Expanding the Boundaries of Effective Social Support: Advancing the Narrative Support Model

Dissertation

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Abstract

Research suggests sharing a narrative about one’s personal experience with a problem can provide comfort to others (Carlick & Biley, 2004; Shaffer & Zikmund-Fisher, 2013; Sharf & Vanderford, 2003; Ziebland & Wyke, 2012). However, current supportive communication theories have focused solely on listener-centered messages, or messages that describe the support recipient’s feelings and do not reference the helper’s thoughts or experiences (Burleson, 1994; Burleson & Goldsmith, 1998; MacGeorge, Feng, & Burleson, 2011). Neither existing supportive communication models nor narrative reception models explain how listening to a helper’s personal narrative can provide support. In order to fill this theoretical gap, this dissertation explicated narrative support and proposed the narrative support model, which identifies the characteristics of the message and helper that make personal narratives an effective form of support.

Narrative support was explored in the context of academic stress. Both stress and coping are communicatively constructed, as other people are often highly involved with our stress and coping experiences (Afifi, Hutchinson, & Krouse, 2006). In academia, both faculty and students report experiencing high levels of stress related to their academic duties (Barnes, Agogo, & Coombs, 1998; Chiauzzi, Brevard, Thurn, Decembrele, & Lord, 2008; Heins, Fahey, & Leiden, 1984; Hyun, Quinn, Madon, & Lustig, 2006). In addition to a variety of negative health outcomes (Vecchi, 2009), excessive stress is a large reason why both students and faculty choose to leave academia.
(Barnes et al., 1998; Chiauzzi et al., 2008). This dissertation examined academic stress and narrative support using a graduate student population. As stress in graduate school is an increasingly problematic issue (Chiauzzi et al., 2008; Heins, Fahey, & Leiden, 1984; Hyun et al., 2006; Patton, 2012), graduate students are one population that could potentially benefit from stories about others’ experiences.

Two studies were conducted to examine how supportive communication, and in particular, narrative support, could alleviate graduate student stress. Study 1 explored the role of communication in academic stress through in-depth interviews with graduate students. Results indicate that messages from others in the department construct norms that contribute to graduate students’ psychological stress. When stress was based on departmental norms, supportive messages from others in academia that validated the students' concerns were the most comforting. Students also reappraised the stress-inducing departmental messages to cope. Using grounded theory techniques, a supportive communication model for norm-based stress was created. Study 2 tested the propositions of the narrative support model using an online, longitudinal experiment with graduate students. Results indicate that personal narratives can be effective comforting messages. Narrative support messages were the most effective when they conformed to the guidelines of the narrative support model. Both Study 1 and Study 2 provide evidence to suggest narrative support is an effective type of message for norm-based, graduate students’ stress.
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Chapter 1: Expanding the Boundaries of Effective Social Support: The Narrative Support Model

Current theoretical perspectives on supportive communication suggest that effective emotional support is communicated via listener-centered messages (Burleson, 1994; Burleson & Goldsmith, 1998; MacGeorge, Feng, & Burleson, 2011). Rather than focus on the helper, listener-centered messages concentrate on describing the support recipient’s problems and feelings. Messages that extensively elaborate on the feelings and perspective of the support recipient are called highly person-centered (Burleson, 1994), and their effectiveness at reducing emotional distress is well supported in the literature (see MacGeorge et al., 2011 for review). In particular, highly person-centered messages help support recipients better understand their distressing situation and their emotional reactions, which can lead them to develop new, positive perspectives (Burleson & Goldsmith, 1998).

Despite the primary attention given to listener-centered messages in supportive communication research, there is a growing amount of empirical evidence from health communication studies that suggests those undergoing difficulties can benefit from listening to narratives about another’s personal experience with a problem (e.g., Carlick & Biley, 2004; Shaffer & Zikmund-Fisher, 2013; Sharf & Vanderford, 2003; Ziebland & Wyke, 2012). These results seemingly contradict previous research findings on social support. As Burleson (2003) summarizes:
An extended focus by the helper on his or her own feelings about the current situation, or about a similar situation in the past, tends to be resented by targets and is unhelpful at improving their affect (Barker & Lemle, 1984; Lehman et al., 1986; Lehman & Hemphill, 1990) (p. 568).

Although many of these studies conclude that helpers should avoid discussing their own experiences, a closer examination of these studies uncovers the possibility that helpers’ personal narratives can be beneficial. For example, in many of these studies, messages categorized as “I know how you feel” were often rated as unhelpful (Lehman et al., 1986; Lehman & Hemphill, 1990; Wortman & Lehman, 1985), suggesting that trying to relate to a support seeker with your own tale of a similar personal experience is unwanted.

However, the exemplar message for the category, “people often say, I know how you feel or I know exactly what you’re going through and they don’t – not unless you’ve been there” (Lehman et al., 1986, p. 446), reveals that support recipients actually disliked when helpers said they understood but had not experienced the same situation before. Additionally, one of the most helpful types of support mentioned in these studies was “contact with similar others,” such as discussions with other widows or multiple sclerosis patients (Lehman et al., 1986; Lehman & Hemphill, 1990; Wortman & Lehman, 1985).

Thus, these studies suggest that listeners do not want false expressions of shared experience; however, these studies say nothing about the benefits of sharing a genuinely similar experience in the form of a personal narrative. Additionally, although Barker and Lemle (1984) found helper self-disclosures were less effective than other response types in supportive interactions, the research design focused on the mode of supportive response type and not the quality. As the authors explain, “response modes can, for
example, distinguish between an interpretation and an advisement, but not between a
good interpretation and a bad one” (Barker & Lemle, 1984, p. 333). Thus, taken as a
whole, these studies do not suggest narratives are always unsupportive, but rather, the
quality and appropriateness of supportive narratives is likely to differ.

Despite their potential, there has been no explanation of the conditions in which
personal narratives can provide support (Green, 2006; Kreuter et al., 2007). In order to
fill this theoretical gap, a model is proposed on how personal narratives can serve a
supportive communication function. First, the narrative support model identifies the
characteristics of the message and the speaker that are necessary for narratives to be
comforting. This model expands the boundaries of current social support theories to
include messages that are not primarily focused on the recipient. Additionally, this
model increases the outcomes of narrative reception to include support, as current models
of narrative effects largely concentrate on the audience’s knowledge, beliefs, attitudes,
and behaviors (Kreuter et al., 2007; Miller-Day & Hecht, 2013; Moyer-Gusé, 2008;
Petraglia, 2007).

In addition to serving an important theoretical function, this model is also
important on a practical level. Multiple studies have demonstrated that social support is
associated with both health and relational outcomes (Goldsmith & Albrecht, 2011;
MacGeorge et al., 2011; Uchino, 2006). In particular, social support can increase
relational satisfaction, enhance self-esteem, reduce feelings of anxiety, buffer against
depression, cultivate a sense of belonging, lessen loneliness, and promote adoption of
effective coping behaviors (Albrecht & Adelman, 1984; MacGeorge et al., 2011; Segrin
& Passalacqua, 2010; Wills & Shinar, 2000). Although social support is critical to
important health and relational outcomes, research suggests there are many costs associated with both seeking and providing support (Burleson, 1994; Burleson & Goldsmith, 1998; Coyne, Ellard, & Smith, 1990; Goldsmith, 2004; MacGeorge et al., 2011), and poor quality support and interactions can have a variety of negative consequences and can make a stressful situation worse (MacGeorge et al., 2011).

Producing high quality support is an important but difficult task. If practitioners can utilize this model to design interventions that will benefit populations in need, they could provide quality support while lessening the burden on loved ones and support groups.

**Narrative Support**

Social support is a multidisciplinary research topic (Goldsmith & Albrecht, 2011; MacGeorge et al., 2011). Within communication, most research focuses on supportive messages, or verbal and nonverbal messages that are communicated with the intention of assisting others (MacGeorge et al., 2011). There are many different types of supportive messages, including emotional support, esteem support, and advice (MacGeorge et al., 2011), and research suggests the quality of a supportive message can influence its effectiveness (Goldsmith, 2004; MacGeorge et al., 2011). Source and other contextual factors can also influence the effectiveness of supportive messages (Bodie, 2013; Feng & MacGeorge, 2006; Feng & MacGeorge, 2010; Holmstrom et al., 2013).

