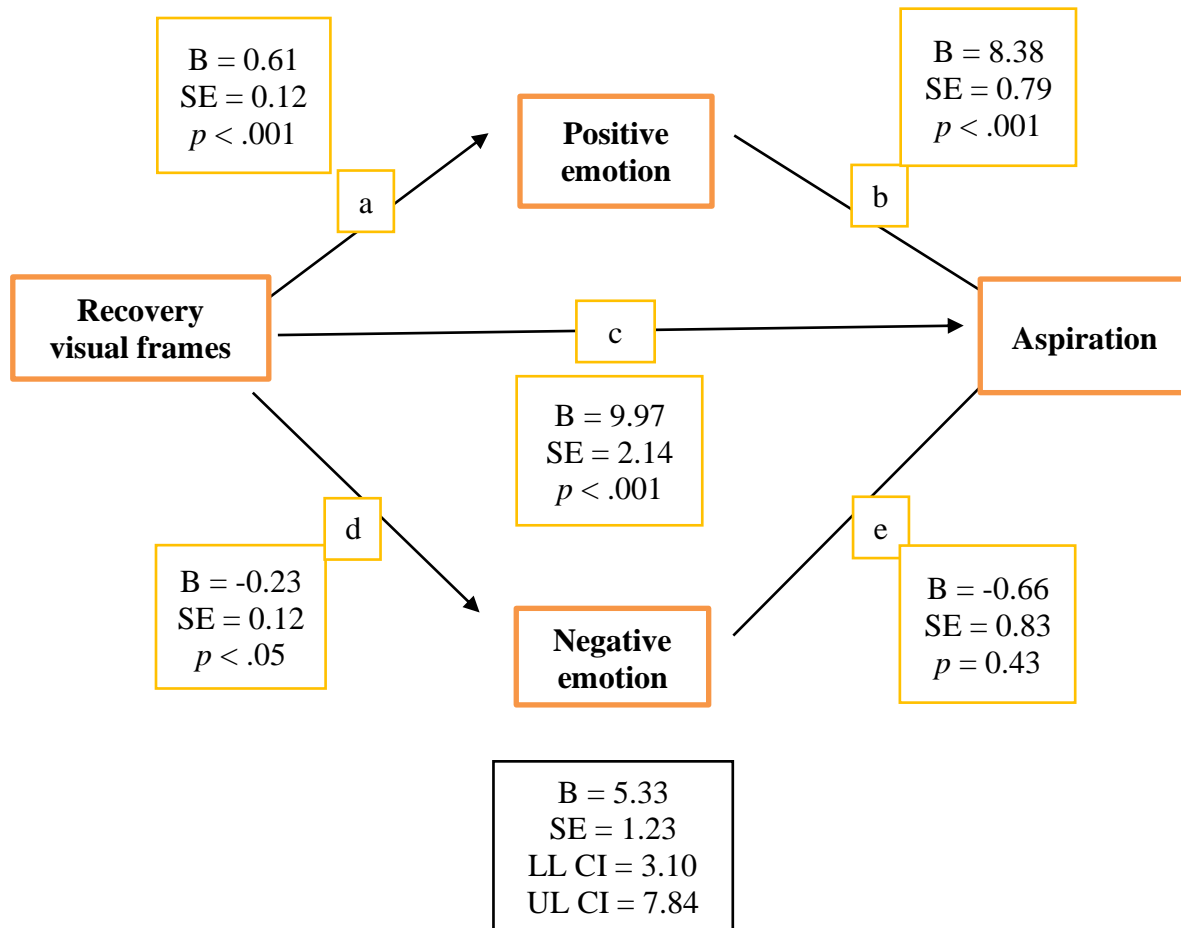


Table 10. Direct, indirect, and total effects of recovery visual frames on aspiration (Study 1)

	Effect	SE	t	LLCI	ULCI
Total effect of Recovery visual frames on Aspiration	15.30	2.32	6.59***	10.74	19.86
Total direct effect of X on Y	9.97	2.14	4.65***	5.76	14.18
Indirect effects of X on Y	Effect	BootSE		BootLLCI	BootULCI
Total indirect effect of X on Y	5.33*	1.23		3.10	7.84
Indirect effect 1: X > M1 > Y	5.11*	1.20		2.97	7.65
Indirect effect 2: X > M2 > Y	0.15	0.22		-0.13	0.77

Note: X=Recovery visual frame, M1=Positive emotion, M2= Negative emotion, Y=Aspiration. Number of bootstrap samples for bias corrected bootstrap confidence intervals = 1,000. Level of confidence for all confidence intervals: 95. *A bias-corrected bootstrap confidence interval does not include zero, indicating a mediator effect. *** $p < .001$.

Study 2

Positive and Negative Emotion (H1, H2, H3)

MANOVAs revealed significant main effects for text frame on emotion (Wilks' *Lambda* (2,796) = 0.95, $F = 21.53$, $p < .001$, $\eta^2 = 0.05$), visual frame on emotion (Wilks' *Lambda* (2,796) = 0.71, $F = 161.05$, $p < .001$, $\eta^2 = 0.29$), and an interaction between text frame and visual frame on emotion (Wilks' *Lambda* (2,796) = 0.99, $F = 4.46$, $p < .001$, $\eta^2 = 0.01$). Tukey post-hoc tests revealed that gain text frames elicited significantly greater positive emotion than loss text frames ($p < .001$) and that messages with positive visual frames elicited significantly greater positive emotion than messages with negative visual frames ($p < .001$), supporting H1 and H2. An interaction between text frame and visual frame was also found, partially supporting H3 (Figure 7). Both gain and loss text frames elicited greater positive emotion when presented with a positive visual frame ($p < .05$); however, positive emotion for both text frames decreased when presented with negative visual frames.

As expected, the reverse was true for negative emotion. Loss frames elicited significantly greater negative emotion than gain frames ($p < .001$), and negative visual frames elicited significantly greater negative emotion than positive visual frames ($p < .001$) (Table 11). The interaction between text frame and visual frame revealed that both gain and loss text frames elicited less negative emotion when presented with a positive visual frame but when presented with a negative visual frame, both text frames elicited greater negative emotion (Figure 7).

Attitudes, Personal Agency, Norms, Intentions (RQ7, RQ8, H4)

A MANOVA revealed that there were no significant effects for message condition on a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions (Table 11).

Stigma (RQ9, RQ10, H5)

A MANOVA revealed that there were no significant effects for text or visual frame on personal and perceived public stigma (Table 11).