Similar to social support, research on narrative communication is a multidisciplinary effort (Green, Strange, & Brock, 2002). There is no one accepted definition (Hinyard & Kreuter, 2007), but scholars commonly describe narratives as structured descriptions of events and characters that provide meaning or resolution to the events described. For example, narratives have been defined as “any cohesive and
coherent story with an identifiable beginning, middle, and end that provides information about scene, characters, and conflict; raises unanswered questions or unresolved conflict; and provides resolution” (Hinyard & Kreuter, 2007, p. 778) and as ”a structured, coherent retelling of an experience or a fictional account of an experience” (Schank & Berman, 2002, p. 288). Narratives are often contrasted with didactic, expository, and argumentation styles of discourse (Glaser, Garsoffky, & Schwan, 2009; Kreuter et al., 2007). These forms of discourse primarily present information in the form of reasons, arguments, or facts (Kreuter et al., 2007), and the information is organized in a pattern of claims and supports rather than chronologically (Glaser et al., 2009). Rather than general information, narratives also focus on specific events or experiences and discuss how those events or experiences happened for particular character(s) (Escalas, 2004; Hinyard & Kreuter, 2007; Schank & Berman, 2002). There are many different types of narratives, such as fictional tales, anecdotes of firsthand or secondhand experiences, official accounts, and culturally common stories (Schank & Berman, 2002).

Combining supportive messages and narrative, the following definition of narrative support is offered: a narrative support message is a chronological account of a specific event or experience and how it occurred for a character or character(s) that is shared by the helper with the intention of alleviating the recipient’s distress or providing coping information. Thus, the provided narrative could be a firsthand account, a secondhand retelling, or a fictional story. As long as the supportive message intentionally (a) describes an event, experience, or situation, (b) explains how it unfolded over time, and (c) focuses on a specific character or character(s), it can be classified as a narrative support message. Therefore, a message such as “I know how you feel, that
happened to me before too. But you will get over it” is not an example of narrative support, because it does not elaborate on the specific experience or explain how it transpired over time for the character. However, the following message would be considered a narrative support message: “I felt the same way during my first weeks here. When I first started, I was really worried that I wouldn’t be able to keep up with all the work. Everything was really confusing. But once I learned the system, the work started to go more quickly, and everything got much easier. It just took a little bit of training and time.” This message (1) provides a chronological description of how a specific experience occurred for a particular character (in this case, the helper), and (2) was produced intentionally to help the support recipient cope with concerns over challenges in adjusting to a new workplace. Although there could be many different forms of narrative support, the following explication will focus on personal, firsthand narrative support messages that recount the helper’s past experience with an issue.

**Supportive Communication Mechanism: Reappraisal**

There are many proposed mechanisms in the supportive communication literature (Bodie, 2013; Holmstrom & Burleson, 2011; Feng & MacGeorge, 2010), and narrative support should be a particularly useful device for producing emotional improvement through the mechanism of reappraisal. Burleson and Goldsmith's (1998) conversationally induced reappraisal model suggests that high quality emotional support messages (messages that attempt to alleviate others’ emotional distress; MacGeorge et al., 2011) work because they assist support recipients in changing the source of their emotional distress, their emotional appraisals. According to Lazarus’ (1999) appraisal theory of emotion, emotions are a result of our cognitive evaluations of situations. Two different
appraisals, primary and secondary, result in emotions. Primary appraisals assess the goal relevance and goal congruence of the situation (Lazarus, 1999). Goal relevance determines whether or not a situation is relevant to one’s well-being, and congruence is the evaluation of whether the situation is impeding or facilitating one’s goals. Secondary appraisals evaluate what coping options exist and the possibilities for a positive future (Lazarus, 1999). Harm/loss and threat appraisals, in which the situation is perceived as damaging to one’s goals or well-being and lacking effective coping options, are related to negative emotions, such as fear, anger, and sadness (Lazarus, 1999). Challenge appraisals suggest that the obstacle or difficulties can be overcome and are associated with more positively toned emotions, such as hope and excitement, and benefit appraisals suggest the situation is positive for one’s goals and well-being and are associate with positive emotions such as happiness (Lazarus, 1999). The type of goal, such as the desire for positive self-esteem, and who is responsible for the situation also help determine the type of emotion experienced (Lazarus, 1999). Thus, to lessen emotional distress, supportive messages need to assist the recipient in reappraising the situation (Burleson & Goldsmith, 1998). If the situation is reappraised as less threatening, the negative emotional response will change as well.

**Reappraisals through narratives.** If the goal of effective emotional support is to induce positive reappraisals, narrative support messages might be particularly conducive to facilitating reappraisals. This is because narratives represent how we view and understand the world and ourselves (Mankowski & Rappaport, 2000; Pennebaker & Seagal, 1999; Petersen, Bull, Propst, Dettinger, & Detwiler, 2005). Many scholars note that the use of narrative discourse is universal across cultures, and it is a common way
most people communicate in their day-to-day life (Hinyard & Kreuter, 2007; Labov & Waletzky, 1967; Larkey & Hecht, 2012; Kreuter et al., 2007). Because narratives are a common form of human discourse and knowledge is stored in a narrative format in memory (Schank & Berman, 2002), narratives serve important functions in our lives. Mainly, narratives serve a sense-making function, helping people make sense of their experiences and themselves (Larkey & Hecht, 2012; Mankowski & Rappaport, 2000). The narratives we construct formulate our identities and self-concept, provide resolution to events of our lives, and suggest future actions. Thus, our understanding of the world comes from the narratives we consume and construct (Larkey & Hecht, 2012; Mankowski & Rappaport, 2000; Pennebaker & Seagal, 1999; Petersen et al., 2005). Narrative understandings are relevant to emotional distress, because emotions arise from people’s perceptions of the meaning of events for their well-being (Lazarus, 1999). Thus, narratives are appraisals of situations.

As narratives are appraisals of situations and selves, helping people change their own distressing narratives can be beneficial for alleviating distress. For example, this is a common technique in narrative therapy (Pennebaker & Seagal, 1999; Petersen et al., 2005). The main goal in narrative therapy is helping patients articulate their thoughts about their upset in a narrative format and then help patients reconstruct their narratives in a positive light (Petersen et al., 2005).

**Learning from others’ stories.** In narrative therapy, emotional improvement results from the transformative power of creating or reconstructing one’s own story; however, for narrative support to be effective, hearing others’ stories needs to be transformative. Scholars suggest that both creating and consuming narratives can be
transformative, because we learn from others’ stories and this learning can change how we view certain situations (Miller-Day & Hecht, 2013; Petraglia, 2007; Rappaport, 1993). Narratives present both models of the world and models of behavior (Kreuter et al., 2007; Miller-Day & Hecht, 2013; Petraglia, 2007). People often apply these models to their own relevant issues (Dunlop, Wakefield, & Kashmina, 2010; Escalas, 2007; McDonald, Sarge, Lin, Collier, & Potocki, 2012; Oatley, 2002), and this application often changes their own perspective on the issue (Carlick & Biley, 2004; Rappaport, 1993; Ziebland & Wyke, 2012). Although not classified as narrative support (as this is the first time it is being introduced), there are many studies that suggest we can use others’ narratives to reappraise our own distressing situations. For example, within social support groups, participants use the narratives of other members and the narrative of the support community to develop their own narrative (Rappaport, 1993). Additionally, hearing about others’ experiences can alter one’s orientation to disease and provide a frame to make sense of one's own situation and uncertainties (Ziebland & Wyke, 2012). Narratives can provide insight into the experience of different emotions and help people master them (Carlick & Biley, 2004). Others’ stories can also provide hope and reassurance that one can succeed or successfully manage a situation and produce feelings of normality (Yeager & Walton, 2011; Ziebland & Wyke, 2012). For example, many educational interventions use testimonials from previous students that suggest difficulties are common in the beginning of school, but things get better over time, and this perception of the normality of early difficulties in school becomes part of the targeted students’ persistence stories (Yeager & Walton, 2011).
Narrative Support Model

Thus, there is potential for narrative support to produce emotional improvement through reappraisal, but certain characteristics of narrative support messages should be critical to their effectiveness in comforting. The narrative support model, depicted in Figure 1, delineates the elements of the message, the speaker, and the situation that are most conducive to comforting others through reappraisal. Each of these variables is explained below.

Transformation Content

A narrative support message should be high in transformation content. Transformation is conceptualized as message content that both (a) validates the listener’s current perspective and (b) proposes a change in how to view the situation. As research on comforting messages suggests, the most sophisticated emotional support messages are highly person-centered, which means they acknowledge, elaborate, and legitimize the feelings and perspective of the support recipient (Burleson, 1994; Samter & Burleson, 1984). Low person-centered messages ignore or criticize the other’s feelings and suggest the distress is unwarranted, whereas highly person-centered messages explicitly discuss the recipient’s emotions and signal that the person is warranted in feeling upset (Burleson, 1994). When the story begins as a description of the helper’s similar feelings of distress, it should validate the support recipient’s current experience. If the narrative support message explains that the helper underwent something similar but did not experience the same negative emotions or thoughts, it suggests the recipient is overreacting. Thus, it is important to share a story where the helper experienced similar emotions or thoughts, so the recipient feels justified in experiencing the distress.
Validation is not unique to narrative support messages, but rather, is a particularly important characteristic for all forms of emotional support messages.

What is unique to narrative support, however, is the second portion of transformation; in addition to validation, a narrative support message should also explain how the situation can change by describing how the helper successfully coped with the distressing situation to facilitate a reappraisal. The described coping behavior(s) can be problem-focused, where one attempts to change aspects of the stressful environment to make them more conducive to one’s goals and well-being, or emotion-focused, where one attempts to control the distressing emotions rather than the environment (Lazarus & Folkman, 1984). Sharing a narrative of a similar problem or experience that proposes no successful coping way to cope should not be very effective at facilitating a reappraisal of the recipient’s current perspective on the situation. If the narrative describes the experience of an obstacle, difficulty, or upset as unchanging or the distressing emotions as permanent, it will only reinforce what the support recipient currently thinks and feels about the situation, and no new perspective can be gained from the narrative. Rather, sharing a story about your own similar negative experience with no successful coping information provided would be a form of co-rumination, which is related to increased negative affect, stress, and burnout (Boren, 2013; Byrd-Craven, Geary, Rose, & Ponzi, 2008). These types of narratives only solidify the distressing perspective as the way to approach the situation and should be associated with negative appraisals of the situation, such as the perception that there is a lack of coping options for the recipient. If the narrative highlights information on how to improve the situation or a new perspective
about the situation, it provides a new possible interpretation that the recipient can adopt and use for reappraisal.

Therefore, a narrative support message should demonstrate that the distress is not permanent and that change is possible to induce a reappraisal. In this way, a narrative should provide information on how the helper successfully coped with the distressing situation. This implicit coping information is similar to advice. Advice is a type of instrumental support message that provides explicit instructions on how the help seeker can improve the problematic situation (Feng & MacGeorge, 2010). As a narrative support message explains how the helper successfully coped, it provides information on how the recipient can also cope. If the narrative describes a successful coping experience, it provides compelling, implicit evidence for the response efficacy (the effectiveness of the proposed action) of that coping behavior (Kreuter et al., 2007). As one of the most important qualities of effective advice is high response efficacy (Feng & MacGeorge, 2010), it is critical for the helper to demonstrate success with a coping behavior(s) if the message is to influence the recipient’s secondary appraisal (the perception about one’s ability to successfully cope with the situation). Research supports the importance of the provision of coping information in narratives used in social support groups and narrative therapy (Pennebaker & Segal, 1999; Rappaport, 1993). For example, an analysis of the mental health help group GROW’s member materials and support meetings indicated that people adopted the most prominent, emotion-focused coping themes from the member materials and others’ testimonials at meetings and used them for their own narratives. The main theme of these materials is healing through the transformation of one’s illness identity to a member of the GROW community.
(Rappaport, 1993). Additionally, a shift from using negative words to positive words is an important component in narrative therapy (Pennebaker & Segal, 1999). For example, in a narrative writing intervention, Pennebaker and Seagal (1999) found that the participants whose health improved the most wrote narratives about traumatic events containing many positive-emotion words and a moderate amount of negative-emotion words. These results suggest that although the participants acknowledged the difficulties of the traumatic event, they largely focused on their successful coping over time.

**Source Characteristics**

As has been found for other types of social support, such as advice (Feng & MacGeorge, 2006; Feng & MacGeorge, 2010), source characteristics should also influence the effectiveness of narrative support. Two characteristics of the speaker should moderate the relationship between narrative support and reappraisal. In particular, the experiential expertise and the similarity of the speaker should enhance the impact of successful coping information on reappraisal.

**Experiential Expertise.** First, in order for a narrative to succeed in facilitating a positive reappraisal, the speaker should possess experiential expertise. Traditionally, expertise refers to holding official qualifications and knowledge related to the situation at hand, such as a medical degree (Hovland, Janis, & Kelley, 1952; Hu & Sudar, 2010), and traditional experts are generally considered more persuasive in an advice context (Feng & MacGeorge, 2010). Experiential experts, however, possess expertise due to their personal experiences with the situation (Hu & Sudar, 2010). With medical conditions, for example, doctors are traditional experts, because they have clinical knowledge about the condition and official qualifications. Those previously diagnosed, however, are
experiential experts, because they understand what it is like to be diagnosed and actually live with the condition. In mental health interventions, these “informed supporters” or “expert peers” (Proudfoot et al., 2012) are often very effective at providing emotional support and assisting new members with treatment (Mead, Hilton, & Curtis, 2001; Proudfoot et al., 2012).

There are two main reasons why experiential expertise can enhance the relationship between narrative support and reappraisal. One reason why experiential experts are often effective supporters is because they can legitimize others’ feelings (Lockspeiser, O'Sullivan, Teherani, & Muller, 2008; Proudfoot et al., 2012). For example, peer supporters were valued in a social support intervention for mental illness, because the peer supporters had a holistic view of the illness, rather than their doctors’ solely clinical view (Proudfoot et al., 2012). Communicating with the informed supporters validated the participants’ struggles and feelings in all aspects of their lives. In addition to validation, support seekers might find the coping information experiential experts provide in narrative support as more credible than those with less experiential expertise (Hu & Sundar, 2010; Proudfoot et al., 2012). For example, in the social support intervention, support seekers trusted the informed supporters’ advice, because their advice was grounded in their own experiences (Proudfoot et al., 2012).

Additionally, narratives from experiential experts can engender upward social comparison that provides hope and inspiration to support seekers (Proudfoot et al., 2012; Stanton, Danoff-Burg, Cameron, Snider, & Kirk, 1999; Suls, Martin, & Wheeler, 2002). Social comparison involves evaluating oneself to others (Suls et al., 2002). Comparison is downward when the counterpart is worse off, and upward when evaluating oneself to
another who is better off. Although upward social comparison has been associated with negative outcomes in certain situations, upward social comparison can make others feel better by providing hope that they can also improve their situation (Stanton et al., 1999; Suls et al., 2002). For example, breast cancer patients who were successfully managing their illness and adjusting well were preferred by interaction partners for other patients because they inspired hope (Stanton et al., 1999).

For an experiential expert’s narrative to be comforting, however, the narrative needs include compelling efficacy information. Upward social comparison only provides hope if the person feels they can actually achieve the same goal (Stanton et al., 1999; Suls et al., 2002). When someone does not believe coping options exist, comparing with someone who is better off is often ego-deflating. Therefore, for a narrative support message to be comforting, someone with experiential expertise should provide the story to enhance the credibility of the coping information and inspire hope. If an experiential expert provides a narrative that lacks a successful coping experience, the support will likely not be effective at facilitating a reappraisal and improving the listener’s emotional state.

**Similarity.** The second characteristic of the speaker that should moderate the relationship between a narrative support message and reappraisal is similarity. Source similarity or homophily refers to how similar one feels to the source (McCroskey, Richmond, & Daly, 1975). Although people compare their own expertise to a source’s, they also often look for similarities or dissimilarities on other dimensions. In particular, there are four dimensions on which people often evaluate sources: attitude, background, values, and appearance (McCroskey et al., 1975). People examine how similar others are
in terms of their values or morals, in appearance or looks, in background characteristics, such as social class, status, economic standing, and in attitudes, thoughts and behaviors. Research suggests these dimensions are independent of both source credibility and interpersonal attraction (McCroskey et al., 1975).