Identification, Perceived Behavioral Attainment, Aspiration (RQ4, RQ5, RQ6)

A MANOVA was used to examine differences between message conditions on a) identification, b) perceived behavioral attainment, and c) aspiration. A main effect for visual frames was found (Wilks' *Lambda* (3, 795) = 0.62, $F = 165.09$, $p < .001$, $\eta^2 = 0.38$), and an interaction between visual frames and past help-seeking experience was found, where help-seeking experience moderated the effect of visual frame on perceived behavioral attainment (Wilks' *Lambda* (3, 795) = 0.92, $F = 23.07$, $p < .001$, $\eta^2 = 0.08$). Tukey post-hoc tests revealed that positive visual frames elicited greater perceptions of behavioral attainment than negative visual frames ($p < .001$) (Table 8). Individuals with no help-seeking experience found the behaviors depicted in the positive visual frames to be more attainable than the behaviors depicted in the negative visual frames. Participants with help-seeking experience found the behaviors depicted in the positive visual frames to be less attainable than the behaviors in the negative visual frames ($p < .001$) (Figure 7).

A significant main effect for visual frame on aspiration revealed that positive visual frames elicited significantly greater aspiration than negative visual frames ($F(1, 797) = 333.87$, $p < .001$, $\eta^2 = 0.30$) (Table 11).

Also, an interaction between visual frame and past help-seeking experience was found, indicating a moderating role of help-seeking experience on visual frame and identification, $F(1, 797) = 32.83$, $p < .001$, $\eta^2 = 0.04$). Individuals with help-seeking experience identified more with the exemplars in the negative visual frames than with those in the positive visual frames.

However, those without help-seeking experience identified more with exemplars from the positive visual frames than with those in the negative visual frames (Figure 7).

Perceived Message Effectiveness (RQ9, RQ10, H5)

A one-way ANOVA revealed that there was no significant main effect for text frame; however, positive visual frames were perceived as significantly more effective than negative visual frames, $F(1, 804) = 4.36, p < .05, \eta^2 = 0.01$). See Table 11. No interaction between text and visual frame was found.

Figure 7. Interaction effects between text frame and visual frame on emotion and between visual frame and help-seeking experience on perceived behavioral attainment and identification (Study 2)

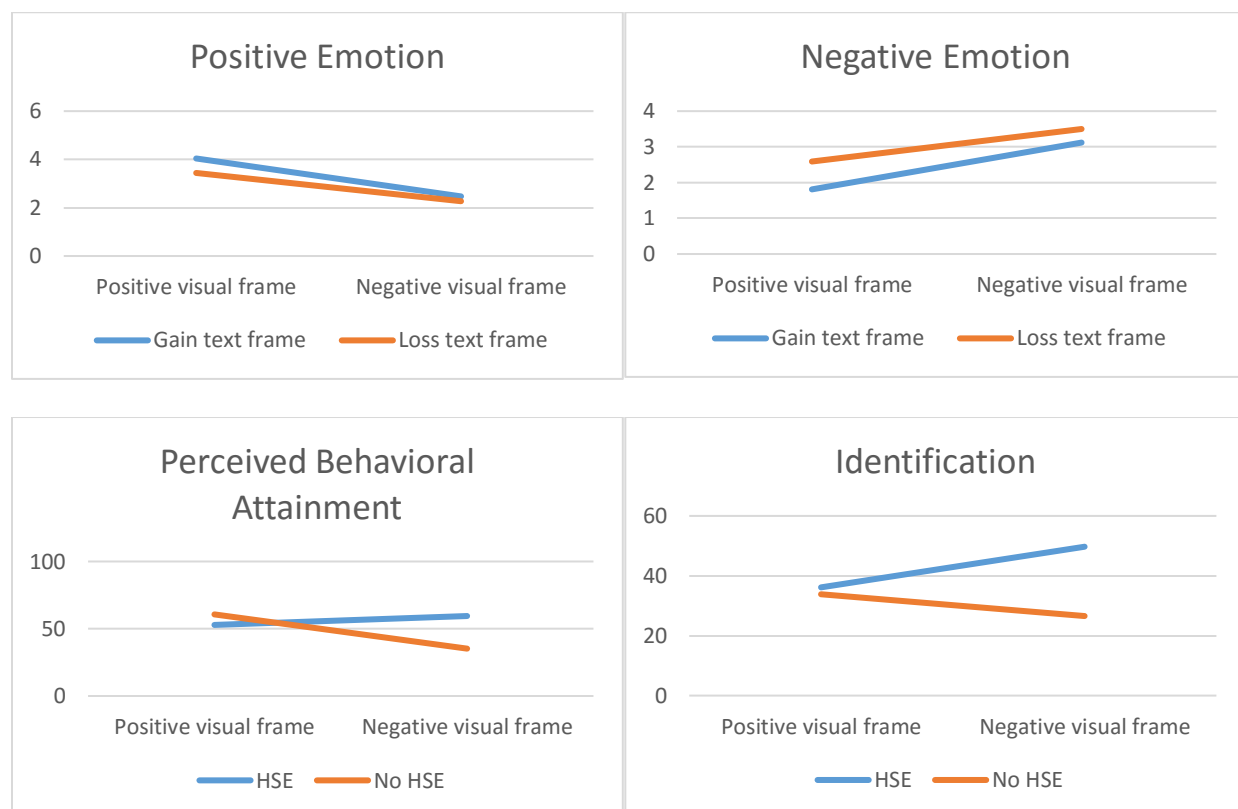


Table 11. Mean ratings for outcome variables, *M*(*SD*) (Study 2)

Measures	Text Frame		Visual Frame		Interaction			
	Gain	Loss	Positive	Negative	Gain Positive	Gain Negative	Loss Positive	Loss Negative
Positive emotion	3.27¹ (1.42)	2.85¹ (1.36)	3.74² (1.33)	2.36² (1.11)	4.04* (1.22)	2.47* (1.15)	3.44* (1.37)	2.27* (1.07)
Negative emotion	2.45³ (1.30)	3.05³ (1.47)	2.20⁴ (1.18)	3.32⁴ (1.42)	1.81* (0.90)	3.12* (1.31)	2.59* (1.29)	3.50* (1.50)
Attitudes	5.45 (1.02)	5.41 (0.97)	5.40 (1.02)	5.46 (0.96)	5.46 (1.02)	5.44 (1.02)	5.35 (1.02)	5.47 (0.91)
Perceived norms	3.80 (0.57)	3.75 (0.57)	3.79 (0.58)	3.75 (0.56)	3.83 (0.57)	3.76 (0.57)	3.76 (0.59)	3.74 (0.55)
Personal agency	5.67 (0.97)	5.67 (0.94)	5.68 (0.96)	5.65 (0.96)	5.72 (0.94)	5.62 (1.00)	5.65 (0.97)	5.68 (0.92)
Intentions	5.04 (1.43)	5.06 (1.42)	5.01 (1.44)	5.09 (1.42)	5.01 (1.47)	5.07 (1.39)	5.02 (1.40)	5.11 (1.44)
Personal stigma	1.82 (0.73)	1.86 (0.80)	1.83 (0.80)	1.85 (0.74)	1.82 (0.75)	1.83 (0.71)	1.84 (0.83)	1.87 (0.76)
Perceived public stigma	3.72 (1.10)	3.78 (0.98)	3.75 (1.05)	3.74 (0.99)	3.72 (1.14)	3.71 (0.98)	3.77 (0.96)	3.87 (1.00)
Identification	35.93 (25.91)	34.22 (26.18)	34.75 (24.18)	35.37 (27.81)	36.80 (25.07)	35.03 (26.78)	32.71 (23.14)	35.70 (28.82)
Perceived behavioral attainment	53.18 (29.51)	48.90 (29.61)	57.55⁵ (27.37)	44.44⁵ (30.37)	60.62 (26.47)	45.52 (30.05)	54.50 (27.41)	43.43 (30.70)
Aspiration	27.59 (26.96)	24.88 (25.64)	40.95⁶ (25.97)	11.44⁶ (16.58)	43.57 (25.96)	11.13 (15.74)	38.35 (25.78)	11.74 (17.37)
PME	2.49 (0.91)	2.40 (0.86)	2.51⁷ (0.91)	2.38⁷ (0.85)	2.59 (0.95)	2.39 (0.86)	2.43 (0.87)	2.38 (0.86)

Note: Bolded rows indicate a statistically significant main effect, $p < .001$. Means with the same superscript indicate significant differences between visual frames. *indicates significant interaction effects.

Mediation Effects

The same procedure for conducting the mediation analyses in Study 1 was carried out in Study 2 in order to determine whether positive and negative emotion mediated the relationship between visual frames and aspiration. Mediation analyses comparing individuals with help-

seeking experience and those without revealed no difference in mediation results; therefore, the following analyses reflect the total sample.

As reflected in Figure 8, the significant, positive association between positive visual frames and aspiration was strong ($\beta = 18.38$, $SE = 1.60$, $p < .001$), indicating that positive visuals will increase aspiration; viewers will aspire to be like the exemplars depicted in these visuals. The significant, positive association between positive visual frames and positive emotion ($\beta = 1.38$, $SE = 0.09$, $p < .001$) indicates that these frames increase positive emotion. The significant, negative association between positive visual frames and negative emotion ($\beta = -0.68$, $SE = 0.10$, $p < .05$), indicates that these frames decrease negative emotion. Negative emotion was not associated with aspiration ($p > .05$). The significant, positive association between positive emotion and aspiration ($\beta = 8.52$, $SE = 0.58$, $p < .001$) indicates that viewers who experience positive emotion will also experience increased aspiration.

The point estimates of the indirect effect through both mediators were examined to test for mediation. A bias-corrected bootstrap confidence interval for the product of each path that does not include (or cross) zero provides evidence of a significant indirect (or mediating) effect. There was a significant indirect effect for positive emotion (effect = 11.73, LLCI = 9.61 and ULCI = 14.02) on the relationship between positive visual frames and aspiration. This finding indicates that positive visual frames elicit positive emotion among viewers, which will then increase aspiration. Also, because positive visual frames have a significantly positive association with aspiration (Figure 8 path c), viewers who see this type of imagery will experience aspiration regardless of whether they experience positive emotion. In contrast, the indirect effect of negative emotion (effect = -0.36, LLCI = -1.14 and ULCI = 0.24) was non-significant, as the

point estimate crossed zero of the upper and lower bootstrapping CIs. Both the total and total indirect effects of this model were significant. See Table 12.

Figure 8. Positive and negative emotion mediation of positive visual frames and aspiration (Study 2)

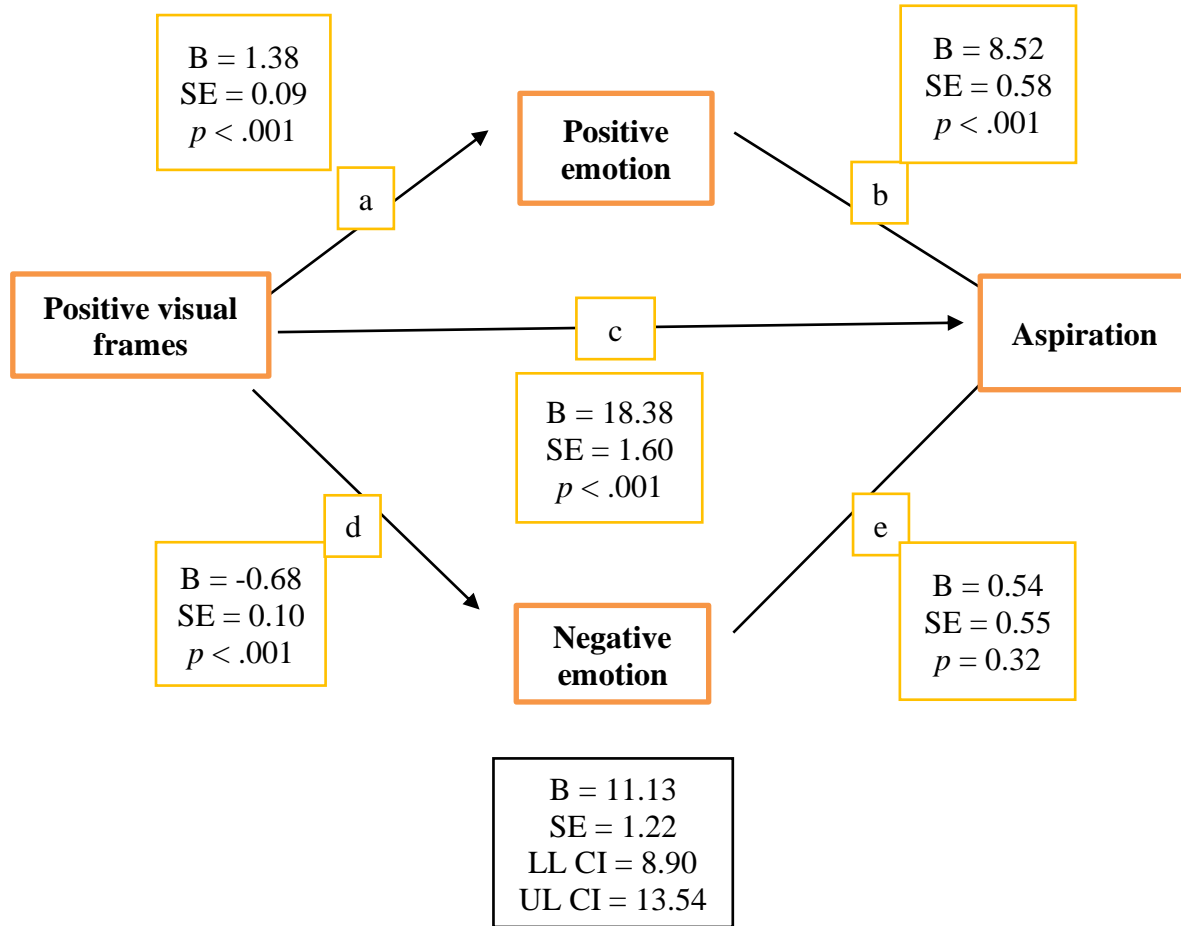


Table 12. Direct, indirect, and total effects of positive visual frames on aspiration (Study 2)

	Effect	SE	t	LLCI	ULCI
Total effect of Positive visual frames on Aspiration	29.51	1.54	19.21***	26.49	32.52
Total direct effect of X on Y	18.38	1.60	11.49***	15.24	21.52
Indirect effects of X on Y	Effect	BootSE		BootLLCI	BootULCI
Total indirect effect of X on Y	11.13*	1.22		8.90	13.54
Indirect effect 1: X > M1 > Y	11.73*	1.15		9.61	14.02
Indirect effect 2: X > M2 > Y	-0.36	0.36		-1.14	0.24

Note: X=Positive visual frame, M1=Positive emotion, M2= Negative emotion, Y=Aspiration. Number of bootstrap samples for bias corrected bootstrap confidence intervals = 1,000. Level of confidence for all confidence intervals: 95. *A bias-corrected bootstrap confidence interval does not include zero, indicating a mediator effect. *** $p < .001$.