Although advice response theory has noted that similar sources are generally more persuasive (Feng & MacGeorge, 2010), perceived similarity should increase the effect of narrative support message on reappraisal, because hearing about someone similar effectively coping with the situation can increase the listener’s own coping efficacy. According to social cognitive theory, people can vicariously learn behaviors from models in narrative messages (Bandura, 2010). In a narrative support message with successful coping information, the speaker should serve as an efficacious model of behavior. Research suggests that the inclusion of an efficacious model within a narrative can increase one’s self-efficacy if the character is viewed as similar (Moyer-Gusé, 2008). For example, in an experiment using entertainment-education narratives, identification with the female characters increased feelings of self-efficacy about discussing safe sex practices (Moyer-Gusé, Chung, & Jain, 2011). Self-efficacy is important in a supportive communication context, as research suggests recipients are more likely to accept advice if they perceive the behavior as feasible for them to enact (Feng & MacGeorge, 2010). A narrative support message that contains successful coping information could increase feelings of self-efficacy if the recipient identifies with the helper, and this in turn could make the recipient feel as they can cope with their own situation. If listeners do not perceive themselves as similar to the helper, however, they most likely will not adopt the
helper’s coping information and will not engage in an effective reappraisal of their situation.

Uncertainty

Narrative support might be very effective to use when the situation is highly uncertain for the recipient, because the recipient needs information on how to understand or cope with the situation. In situations of high uncertainty, such as during new experiences, we often look to others for guidance, information, and support (Albrecht & Adelman, 1984; Carlick & Biley, 2004; Wills & Shinar, 2000; Ziebland & Wyke, 2012). For example, studies suggest that people seek out support from others when they are joining new organizations (Albrecht & Adelman, 1984) or after being diagnosed with an illness (Carlick & Biley, 2004; Ziebland & Wyke, 2012). Supportive messages can provide people with information about the prevalence of problems or the normalcy of certain problems or feelings (Wills & Shinar, 2000). Additionally, as MacGeorge, Guntzviller, Hanasono, and Feng (2013) found, recipients with high uncertainty regarding how to solve their problems were less likely to critique advice, because they had a higher need for possible solutions. Although other forms of supportive messages can also help when the support recipient lacks information about the situation and is uncertain on how to approach the issue, a narrative directly provides information about how to interpret or cope with the situation and might more easily reduce uncertainty.

Although we often seek out social support to reduce uncertainty, it should be noted that there are situations when people attempt to maintain or increase their uncertainty (Brashers, 2001). As Brashers (2001) notes, uncertainty can be appraised as a threat or as an opportunity. When appraised as an opportunity, people often try to avoid
information to maintain hope or deniability (Brashers, 2001), and any form of unsolicited social support might be particularly resented in these circumstances. Thus, this model is specifically focused on situations where the support recipients appraise their uncertainty as a danger or threat and seek to reduce it. For support recipients who appraise their uncertainty as an opportunity and desire to maintain or increase it, the proposed relationship does not apply, and social support is likely unwanted.

**Discussion**

The purpose of this article was to introduce a new form of supportive communication, narrative support, and propose the narrative support model. The proposed model is the first to explain the narrative support characteristics necessary to improve a recipient’s emotional state through a reappraisal. In order to comfort the support recipient, the helper should tell a narrative of a relevant, similar experience that is high in transformation content, such that it validates the recipient’s current emotional state but also provides successful coping information. These messages should be the most conducive to facilitating a reappraisal because they (a) are interpreted as supportive, (b) legitimize the recipient’s feelings, and (c) suggest the recipient can effectively cope with the situation. The chance for a positive reappraisal is enhanced when the recipient perceives the speaker as both similar and as possessing high experiential expertise. Experiential expertise should increase the credibility of the narrative’s coping advice while similarity should increase listeners’ perception that they can successfully enact the advised coping behaviors.
Advantages of Narrative Support

Despite an original dismissal of narrative support in the supportive communication literature, there might be situations in which narrative support is more advantageous than other traditional supportive message formats. For example, one characteristic of effective supportive messages is face sensitivity (Feng & MacGeorge, 2010; Goldsmith, 2004; MacGeorge et al., 2011), and narratives might be highly effective at providing support in a face sensitive manner. Supportive messages need to protect both the support seeker’s positive face, or feelings of self-worth, and negative face, or feelings of autonomy and freedom. Thus, supportive messages should not suggest the recipient is incompetent nor assertively tell the recipient what to do. Sharing a story of a similar experience or issue can protect the recipient’s positive face, because it suggests the obstacle is common. This information could help the person to feel less deviant and avoid causing feelings of inferiority or incompetence. Although other types of supportive messages can include positive face protections, narratives describing similar experiences inherently include this information.

In order to avoid threatening the recipient’s negative face, the helper cannot outright tell the recipient how to think, feel, or act. Directly telling a recipient how to reappraise a situation or providing advice on how to solve the problem threatens the recipient’s negative face, because it clearly attempts to persuade the support recipient to follow the helper’s recommendations. One of the main advantages of using narratives over didactic messages in interventions is that the persuasive intent of narratives is subtle (Kreuter et al., 2007). Unlike didactic or expository messages, narrative messages often do not tell people how to feel, think, or act outright, but rather, the intended message is
embedded in the events and themes of the story (Moyer-Gusé, 2008; Slater & Rouner, 2002). Thus, researchers suggest that narrative messages do not invoke the same level of reactance in audience members as more overtly persuasive messages do (Moyer-Gusé, 2008). According to psychological reactance theory, humans desire the freedom to choose their beliefs, attitudes, and behaviors (Dillard & Shen, 2005). If people’s choices are restricted, they are motivated to restore their freedom to choose, and this motivation is referred to as reactance. Because reactance is the result of a threat to one’s freedom or autonomy, it is much like negative face threat. Although these terms generally are used in different communication subfields and in different communicative contexts (reactance in mass communication and face threats in interpersonal), they are generally referring to the same psychological experience of feeling imposed upon or having one’s autonomy threatened. Thus, because narratives are less likely to arouse reactance in audience members (Moyer-Gusé, 2008; Slater & Rouner, 2002), they might be useful in minimizing negative face threats as well when used in a supportive capacity.

**Disadvantages of Narrative Support**

Although there are potential advantages of using narrative support, there are also instances when this form of support is likely to be particularly ineffective. For example, a narrative support message should only be provided when the helper has a story that is clearly relevant to the support recipient’s. Support recipients dislike when helpers discuss experiences that are not clearly similar to the support recipient’s (Lehman et al., 1986; Lehman & Hemphill, 1990; Wortman & Lehman, 1985). If, for example, the recipient is upset with the loss of a job, the helper should not discuss a personal experience with a relationship breakup. Rather than being interpreted as supportive, this
type of expression will likely be viewed as a form of conversational narcissism. Conversational narcissism refers to communicative behavior where one shifts the focus of the conversation or interaction from one’s partner to oneself and is viewed negatively when the shift is not relevant to the topic at hand (Vangelisti, Knapp, & Daly, 1990). Although the helper and recipient might both have experienced loss in the example above, the differences in the type of loss will likely make the support recipient view the helper’s disclosure as a narcissistic and unsupportive behavior. Thus, unless the helper has experienced something similar, narrative support should be avoided. A relevant secondhand or fictional account could also potentially be helpful, but future research is needed to explore the conditions in which these forms of narrative support messages are comforting. Additionally, as stated previously, support recipients who wish to maintain or increase their uncertainty might wish to avoid information about a situation and not seek support. As narrative support should be particularly conducive to reducing uncertainty, it should not be provided unless it is clear that the support recipient actually desires support and wants to reduce uncertainty.

**Strengths and Limitations**

One of the strengths of the narrative support model is its wide applicability. The narrative support model should be appropriate for alleviating distress caused by both short-term and long-term problems. As narrative support targets reappraisal, it should be effective regardless of whether the stressor is a current or past problem. For example, if the recipient is upset about a completed event, a narrative support message could help by providing important emotion-focused coping information. Additionally, narrative support could be provided in interpersonal, face-to-face discussions, asynchronous,
written communication, and through one-way communication in social support interventions.