The significant, negative association between negative visual frames and aspiration ($\beta = -18.38, SE = 1.60, p < .001$) implies that negative visuals will likely decrease aspiration; viewers will not aspire to be like the exemplars in negatively framed visuals. The significant, negative association between negative visual frames and positive emotion ($\beta = -1.38, SE = 0.09, p < .001$) indicates that negative frames decrease positive emotion. The significant, positive association between negative visual frames and negative emotion ($\beta = 0.68, SE = 0.10, p < .001$) indicates that these frames will increase negative emotion; however, negative emotion was not associated with aspiration ($p > .05$). The significant, positive association between positive emotion and aspiration ($\beta = 8.52, SE = 0.58, p < .001$) implies that viewers that experience positive emotion will also experience increased aspiration to be like the exemplars in the message. However, as discussed above, it is unlikely that negative visual frames will elicit positive emotion in the first place. See Figure 9.

Figure 9. Positive and negative emotion mediation of negative visual frames and aspiration (Study 2)

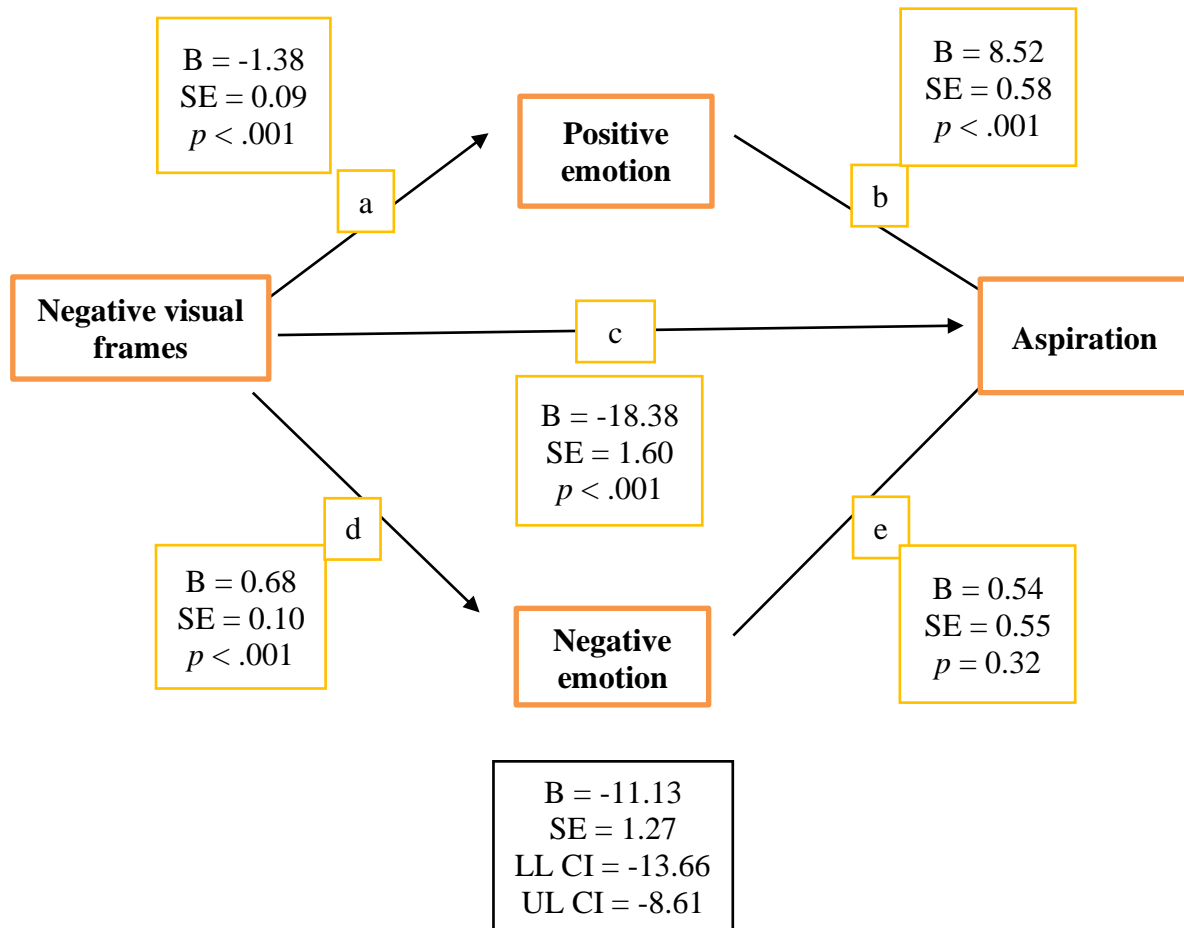


Table 13. Direct, indirect, and total effects of negative visual frames on aspiration (Study 2)

	<i>Effect</i>	<i>SE</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
Total effect of Negative visual frames on Aspiration	-29.51	1.54	-19.21***	-32.52	-26.49
Total direct effect of X on Y	-18.38	1.60	-11.49***	-21.52	-15.24
Indirect effects of X on Y	<i>Effect</i>	<i>BootSE</i>		<i>BootLLCI</i>	<i>BootULCI</i>
Total indirect effect of X on Y	-11.13*	1.27		-13.66	-8.61
Indirect effect 1: X > M1 > Y	-11.73*	1.14		-14.03	-9.61
Indirect effect 2: X > M2 > Y	0.36	0.36		-0.31	1.07

Note: X=Negative visual frame, M1=Positive emotion, M2= Negative emotion, Y=Aspiration. Number of bootstrap samples for bias corrected bootstrap confidence intervals = 1,000. Level of confidence for all confidence intervals: 95. *A bias-corrected bootstrap confidence interval does not include zero, indicating a mediator effect. *** $p < .001$.

Table 14. Hypotheses, Research Questions, and Outcomes (Study 1 and 2)

H/RQ #	Hypothesis/ Research Question	Outcome
Study 1		
H1	Messages using the treatment or recovery visual frames will elicit significantly greater positive emotions than messages using the suffering visual frames, while messages using suffering visual frames will elicit significantly greater negative emotions than the other visual frames.	Supported
RQ1	Which visual frame – suffering, treatment, or recovery - will be perceived as most effective by participants?	No Differences
RQ2a-c	Which visual frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?	c) Recovery visual frame
H2a-d	Messages using the treatment or recovery visual frames will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than messages using the suffering visual frames.	No Differences
H3	Messages using the treatment or recovery visual frames will reduce stigma significantly more than messages using the suffering visual frames.	No Differences
Study 2		
H1	Messages using the positive visual frames will elicit significantly greater positive emotions than messages using the negative visual frames, while messages using negative visual frames will elicit significantly greater negative emotions than the other visual frames.	Supported
RQ1	Which visual frame – positive or negative - will be perceived as most effective by participants?	Positive visual frame
H2	Messages using gain text frames will elicit significantly greater positive emotions than messages using loss text frames, while	Supported

	messages using loss text frames will elicit significantly greater negative emotions.	
RQ2	Which text frame – gain or loss- will be perceived as most effective by participants?	No Differences
H3	Messages using gain text frames with positive visual frames will elicit significantly greater positive emotions than all other messages, while messages using loss text frames with negative visual frames will elicit significantly greater negative emotions than all other messages.	Supported
RQ3	Which text and visual frame combination will be perceived as most effective by participants?	Not significant
RQ4a-c	Which text frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?	Not significant
RQ5a-c	Which visual frame elicits greatest a) identification, b) perceived behavioral attainment, and c) aspiration?	b, c) Positive visual frame
RQ6a-c	Which text and visual frame combination will elicit greatest a) identification, b) perceived behavioral attainment, and c) aspiration?	No Differences
H4a-d	Messages using the positive visual frames will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than messages using negative visual frames.	No Differences
RQ7a-d	Which text frame will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions?	No Differences
RQ8a-d	Which text and visual frame combination will increase a) attitudes toward help-seeking, b) personal agency about help-seeking, c) perceived help-seeking norms, and d) help-seeking intentions than all other messages?	No Differences
H5	Messages using positive visual frames will reduce stigma significantly more	No Differences

than messages using negative visual frames.

RQ9	Which text frame - gain or loss - will reduce stigma significantly more?	No Differences
RQ10	Which text and visual frame combination will reduce stigma significantly more than all other messages?	No Differences

CHAPTER 5: DISCUSSION

The purpose of this dissertation was to assess different visual frames and text frames to determine whether certain visual and text frames used in depression help-seeking messages significantly improve the effectiveness of messages. Two experiments were used to test framing effects in order to demonstrate which frames are more likely to influence healthy behavior. Results from these studies can be used to inform message designers about which mental health concepts should be made salient by visuals and text so that messages can more effectively persuade viewers to seek professional help if they suffer from depressive symptoms.

Study 1 Findings

Study 1 investigated suffering, treatment, and recovery visual frames to determine whether one frame demonstrated greater potential than the others in maximizing the effectiveness of depression messages to encourage help-seeking behavior. Results from Study 1 revealed that an effect of visual frames was found on emotion and aspiration. However, no effect was found on stigma or the other outcomes. Visual frames that emphasized suffering from depressive symptoms elicited negative emotion, while those that emphasized recovery elicited positive emotion – an outcome that was found to mediate the relationship between visual frames and aspiration. Moderating effects of help-seeking experience were also found on perceived behavioral attainment and identification; viewers with no help-seeking experience identified more with the exemplars in recovery visual frames and found the behavior depicted by the exemplars in these frames to be more attainable than the behavior portrayed in the suffering and treatment visual frames.

The emotional reactions viewers experience during and after exposure to visuals can influence whether they pay attention to the message (Mehta & Purvis, 2006), remember the message (du Plessis, 1998; Mehta & Purvis, 2006; Zaltman, 2004), and eventually heed the message (Houts et al., 2006). Ample research demonstrates the effects of visuals on emotion (Branter et al., 2011; Emery et al., 2013; O'Neill & Nicholson-Cole, 2009); therefore, it was not surprising to find that visual frames depicting individuals in a state of suffering elicited significantly greater negative emotion, while visual frames depicting individuals in a state of recovery elicited significantly greater positive emotion, given the nature of the images. Visual frames depicting individuals receiving treatment (i.e. therapy) elicited significantly greater positive emotion than suffering visual frames. Prior research has demonstrated the positive effects of written messages that portray individuals receiving treatment (McGinty et al., 2015), and the current study extends this literature by demonstrating that visual portrayals of individuals receiving treatment can also influence positive message reactions.

These findings demonstrate the need for message designers to test the affective reactions of visuals in order to determine which ones to use, depending on the aim of the message. For example, in some instances, negative affective reactions elicited by visuals depicting consequences of unhealthy behavior can be useful in influencing healthy behavior (Gibbons et al., 2005; Mahler & Kulik, 2007; Mays & Tercyak, 2015). For example, Mays & Tercyak found that graphic visuals depicting women suffering from skin cancer were found to be effective in increasing intentions to not tan indoors. The argument against using messages that elicit negative emotion, however, is that viewers might avoid the messages altogether or only process them heuristically (Hale, Lemieux, & Mongeau, 1995; Rains & Turner, 2007). Hale et al. (1995) found that messages that elicited high, versus low, negative affect were processed only heuristically.

Therefore, even though messages with suffering visual frames may portray individuals that viewers with depressive symptoms can identify with, the negative affective reactions these visuals elicit may deter viewers away from important message content and ultimately away from healthy behavior. People with depression are already experiencing negative emotions. To show an image that will only serve to make them feel more negative emotion may not be the right tool for what the message is trying to accomplish.

Visuals in depression messages can improve the effectiveness of messages by portraying positive behaviors and/or outcomes that viewers can aspire to because of the role aspiration plays in encouraging healthy behavior (Aspinwall, 1997; Lockwood, Sadler, Fymann & Tuck, 2004; Taylor, Wayment & Carillo, 1996). The finding that the recovery visual frames elicited significantly greater aspiration echoes prior research findings that demonstrate that positive visual frames can be used to influence positive outcomes (Andrews et al., 2014; 2015; Coleman & Banning, 2006; Edwards, Elwyn, & Mulley, 2002; Gibson & Zillmann, 2000; Zillmann, Gibson, & Sargent, 1999). This finding also reflects prior research that supports the use of positive exemplars who have experienced recovery to inspire individuals in a state of suffering (Taylor & Lobel, 1989). As reflected in the literature, viewers are more likely to behave like exemplars that they aspire to be like (Lockwood & Kunda, 1997). The finding that the individuals portrayed in the recovery visual frames were more inspiring than those portrayed in the treatment or suffering frames demonstrates that visuals that emphasize positive outcomes of seeking help are more motivating than visuals that emphasize the problem itself (i.e. suffering). This finding extends previous literature by showing that message exemplars portrayed in a state of recovery are inspiring to message viewers who may suffer from mental illness. As the literature suggests, this occurs because message exemplars depicting desirable, attainable outcomes cause

viewers to aspire to be like them (Lockwood & Kunda, 1997). If visual depictions of exemplars are undesirable and do not inspire viewers, the message may be avoided altogether.