The narrative support model could also be adapted to other types of narratives. The proposed model is focused on first-person narratives communicated by the helper. However, as stated previously, there are many different forms or types of narratives or stories (Schank & Berman, 2002). Regardless of the type, the theorized mechanism to emotional improvement of reappraisal should remain important; however, other message and source characteristics might be necessary for a person to be comforted by other forms of narrative support. For example, with fictional entertainment narratives, narrative engagement is theorized to be important to producing belief change (Moyer-Gusé, 2008; Slater & Rouner, 2002), and it might also be very important to producing comfort through fictional narratives. Future research should examine these possibilities.

Using this model to develop one-way narrative support messages for social support interventions could be very important practically. Although a one-way intervention message might not be as responsive as having a human interaction partner, these narratives might be particularly important when the targeted population cannot attend interactive support groups or their "own social networks are limited in scope or lack members having firsthand experience" (Kreuter et al., 2007, p. 227). Additionally, one-way narratives might be extremely helpful to those struggling with the issues of seeking support (Kreuter et al., 2007), as some people are uncomfortable with face-to-face communication and with the many relational and identity issues involved with supportive interactions specifically (Goldsmith, 2004; MacGeorge et al., 2011).
One potential limitation of the narrative support model is that it does not take into account the severity of the stressor and the amount of time since the distressing situation occurred. Both of these variables might play a role in the effectiveness of narrative support. Stressors can greatly differ in severity, such as the death of a loved one, losing a job, or failing an exam. When trying to comfort someone immediately after encountering a severe stressor, such as a loved one's death, it might not be appropriate to tell a story of a similar episode if the desired outcome is a positive reappraisal. If social norms dictate that message as inappropriate at that time, it might cause the person more distress.

Additionally, there are multiple mechanisms through which supportive communication can operate (Bodie, 2013; Burleson, 2009; Burleson & Goldsmith, 1998; Holmstrom & Burleson, 2011). Some mechanisms require high cognitive effort, including message elaboration, reappraisal, and reattribution (Bodie, 2013; Burleson, 2009; Burleson & Goldsmith, 1998; Holmstrom & Burleson, 2011), and others require less cognitive effort, such as heuristic cues (Bodie, 2013; Burleson, 2009; Holmstrom et al., 2013). Although narrative support might also operate through other mechanisms, an explication of these mechanisms is beyond the scope of this model. In addition to examining the propositions of the current model, future research should explore what other mechanisms are applicable to narrative support and the qualities of narrative support messages important for these mechanisms.

Like other supportive communication models, the proposed model isolates the comforting process to a single message and outcome, without taking the larger context into account. For example, the model does not explain how the support recipient’s pre-existing emotional state influences the supportive interaction. Emotions and stress limit
the cognitive resources available to process messages (Mandler, 1982; Staal, 2004) and influence what information is attended to (Ellenbogen, Schwartzman, Stewart, & Walker, 2002; Mandler, 1982; Mogg, Mathews, Bird, & MacGregor-Morris, 1990; Staal, 2004), which should in turn influence how a supportive message contributes to a cognitive appraisal, which in turn should influence the resulting emotional response. The existing model also assumes a linear relationship between these variables, but the actual relationship is highly complex. Future research should seek to clarify how the reciprocal nature of cognition, emotion, and message processing influences the comforting process.

**Summary**

This paper proposes a new type of supportive message, narrative support, and explicates the message and source characteristics that increase the effectiveness of this type of supportive message. The proposed model is both practically and theoretically important. For practical purposes, effective social support is difficult to both effectively acquire and provide (Burleson, 1994; Coyne et al., 1990; Goldsmith, 2004; MacGeorge et al., 2011). If narrative support is effective at alleviating distress, future social support interventions might be able to use narratives to provide comfort. Theoretically, this model is a first step in exploring narrative support. This model expands the boundaries of traditional supportive communication theories to include more than just listener-centered messages and the outcomes of narratives to include comforting. Future research should test the main propositions of the model and the many avenues for future research outlined above. This paper represents the first step in establishing that a discussion of the helper’s personal experiences in supportive interactions is not always unwanted or unhelpful and hopes to serve as a launching pad for future research in this area.
Chapter 2: Communicating about Stress and Coping in Academia

Excessive stress, a common experience in academia, is related to poor physical and mental health, academic performance, and decisions to dropout (Hyun, Quinn, Madon, & Lustig, 2006). Although most studies have focused on undergraduate students’ stress (e.g., Hurst, Baranik, & Daniel, 2013), graduate students are at a critical risk for excessive stress (Heins, Fahey, & Leiden, 1984). Graduate school represents many students’ first extensive period of socialization into academic careers (Austin, 2002), and graduate students commonly endure overwhelming amounts of stress due to their unique circumstances (Chiauzzi et al., 2008; Heins, et al., 1984). Graduate students commonly endure multiple, simultaneous stressors, including work overload, time constraints, financial issues, relationship issues, and more. Despite reporting frequent periods of stress-related exhaustion and mental health issues, graduate students do not often receive the necessary social support (Hyun et al., 2006). For example, in a study of female graduate students’ communication with their parents, results indicated that parents often provide unsupportive responses (Aldrich, 2009). Additionally, graduate students do not typically use professional mental health services due to fears of appearing ‘weak’ to peers and faculty (Hyun et al., 2006).

Thus, stress in academia, and particularly in graduate school, is a serious issue, and there is potential to lose many talented scholars due to stress and burnout. It is important for researchers to begin to explore ways to address this issue. The goal of this
study was to develop a better understanding of academic stress and coping in graduate school, and in particular, the role communication plays in this process. Specifically, this study explored how communication can contribute to psychological stress in academia and which elements of supportive communication alleviate or exacerbate this type of stress. The qualitative nature of this study adds important depth to the literature, as the majority of graduate student stress studies are quantitative (Mazzola, Walker, Shockley, & Spector, 2011), and research suggests that qualitative methods often uncover elements of stress that quantitative studies do not capture (Mazzola, Scholfeld, & Spector, 2011).

**Psychological Stress**

There are multiple perspectives on how to define and research stress (Aldwin, 2011; Cohen, Kessler, & Underwood Gordon, 1995; Monat & Lazarus, 1991). For example, the biological perspective examines stress as the physiological response to demanding conditions (Cohen et al., 1995; Lazarus & Folkman, 1984; Monat & Lazarus, 1991). In this view, stress is defined as a patterned, nonspecific response to demands on the body (Seyle, 1982). Rather than examining the stress response, the environmental perspective focuses on the stressors or demands of an environment (Cohen et al., 1995). In this way, the environmental perspective tends to view stress as a stimulus (Lazarus & Folkman, 1984). Within this perspective, events can objectively be considered more or less stressful, and studies often investigate the different life events or experiences that are commonly considered stressful, such as a natural disaster, loss of a job, divorce, etc. (Cohen et al., 1995).

In contrast to both the environmental and biological, the psychological perspective rejects the idea that all events can be considered universally stressful and that
people will have identical reactions to the same stimuli (Cohen et al., 1995; Lazarus & Folkman, 1984). Although certain extreme environmental conditions will most likely be considered stressful to everyone, this is particularly not the case for more ordinary life events and occurrences (Lazarus & Folkman, 1984). Instead, the psychological perspective on stress suggests that stress is a subjective experience that results from individual appraisals (Lazarus & Folkman, 1984). A stress appraisal is a cognitive, evaluative process where individuals assess their current situation and relationship to the environment for why and how it is impacting their well-being (Lazarus, 1999; Lazarus & Folkman, 1984). Appraising a situation as threatening or challenging to one’s well-being results in the psychological experience of stress.

In addition to assessing whether the situation could impact one’s well-being, stress appraisals also include an assessment of one’s coping options (Lazarus & Folkman, 1984). Coping is the process by which one tries to manage psychological stress and includes both cognitions and actions in response to specific stressors (Lazarus, 1999). People can engage in many different coping behaviors, such as planning, distancing, rumination, positive reappraisal, and more, to try to manage threatening situations (Aldwin, 2011; Folkman & Moskowitz, 2000; Lazarus, 1999).

**Communication in Psychological Stress and Coping**

Although psychological stress and coping are often classified as individual, subjective processes (Lazarus & Folkman, 1984), stress and coping are also relational processes (Afifi, Hutchinson, & Krouse, 2006), as other people are often highly involved with our stress experiences. For example, psychological stress appraisals involve assessing one’s relationship to the current environment (Lazarus & Folkman, 1984),
which includes the environment’s norms. Norms include descriptive information about which behaviors are commonly enacted in a situation and injunctive information regarding which behaviors will be socially rewarded or punished (Lapinski & Rimal, 2005). Norms are created through communication (Lapinski & Rimal, 2005), either via intentional messages from others or through observation of others’ behaviors. Thus, normative messages can influence our stress appraisals. For example, organizational norms regarding work performance can create job stress (Hammer, Saksvik, Nytro, Torvatn, & Bayazit, 2004).

Another way in which communication is inextricably linked with stress and coping is through supportive communication. Although social support is often associated with positive health outcomes, the relationship between social support and stress is often mixed (Goldsmith & Albrecht, 2011; MacGeorge, Feng, & Burleson, 2011). This is likely due to supportive communication attempts differing in both quality and suitability. The message content, the way the message is delivered, and other situational factors can impact a supportive message’s effectiveness (MacGeorge et al., 2011).

Thus, communication largely influences both stress and coping. Interactions with others can help define the expectations and norms that help create stress and what coping options exist (Afifi et al., 2006; Hammer et al., 2004). Additionally, supportive communication often assists with coping, but not all supportive communication attempts are effective at alleviating stress (Goldsmith & Albrecht, 2011; MacGeorge et al., 2011). In academia, communication likely impacts how graduate students appraise their stress and cope, but to date, no studies have explored communication’s role in academic stress. Additionally, the important elements of supportive messages for academic stress have not
been explicated. This study fills this gap in the literature by exploring the following research questions:

**RQ$_1$:** How do graduate students experience stress?

**RQ$_2$:** How does communication contribute to the experience of academic stress?

**RQ$_3$:** What characteristics of supportive messages reduce academic stress?

**RQ$_4$:** What coping strategies are most effective for reducing graduate student stress?

**Methods**

**Participants**

This IRB-approved study used purposive random sampling techniques, where one randomly selects cases from a sampling frame to include in the sample (Patton, 2002). The sampling frame for this study consisted of the email addresses of all graduate students enrolled in the Arts and Sciences division of a large Midwestern university. The sampling frame was split into the three sections based on type of degree program: humanities, social sciences, and natural/mathematical sciences. Using a random number generator, 25 graduate students from each section were randomly emailed and asked to participate.

Fifteen graduate students (8 male and 7 female) participated in the study. Participants ranged in age from 22 to 38 years old ($M = 28.2; SD = 4.31$). Thirteen participants identified as non-Hispanic white, with one participant identifying as Hispanic white, and one as Asian. Most participants were from the United States ($n = 14$). In terms of relationship status, the majority of participants were single ($n = 6$). Two participants were married with children, two were married with no children, one
participant was engaged, and one was divorced. The remaining participants were involved in a dating relationship \((n = 3)\). The majority of participants identified as heterosexual \((n = 14)\), and one participant identified as homosexual.

Six participants were enrolled in a natural/mathematical sciences program, five participants were enrolled in a humanities program, and four were enrolled in a social sciences program. Two participants were pursuing a master’s degree. All other participants were pursuing a doctoral degree, with four participants entering their doctoral program without a master’s degree. All participants had completed at least one year of their graduate program before participating in the interview, with an average of 3.73 years completed \((SD = 1.62)\). The longest time in degree program was seven years. All participants received tuition remission via graduate assistantships or fellowships. No compensation was provided for participating.

**Procedures**

In-depth, semi-structured interviews were conducted, because this type of flexible interview allows for exploration of topics largely unknown (Handwerker, 2001), and the interviews’ open-ended nature allows participants to provide deeper responses than on a traditional close-ended survey. An interview guide was prepared with questions focused on exploring participants’ experiences with academic stress, supportive communication, and coping. Each interview was conducted at the location of the participant’s choosing and lasted approximately 60 to 90 minutes. All interviews were transcribed with personally identifying information removed.
Data Analysis

Transcribed interviews were analyzed using the constant comparison method (Charmaz, 2001; Corbin & Strauss, 2009). The constant comparison method is an analytic tool where researchers compare sections of data to each other in order to help illuminate different concepts and themes and identify their properties and dimensions (Corbin & Strauss, 2009). The constant comparison method was used throughout the coding process.

During initial coding, each transcribed interview was separated into manageable sections for data analysis (Corbin & Strauss, 2009). For each section, the researcher generated preliminary concepts, themes, and categories. Following open coding, axial coding and selective coding were conducted (Charmaz, 2001; Corbin & Strauss, 2009). Here, common initial codes were synthesized into more abstract or general codes and categories, and connections between the concepts identified in open coding were made (Corbin & Strauss, 2009).

This analytical process began after the first interview. Data collection and analysis continued concurrently from that point forward until data saturation was reached (Charmaz, 2001; Corbin & Strauss, 2009). Data saturation occurs when subsequent interviews do not provide any new or different information about the concepts and no new categories or themes appear (Charmaz, 2001; Corbin & Strauss, 2009).

Results

RQ1: How do graduate students experience stress?

Across programs, participants noted many different responsibilities that contributed to their stress, such as coursework, research projects, exams, teaching,
dissertations, job searches, home responsibilities, and others. Despite the variety of stressors involved, the actual experience of stress was similar across disciplines. Academic stress consists of three themes, feelings of constant struggle, feelings of guilt, and fears of failure.

**Feelings of Constant Struggle.** The first component of academic stress is feelings of constant struggle. Stress results from the perception that work is never-ending, and most participants described feeling continuously worried and overwhelmed trying to manage their responsibilities. For example, one student spoke of his inability to separate his academic work and his home life, saying, ‘It’s always with you.’ Many participants used battle terminology to describe stress, describing it as if they were in an on-going fight that seemed almost impossible to win. For example, a PhD student described stress as, ‘Feeling that there is a never-ending list that I can't conquer or finish,’ and another PhD student described stress as a firefight, saying stress is, ‘Putting out the closest fire first, knowing that there's another one right behind it.’

**Feelings of Guilt.** Although participants noted that the constant work was exhausting and they desired a break, they had a sense of guilt when they actually took a break. For example, one participant described stress as not having enough time to call friends or exercise, ‘And when I do almost feeling guilty about it because there is something else I should be doing.’ This sense of guilt caused the students to find their breaks unfulfilling. Another participant mentioned whenever he would do something unrelated to school, he would feel guilty, because, ‘I always think I could be being productive.’ These thoughts made it difficult for him to relax.
Other participants noted that even when they had completed their required work, they felt guilty that they were not accomplishing extra tasks. One PhD student noted that stressors are, ‘To me, academically at least, the things that are not required but that I know I should be doing,’ and an MA student said, ‘I guess I tend to get the most stressed out, not by classes or teaching, because I can mostly balance that pretty well, but it's like my own personal thoughts of “I should have done more”.’ Thus, there is a norm of constant work in graduate school, and participants felt guilty when they violated that norm.

**Fear of Failure.** Participants noted their stress was not solely a result of having too many things to accomplish, but rather, it was largely a result of wanting to do them all well. When unable to finish all tasks to the highest standard, the participants began to doubt themselves and feel incompetent. For example, one PhD student commented that part of stress for him was, ‘Not feeling self worthy. So when a stressful event happens, it’s like, you kind of lose your confidence. You feel like, so you start to underestimate your abilities.’ Stress largely impacted his self-image and beliefs about his abilities to perform well in graduate school. Another PhD student echoed this sentiment saying, ‘I think it makes me feel mediocre at best. Or like a failure because you're not able to do things well.’

Many of the participants’ most stressful moments were times where they felt as if they were underperforming or failing, because they were concerned over how others would view them. For example, one participant explained his stress over projects was fueled by concerns regarding how their quality would reflect on him as a scholar, saying, ‘I know I can do it, but is it going to be like really something I want my name on? Is
someone going to call me later and be like, actually you're just kicked out of the field?’
An MA student mentioned feeling concerned that her professors would judge her harshly for struggling in their classes. She wanted help but was worried ‘They were going to be like, “Why are you even in this program?”’