The findings pertaining to aspiration suggest that message designers should incorporate visuals in messages that emphasize behaviors and/or outcomes that viewers can aspire to – behaviors that are desirable – in order to increase the likelihood that viewers will adopt the same behaviors or heed the message in order to experience positive outcomes (Lockwood & Kunda, 1997). Because the current study demonstrates the potential effectiveness of recovery-related visual frames to increase aspiration among viewers with depressive symptoms, research can further investigate the effectiveness of recovery-related visuals in other health contexts. For example, McGinty et al. (2015) found that when individuals suffering from depression, schizophrenia, painkiller addiction, or heroin addiction were portrayed (via written portrayals) as being in a state of post-treatment recovery, participants' attitudes about these individuals and about the successfulness of treatment significantly increased. Similarly, recovery-related visual portrayals may produce similar results, which can decrease stigma and increase the perceived effectiveness of treatment.

Beliefs about the risks and uncertainties of a health behavior can influence whether message frames will motivate behavior (Rothman & Salovey, 1997). In the context of depression messages, an individual's prior experience with help-seeking behavior can influence these beliefs, which can then influence whether certain frames will motivate help-seeking behavior. The moderating role of help-seeking experience found for the effect of recovery visual frames on perceived behavioral attainment and identification indicates that viewers' experiences with help-seeking behavior will influence whether they are motivated by recovery visual frames. When viewers with help-seeking experience were exposed to messages with recovery visual frames,

they identified less with the individuals in these frames and found their behavior to be less attainable. When viewers *without* help-seeking experience saw messages with the recovery visual frames, they identified more with the exemplars and found their behavior to be more attainable.

An explanation for these findings is that those with help-seeking experience may include individuals who are still learning how to cope with symptoms, so it is hard for them to relate to individuals in a state of recovery or believe that they can achieve recovery-related behavior. In addition, those without help-seeking experience may have included individuals who had never experienced symptoms in the first place; therefore, these individuals are more likely to experience positive emotion and better identify with message exemplars that are in a positive state. Future research could compare the effects of the recovery frames between individuals without help-seeking experience who have and do not have symptoms in order to determine which audience the recovery frame would be most appropriate for. Regardless of the significant differences between those with and without help-seeking experience, random assignment of participants to message conditions ensured equal distribution of both types of individuals across all message conditions. Therefore, the significant effects found among message conditions reflect outcomes due to message manipulation of visual frames among members of a general audience, which includes individuals with and without depressive symptoms.

Because emotion has been shown to mediate effects of message manipulations on healthy behavior (Emery et al., 2013), it was necessary to investigate whether emotion mediated the relationship between visual frames and aspiration in the context of depression messages. Results from the mediation analyses suggest that people do not aspire to be like the exemplars in depression messages who are depicted to be in a state of suffering from symptoms; viewers are

not inspired or motivated by these exemplars. Instead, viewers aspire to be like exemplars whose depictions indicate they have learned how to manage symptoms or are in a state of recovery.

This reflects findings from previous research in which individuals are inspired by and prefer learning from those who have recovered or have learned to cope with the same problem, because those who have recovered are viewed as role models who demonstrate problem-solving strategies and positive outcomes that follow (Aspinwall, 1997; Buunk, Collins, Taylor, Van Yperen, & Dakof, 1990; Collins, 1996; Collins, Dakof, & Taylor, 1988; Lockwood, Sadler, Fymann & Tuck, 2004; Taylor, Aspinwall, Dakof, & Reardon, 1988; Taylor & Dakof, 1988; Taylor & Lobel, 1989; Taylor, Wayment & Carillo, 1996). For example, Taylor and Lobel (1989) found that recovering cancer patients, compared to those still in a state of suffering, inspired cancer patients to learn ways to cope with the symptoms and survive. In addition, Lockman et al. (2004) found that individuals who were considering an additive healthy behavior (i.e. adding a behavior to improve one's health) were more motivated by positive role models, who had adopted the healthy behavior and experienced positive outcomes, than negative role models, whose failed experiences could inspire healthy behaviors.

The mediation analyses indicate that viewers were inspired by the exemplars used in recovery-related messages possibly for the same reasons discussed by Taylor and Lobel and Lockman et al.; these exemplars demonstrate depressive-symptom management implied by seeking professional help and the positive outcomes of doing so through depictions of recovery. The way that recovering cancer patients, not patients still suffering from cancer, inspired cancer patients to learn how to cope with symptoms is similar to the way in which message exemplars in a state of recovery from depressive symptoms can inspire individuals to learn how to cope with symptoms by getting help. Results from these analyses echo the findings of Taylor et al. and

Lockman et al.; individuals in a state of suffering will not inspire other suffering individuals to seek help. Depictions of suffering do not demonstrate coping strategies or positive outcomes of coping that others can aspire to, while exemplars in a state of recovery demonstrate the additive behavior of seeking help along with the positive outcomes of doing so.

Results from the mediation analyses also confirm that positive emotion elicited by recovery-related visuals mediates the relationship between these visuals and viewers' aspiration toward message exemplars. The more that recovery visuals increase positive emotion, the more viewers are inspired by message exemplars to share the same recovery experiences they are depicting, which, as implied by the message, can be achieved by seeking help. Because of the positive, direct effect of recovery visual frames on aspiration found in the analyses, viewers do not necessarily have to experience positive emotion in order to experience increased aspiration to be like message exemplars in the recovery-related visuals. However, it is still recommended that messages be designed and tested for the positive affective reactions they elicit because of the strong association between emotion and recall (Ambler & Burne, 1999; Mehta & Purvis, 2006), attention (du Plessis, 1998; Mehta & Purvis, 2006; Zaltman, 2004), and healthy behavior (Houts et al., 2006), which are indicative of message effectiveness. In addition, while emotion elicited by the suffering visuals did not mediate the relationship between suffering visual frames and aspiration, viewers of suffering visual frames did experience decreased aspiration. This implies that viewers did not aspire to be like the individuals portraying suffering from depressive symptoms.

No significant differences among visual frames were psychosocial outcomes from the integrated behavioral model, such as attitudes, norms, personal agency, and intentions. It is possible that a one-time message exposure did not have an effect on these outcomes. It also may

be that these messages performed similarly in impacting these outcomes, and that the differences in frames (i.e., relative differences) were not enough to lead to differential impact. Future researcher could test whether exposure to multiple messages over time has any impact on these outcomes, as well as whether any message has an impact on these outcomes (versus no message).

Study 2 Findings

The purpose of Study 2 was to investigate positive and negative visual frames, as well as gain and loss text frames, to determine which frames demonstrate the greatest potential to effectively encourage help-seeking behavior. Results from Study 2 revealed that gain text frames and positive visual frames elicited significantly greater positive emotion and perceived behavioral attainment than loss text frames and negative visual frames. Viewers found the behaviors depicted in positive visual frames to be more attainable, and the individuals portrayed in these messages were more inspiring than those in the negative visual frames. Positive emotion mediated the relationship between visual frames and aspiration, while negative emotion did not. When viewers who had not sought help in the past saw positive visual frames, they found the depicted behaviors to be more attainable than the behaviors depicted in the negative visual frames. In addition, those who had not sought help in the past identified more with the exemplars in the positive visual frames than with exemplars in the negative visual frames.