RQ2: How does communication contribute to the experience of academic stress?

The experience of constant pressure, guilt, and fear of failure was partially constructed by the normative messages communicated in their department and by observing others. For example, the norm of constant work was largely constructed through social comparison. Many participants mentioned they needed to constantly work because their peers were. For example, when asked where she learned that she should always strive to accomplish more, an MA student said, ‘I guess in comparison to peers. How much have they done? Am I doing enough work? You know comparing myself to them.’ Many participants mentioned learning about what they needed to do by comparing their accomplishments to other students’. As a PhD student noted, he learned he should be accomplishing more than the required coursework by looking at others, saying, ‘Well, I guess I see what, you know, what their CVs look like.’

Similarly, the participants’ fears of failure were largely in response to concerns that others would punish them for low quality work, and the perceived norm that graduate students should only produce work of the highest quality was constructed through communication with others in their department. Interactions with peers and faculty members largely shaped the participants’ conceptualization of both success and failure in academia. Explicit and implicit messages from their departments defined what work was valuable and what students are expected to accomplish. When graduate students felt they
were not measuring up to the expectations set by their department, they experienced a great deal of stress.

For example, one main area where faculty members set the norms and expectations for success was in post-graduate occupations. Many of the participants mentioned their departments were pushing them in the direction of research-intensive, high-profile faculty positions. Some departments and faculty members were very explicit about the importance of these types of jobs. For example, one student explained that the chair of his department directly told him that he only received an additional semester of funding over other students because he demonstrated the ability to acquire a high-profile job. Faculty members also directly communicated their views when students were on the job market. For example, one participant said his advisor freely shared his opinion on potential jobs when asked for letters of recommendation, saying, ‘I don't think it really affected how he approached how he wrote the letter, but some jobs he did kind of poo poo. You know he would be like “oh that's a good one” or “oh not that one”.’

Other students, however, said the message was communicated in more subtle ways. For example, when asked if the faculty directly told him that teaching-intensive positions were not as worthy, one student said, ‘No, it’s more subtle. It’s more like, you know, like, when you talk to professors, they just assume you are going to go into research. They don’t even ask you, because that’s what they do.’ They also never praised teaching accomplishments or discussed teaching techniques. When students desired teaching-intensive positions, the contradiction between their desires and the department’s norm was a source of stress.
When conflict between the department’s norms and the graduate students’ desires occurred, the students remained silent about it. This is largely due to the fact that they did not want the people in their department to view them as inferior. For example, one participant noted:

I can’t say, maybe I don’t want what you want. The moment I say it, I think that people will write me off. So I think that I have to live a lie about what my goals are, I have to be really quiet about what my goals are… you’re basically supposed to say, “I want what you have. I want to be you when I grow up”.

Another participant echoed this sentiment. He did not disclose his plans to pursue a teaching-intensive job because, ‘You feel like you are not as smart as the other graduate students or something.’ This experience causes students to feel isolated and unvalued.

In sum, academic stress is a combination of feelings of constant struggle, guilt, and fears of failure. For graduate students, stress is feeling as if they are engaged in a constant battle with no end in sight. This constant struggle is overwhelming and exhausting, and students desire a break from their many responsibilities. When students take a break, however, they experience feelings of guilt, because there is a perceived norm of constant work on academic endeavors. This perception is largely developed through observation of and comparison to other graduate students. Graduate students have a strong desire to be perceived as successful, and success is primarily defined by the norms of the department.

**RQ3: What characteristics of supportive messages reduce graduate student stress?**

The second focus of the study was to identify the important elements of supportive communication for academic stress. One message content characteristic,
validation, and one source characteristic, in-group membership, were critical to the effectiveness of supportive messages. When supportive messages confirmed the participants’ stressful feelings and were delivered by someone with experience in graduate school, the messages were comforting.

**Validation.** Communication with others was supportive when it validated the participants’ concerns and experiences. Participants wanted to feel as if they were justified in feeling stressed and that their experiences were normal and not deviant. Thus, sharing similar experiences with faculty members and other graduate students was a good source of stress relief. For example, one participant noted that he was dealing with family issues after his father passed away, and he found a lot of comfort in talking with his advisor about his similar struggles during graduate school. These conversations were helpful to him, because he found, ‘Someone who’s been through the same thing.’ These conversations were helpful because they reminded the participants they were not alone in their struggles. For example, when asked why having an open graduate student community was important to her, one student explained, ‘A community brings a sense of solidarity. You know, just knowing that other people are going through the same things.’ Prior to these validating messages, participants held incorrect normative beliefs that no one else struggled in graduate school. Receiving messages that validated their experiences helped correct these skewed perceptions and demonstrated that the participants’ struggles were normal.

When communication with others did not validate the participants’ feelings or experiences, it often left them feeling worse about their situation. For example, when other graduate students did not share their concerns about classes or work, the
participants noted feeling particularly stressed. As one participant noted, ‘Well, when you talk to a person about a paper and say you're so stressed about it and they say 'oh I already have that done', that's not a very helpful thing.’ Another student found talking with other graduate students about their progress in classes intensified his stress, because they either did not come across as worried or they were not struggling with the work. As he explained, ‘It’s just you know, they’re not letting these things bother them. So it’s hard to relate. They seem to have an easier time with everything.’ These non-validating messages reinforced the participants’ beliefs that they were deviant members of their department.

**In-Group Source.** This desire for validation might have led participants to seek out support from in-group members, or others with experience in graduate school. The participants wanted to speak with those they thought could understand their current environment and struggles. For example, one participant mentioned that she was the only student in her program with children. To receive support for her struggles in juggling motherhood and her academic career, she had to contact other graduate students outside of her program. About contacting other graduate student parents, she said, ‘They can understand what were going through.’

Many of the participants noted that they did not seek support from their family and friends outside of academia, because they would not understand their struggles. For example, one student mentioned that, ‘No one in my family [ever] had this type of experience, so there's no one that I can call and talk to to see how it's going to be.’ Another student explained that no one in his family studied physics or went to graduate school. When he was really struggling in his classes, he did not approach his family for
support, as he felt his family lacked the background knowledge necessary to understand his stress. As he explained, ‘There’s little I can, of course, uh, compare notes with them with. So for the most part I didn’t talk so much about that.’

In addition to not actively seeking support from out-group members, when participants did converse about their stress with those unfamiliar with academia, they found their conversations unhelpful. Outsiders did not understand graduate school, so they were unable to understand the participants’ experiences and concerns. For example, one participant described how she did not even try to talk to people outside of school about her stress, because they did not have an accurate perception of the unique challenges of graduate school. As she described, ‘People are like, “oh you’re studying, I went to school. It's not that hard.” It's hard to explain to people that an undergraduate degree is very different from the graduate student experience.’ Because others did not understand what graduate school entailed, they rejected her support requests and she stopped approaching them. ‘They just say, “what are you complaining about?” So that makes it very hard to talk to people about it. So I don't even really try.’

When graduate students did receive support from out-group members, many of the supportive messages they received rang hollow. For example, when talking about his family, one student said, ‘Everyone calls me a genius, but I don't feel like a genius anymore.’ He described how his parents did not go to college, and so their words were unconvincing. Thus, his parents’ messages of support did not resonate with his current feelings, and due to their lack of experience in academia, their supportive messages also lacked credibility. These messages, therefore, were not effective at changing his negative perception of his abilities or his perceived deviance from the norm.
In sum, supportive communication was effective at alleviating stress when it was both validating of the participants’ concerns and delivered by in-group source. In order to be effective, supportive messages needed to suggest it was normal for the students to struggle or feel stressed. Validating messages were particularly effective when delivered by people with actual experience in academia. Seeking support from those outside of academia was uncommon, because their supportive messages lacked credibility due to their limited knowledge of academia.

RQ4: What coping strategies are most effective for reducing graduate student stress?

In addition to receiving quality social support, one of the most effective coping mechanisms was to change one’s perspective on the stress. As participants could not change their workload, cognitive coping strategies were the most effective. Students both reappraised their normative beliefs and focused on the benefits of their studies.