The recovery-related visuals tested in Study 1 were the same visuals used for the positive visual frames in this study, and the suffering visual frames from Study 1 were used for the negative visual frames in this study. The positive and negative emotion elicited by the positive and negative visual frames, respectively, was not surprising. This study went beyond that of Study 1, however, by investigating text frames in addition to visual frames.

The finding that gain text frames elicited greater positive emotion while the loss text frames elicited greater negative emotion was also not surprising, due to the nature of each frame and the findings of prior research that demonstrate the effect of positive and negative text frames on positive and negative emotion, respectively (Chang, 2008; Roney et al., 1995). This finding extends this literature by examining both visual and text frames simultaneously. When gain and loss text frames were presented with a positive visual frames, viewers experienced greater positive emotion, while when gain and loss text frames were presented with negative visual frames, viewers reported greater negative emotion. This implies that visuals are more likely to evoke affective reactions to messages than text and is likely attributable to the fact that visuals provoke automatic neurological responses and are mentally processed faster than text (Sibley, 2012). Therefore, if message designers want to elicit positive emotion among viewers, they should incorporate positively framed visuals with either gain or loss text frames; however, the use of gain text frames with a positively framed visual will elicit the greatest positive emotion.

The belief that one can attain, or achieve, a behavior depicted by message exemplars (or role models) will influence his or her attempt to experience that same behavior (Chan & Cameron, 2012; Lockwood & Kunda, 1997; Loft & Cameron, 2013; Renner et al., 2016). The finding that all viewers found the behaviors in the positive visual frames to be more attainable than the behaviors depicted in the negative visual frames demonstrates that viewers, including those with depressive symptoms, believe they can achieve positive behavior. As implied by the message, those with depressive symptoms can achieve this positive behavior as an outcome of seeking help.

While it is expected that viewers with depressive symptoms would find the exemplars' behavior from the negative frames (i.e. suffering) to be attainable because they already

experienced these behaviors, they may not aspire to be in such a state. However, and more importantly, if positive, recovery-related behaviors are seen as attainable then viewers will be more likely to adopt the same behaviors (Lockwood & Kunda, 1997). This is demonstrated by the finding where viewers aspired to be more like the models in the positive visuals than like those portrayed in the negative visual frames. As the literature suggests, individuals will adopt behavioral traits in order to experience the same positive outcomes portrayed by the exemplars (Abrams, 1999; Lockwood & Kunda, 1997). These findings extend the literature by demonstrating that visual frames in the context of depression messages can be used to increase perceptions of behavioral attainment and increase viewers' aspiration to attain behaviors specific to recovery from depressive symptoms. As discussed in Study 1, researchers could further test the effects of positive, recovery-related visuals on the perceptions of behavioral attainment among those suffering from other illnesses.

Similar to the findings in Study 1, the moderating role of help-seeking experience found for the effect of visual frames on perceptions of behavioral attainment and identification indicates that past help-seeking experience will influence viewers' perceptions of the behaviors depicted in the visuals. Viewers with no help-seeking experience identified more with the exemplars in the positive visual frames (i.e. recovery) than with the exemplars in the negative visual frames (i.e. suffering). In addition, viewers with no help-seeking experience found the exemplars' behavior depicted in the positive frames to be more attainable than the behavior portrayed in the negative frames. On the other hand, viewers with help-seeking experience identified less with those depicted in positive frames and found their behavior to be less attainable. Again, this may be because those who have not sought help have not done so because

they do not have symptoms and would naturally identify more with message exemplars that are in a positive state, while those who have sought help are still learning to cope with symptoms.

As in Study 1, the significant effects on emotion and aspiration warranted a mediation analysis to determine if emotion mediated the relationship between visual frames and aspiration. The results from this study's mediation analyses were the same as the mediation analyses for Study 1. This was expected because the images used in the negative visual frames for this study were the images from Study 1's suffering visual frame, and the images used in the positive visual frames for this study were the images from Study 1's recovery visual frames. Therefore, the implications are also the same. Viewers aspire to be like the exemplars depicted in the positive visual frames. The more that positive visuals increase positive emotion, the more viewers are inspired by message exemplars to share the same positive experiences they are depicting, which, as implied by the message, can be attained by seeking help. Because of the positive, direct effect of recovery visual frames on aspiration found in the analyses, viewers do not necessarily have to experience positive emotion in order to experience increased aspiration to be like message exemplars in the recovery-related visuals. However, messages that elicit positive affective reactions can improve overall message effectiveness (Ambler & Burne, 1999; du Plessis, 1998; Houts et al., 2006; Mehta & Purvis, 2006).

The lack of significant findings among the psychosocial variables from the integrated model were not surprising for visual frames, being that Study 1 found no significant differences among these outcomes. Because this study investigated text frames in addition to visual frames, the lack of significant findings for these measures between the gain and loss text frames is also indicative of the possibility that a one-time message exposure did not have effects on these outcomes or that all of the messages had similar effects.

Overall Discussion

The results from Study 1's comparison of suffering, treatment, and recovery-related visual frames provide practical implications for designers of depression messages. Because viewers are more likely to model their behavior in accordance with those they aspire to be like (Lockwood & Kunda, 1997, 2002; Lockwood et al., 2004), the use of visuals that depict exemplars in a state of recovery will be more effective in inspiring message viewers to seek help. Depictions of healthy relationships with peers, positive interactions with a significant other, and positive friendships should be used instead of depictions of individuals in a state of suffering, which are often portrayed by individuals hiding their face and isolated from others. Exemplars from the recovery depictions inspire and motivate viewers to share the same positive experiences as those who have sought help, as implied by the visual.

The implications of Study 2 are that messages should be designed according to the dominating role that visuals play regardless of how the text is framed. While gain text frames elicited significantly greater positive emotion, when they were presented with negative visual frames, positive emotion decreased. Therefore, more emphasis should be given to the image-selection process. As demonstrated above and discussed thoroughly in literature pertaining to the effects of visuals, visuals elicit emotion faster than text, which explains why they are processed and recalled better than text (Houts et al., 2006; Sibley, 2012). Implications of this study suggest that in the context of depression messages, positive visual frames elicit positive emotion, which then increases viewers' aspiration to be like the exemplars depicted in the positive visuals. In addition, viewers see the behavior depicted in positive visual frames as more attainable than behaviors depicted in negative frames. Therefore, messages designers should use positive visuals, preferably with gain text frames, because high perceptions of behavioral attainment and

behavior depictions that aspire viewers to behavior similarly will increase the likelihood that viewers will seek help when they need it in order to experience recovery-related behavior as a result. The implication for researchers is that they should test recovery-related imagery presented with gain text frames in other health-related contexts to determine if healthy behaviors depicted by these frames inspire message viewers.

Findings from Study 1 and 2 both indicate that the visual and text frames used in message stimuli had no significant effect on reducing stigma, improving attitudes toward help-seeking, influencing perceived norms, increasing personal agency, or improving behavior intentions, as illustrated in the integrated behavior model. However, both studies demonstrated the effects of visual frames on aspiration – an outcome that can result in behavioral assimilation (Lockwood & Kunda, 2007). Both studies also demonstrated that positive emotion mediated the relationship between visual frames and aspiration, where positive emotion had a significantly positive effect on aspiration. Therefore, efforts should be made to assess how messages can be designed to elicit positive emotion and positively affect aspiration.

The findings from both studies suggest that in the context of mental illness, gain text frames and positive recovery visual frames will more likely influence positive emotion that leads to increased aspiration to be like message exemplars that are in a state of recovery. Both of these frames (gain text frames and positive visual frames) make the positive outcome of the solution to the problem more salient instead of emphasizing the problem itself or even how to treat it. Gain text frames focus on what will be “gained” as a positive outcome of seeking professional help, while positive visual frames focus on visual depictions of positive outcomes of seeking professional help. The language of messages, including the visual “language” of images used in messages, can either keep the focus on the problem, as is currently seen in some depression-

related messages, or they can redirect individuals to focus on the solution and the outcomes that will likely improve their lifestyle. Role models that emphasize solutions, coping strategies, and survival are preferred by those experiencing health problems (Collins, Dakof, & Taylor, 1988; Taylor, Aspinwall, Dakof, & Reardon, 1988; Taylor & Dakof, 1988; Lockwood & Kunda, 1997; Taylor & Lobel, 1989) because role models are a form of tangible evidence that demonstrates that coping is attainable and will result in a healthy lifestyle.

Implications for Message Designers

The influence of visual frames on positive emotion and aspiration reveals their potential to influence positive behavioral assimilation. As discussed in the literature, if viewers identify with exemplars and their behavior is seen as attainable, then viewers will aspire to be like the exemplars. The mediating role of positive emotion, as demonstrated in this study, implies that positive emotion elicited by the models' depictions is an important concept for message designers to consider. Viewers with depressive symptoms may identify with exemplars depicted in a state of suffering, but choosing visuals solely because the exemplars they portray are similar to the viewer will not necessarily cause viewers to react positively and adopt health behaviors. Therefore, efforts should be made to design messages in a way that motivates viewers through positive emotion by using positively framed visuals that emphasize recovery-related behaviors that viewers will aspire to.

Frames that emphasize suffering from depression elicit negative emotion and depict stigma-related portrayals of those with this mental illness, while messages that visually emphasize recovery elicit positive emotion that is linked to the perception that something can be done about the symptoms. Again, the message conveyed by the visual will have a lasting impression on viewers more so than text (Blackwell et al., 2015) because visuals elicit emotion

that is linked to memory, and they are processed faster than text (Houts et al., 2006; Sibley, 2012). Therefore, message designers should give more consideration to the images they select when creating health-related messages by determining what impact the visuals have on viewers regardless of the text that is presented with them.

Limitations and Future Research

Because of the experimental method used for this study, participants were exposed to messages one time on a computer screen, which does not reflect message exposure in the real world. Repetitive message exposure over time, and exposure through various media platforms, may produce different results. Also, the convenience sample used for this study – and the fact that the majority of participants were white and female - limits the generalizability of this study's findings; however, results demonstrate significant differences in outcomes following exposure to different visual frames. Another limitation is that participants' experience with depressive symptoms was not measured. This study focused on message reactions to various framing manipulations and was not designed to be diagnostic of depression among participants. Future research testing visual frames among those without help-seeking experience who have and do not have depressive symptoms can inform message designers about whether one visual frame is more effective than another in reaching these two audiences.

Because of the significant difference between participants with past help-seeking experiences and those with no experience on aspiration, future research might investigate why individuals with depressive symptoms have not sought help and then, using qualitative methods with such individuals, learn how to design messages using visual frames that address these issues. At the same time, it may be helpful to learn from those who have sought help in the past

what influenced their decision to do so, then through focus groups determine how these factors might be addressed through visuals.

Future research should investigate text frames and visual frames separately instead of testing messages that contained one of each type of frame. Testing both frames simultaneously inevitably introduces confounds brought on by the other type of frame; however, this was done in order to improve the believability of the messages. Future research might also test messages that incorporate both gain and loss text frames and positive and negative visual frames. Perhaps one frame would increase perceived risk while another would increase perceptions of behavior attainment and aspiration.

Future studies could also investigate whether help-seeking experience moderates the mediation effect of emotion on the relationship between frames and aspiration. Additional mediation analyses could examine whether aspiration or other variables mediates the relationship between frames and behavioral intentions among those who have help-seeking experience and those who do not. Other mediation analyses could test for serial mediation effects between several variables. For example, positive emotion and aspiration may both mediate the relationship between visual frames and intentions.

Conclusion

The experimental studies used in this research demonstrate the effects of written and visual language used in messages pertaining to health issues; the way in which both are framed will determine what is made salient to audiences, which in turn can influence message reactions that can lead to healthy behavior. In the context of depression messages, messages designers should consider using imagery, such as that depicting individuals in a state of recovery, that will elicit positive emotion that can lead to healthy behavior.

These implications go beyond messages that are communicated through text and visuals only and have implications for verbal communication as well. Verbal, health-related communication that emphasizes healthy behavior and positive outcomes may also influence positive emotion and aspiration. For example, during group therapy sessions for various addictions, attendees are prompted by counselors to regularly verbally emphasize their problem through statements such as, “I am an alcoholic,” or “I am a compulsive overeater.” Like negative visuals from this study were shown to do, it is possible that regular verbal communication that emphasizes the problem may also elicit negative emotion, be discouraging, and have negative effects on aspiration. These negative effects have been demonstrated by individuals who attend these treatment sessions for years without ever learning to control their addictions (Taylor, 2017). In a broad health-communication context, visual, written, or verbal communication that emphasizes individuals experiencing the problem may identify with the audience but may not prompt individuals to think about the attainability of healthy behavior or it may not motivate them to seek help in order to experience the positive outcomes associated with it.

APPENDIX 1: PERSONAL STIGMA QUESTIONS

1. I would willingly accept someone who has received treatment for depression as a close friend.
2. I think less of a person who has received treatment for depression.
3. I believe that someone who has received treatment for depression is just as trustworthy as the average person.
4. I believe that a person who has received treatment for depression is just as intelligent as the average person.
5. I would accept someone who has recovered from depression (or has learned to cope with symptoms) as a teacher of young children in a public school.
6. I feel that receiving treatment for depression is a sign of personal failure.
7. I would hire someone who has received treatment for depression to take care of my children.
8. I would hire someone who has received treatment for depression if he or she is qualified for the job.
9. I would pass over the application of someone who has received treatment for depression in favor of another applicant.
10. I would treat someone who has received treatment for depression just as I would treat anyone.
11. I would be hesitant to date someone who has received treatment for depression.
12. Once a person has received treatment for depression, I would take that person's opinions less seriously.

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