Reappraisal on Guilt. Many of the participants lessened their feelings of guilt when they came to the understanding that breaks are necessary for maintaining both good physical and mental health, which actually made them more productive academics. As one student described, it was important for her to start, ‘Telling myself it's okay to have some time where I don't do anything. Before I always felt like I needed to be constantly moving and I needed to always be doing something.’ Participants felt they had a better handle on their stress when they remembered they had an identity outside of being a graduate student and that they needed to take care of that identity as well. For example, one participant advised new students to, ‘Take care of your health… Identify the things
that matter and keep you alive because your books and your classes won't. Remember that you are a human being first and a graduate student second.’

**Reappraisal on Failure.** In addition to reappraising their guilt, participants also noted that their stress was reduced when they redefined what it meant to be a successful graduate student. For many of the participants, it was necessary to let go of the desire to be viewed as an expert in every aspect of their academic lives. Changing this perspective allowed the participants to prioritize their efforts and reduce the demands on their time. For example, one participant explained that she stopped putting much effort into the classes that were not directly relevant to her research, even if that meant she would not appear as prepared as other students. She said, ‘And if that means I look like a moron, that means I look like a moron in class. And that's okay, I'm just willing to accept that.’

Other participants felt less stressed when they adopted a different version of ‘success’ than what was presented by their department. For example, many of the participants discussed not wanting a research-intensive academic job after graduation, but members of their department were pushing them in that direction. Trying to meet their department’s definition of a successful academic was often a source of stress for the participants, until they redefined ‘success’ to fit more closely with their own values. As one participant discussed about rejecting his department’s message that teaching should not be a focus of his efforts, he decided to ‘Just fundamentally disagree with it and go on with my life and do it how I want to do it.’

**Benefit-Finding.** It was also helpful when participants focused on the benefits of their study. Participants reminded themselves they were pursuing a passion. As one student described, ‘Even though it's stressful, I really do enjoy it. I think to myself at
least I have this.’ Another participant noted that focusing on the perks of working in academia compared to other types of jobs made him feel better. He said, ‘The joke’s when somebody says “how’s grad school?” “It beats working” Cause it’s the best job ever.’

In a similar vein, another participant mentioned she was always quick to refocus her negative, stressful thoughts to thoughts about being grateful she was admitted into her very selective program. She also reminded herself that she was not forced to go to graduate school and could leave at any time. As she explained, ‘It’s a choice. You don’t have to be here. I think sometimes grad students forget this because you feel all this pressure and that you’re forced to be here, but the reality is that you are not.’ Remembering that she chose to do this because she wanted to study her passion made her feel better.

Discussion

The purpose of this study was to explore the role of communication in academic stress. Specifically, this study examined how communication helps construct graduate students’ stress and how this impacts supportive communication and coping. The results of this study support the view that stress and coping are relational processes as well as individual processes (Afifi et al., 2006), as communication with members of their department played a large role in creating stress. A significant portion of academic stress is constructed within the communicative environment of their department. In particular, both implicit and explicit messages constructed departmental norms that greatly influenced the stress graduate students experienced. To provide highly effective comfort for this type of stress, a specific type of supportive message is required. Messages from
in-group members that validated the graduate students’ struggles were effective, but supportive messages lacking either quality were not. Ultimately, graduate students needed to reappraise or change their stress-inducing normative beliefs to cope with their stress. Based on these results, a model of supportive communication for norm-based stress is proposed.

**Supportive Communication Model for Norm-Based Stress**

The model depicted in Figure 2 explains the supportive communication process for norm-based stress. Norms are the collective guidelines for behavior in a community or environment; these include descriptive norms, which suggest what behaviors are common for a situation, and injunctive norms, which suggest which behaviors have social approval (Cialdini & Trost, 1998; Lapinski & Rimal, 2005). Individuals’ perceptions of these guidelines, or their perceived norms, often influence their behavior (Lapinski & Rimal, 2005). Norm-based stress arises when individuals feel they are deviating from either a perceived descriptive norm or perceived injunctive norm and are likely to be punished. This stress can occur when individuals perceive themselves to be in the minority, either correctly or incorrectly (i.e., pluralistic ignorance; Lapinski & Rimal, 2005), when there is an actual or perceived lack of ability to enact the desired normative behavior, or when there is conflict between the norm of the group and their own personal desires. As the model depicts, if the norms of the environment play a large role in the creation of stress, supportive messages might be most effective when they challenge or change those normative beliefs (either descriptive or injunctive).

In the context of academic stress, both the descriptive and injunctive normative beliefs graduate students held greatly impacted the stress they experienced. Graduate
students consistently experience a variety of external demands on their time (Heins, et al., 1984), and a portion of academic stress was the feeling of constant struggle. This is not unique to academic stress; a feeling of pressure is a common way people describe the experience of psychological stress in the workplace (Kinman & Jones, 2005), likely as a result of workers appraising their environment as taxing their resources (Lazarus, 1995). Students’ psychological stress also consisted of feelings of guilt and fears of failure. The experience of emotion is an outcome of the stress appraisal process (Lazarus, 1999), and guilt and worry are often commonly felt in response to occupational stress (Lazarus, 1995; Kinman & Jones, 2005; Perrewé & Zellars, 1999). Conflict with workplace norms, such as norms regarding performance and how employees and employers should interact, are often the basis for psychological stress in the workplace (Hammer et al., 2004).

In this study, the psychological stress students experienced was also largely based on the students’ normative beliefs, which were cultivated through communication. Members of one’s department, both implicitly and explicitly, send messages about which activities are valuable (e.g., high number of publications), which aspects of one’s life are important (e.g., academic endeavors over social and family endeavors), and ultimately, who should be considered successful (e.g., students receiving tenure track positions at research institutions) and who should be considered a failure (e.g., students who preferred teaching to researching). Even though many participants felt these injunctive norms were problematic, not living up to the standards set by them lead participants to feel significant amounts of stress in the form of feelings of guilt and fear. Although graduate students are still learning how to navigate their academic careers (Austin, 2002), most participants
held the injunctive normative belief that they should already be experts, and so they felt as if they needed to project an image of perfection at all times.

Because they were fearful of violating that perceived norm and having others view them poorly, many of the participants remained silent about their struggles. Instead of directly asking others, they tried to learn about appropriate behaviors through social comparison. But because everyone else is also attempting to project an image of perfection, this social comparison process often leads students to feel worse, as it created the descriptive norm that no one struggles, and the participants felt they were the only ones who needed to take breaks or as if they were the only person struggling to meet departmental ideals. Thus, communication creates the norms of a community or environment, and these norms can be stress inducing when community members do not want to deviate from the descriptive and/or injunctive norm but also do not believe they can enact the behavior.

In order to help alleviate that stress, people need to change their normative beliefs or the perceived importance of conforming to those norms. Coping research suggests that reappraisal is an effective strategy for alleviating distress (Folkman & Moskowitz, 2000; Haga, Kraft, & Corby, 2009). Reappraisal changes the meaning of the situation and can often result in positive emotions and psychological well-being. Thus for well-being to improve, people have to perceive the stressful portions of their environment differently, and for norm-based stress, people will need to change their normative beliefs in order to improve their psychological well-being. In the context of academic stress, the participants rejected messages from their departments about both the descriptive and
injunctive norms they found unattainable and focused on uncommon messages about graduate school (e.g., the benefits of their study) in order to cope with their stress.

Because communication creates the norms of an environment, communication can also change or alter those norms. In particular, research suggests that supportive communication can lead to reappraisal (Burleson & Goldsmith, 1998; Jones & Wirtz, 2006), and when stress is based on normative beliefs, effective supportive messages should help support seekers reappraise those beliefs. Due to the normative origins of academic stress, validation emerged as one of the most important aspects of effective supportive interactions. Supportive messages were most effective when they communicated that the participants were not the only people who were struggling or had struggled. This echoes the literature on comforting messages, which suggests that effective emotional support acknowledges and validates the feelings of the distressed (Burleson, 1994; MacGeorge et al., 2011). Ineffective messages tend to ignore or criticize the support seeker’s feelings and suggest the stress and negative emotions are not justified. Because of the nature of graduate students’ stress, validation appears to be a very important message characteristic, as it not only made the graduate students feel their stress was justified, but it also helped them to counteract the pluralistic ignorance that other students do not struggle and to realize they were not deviant graduate students.

The effectiveness of validating messages on changing normative beliefs should be moderated by the source of the message. In particular, validating messages from in-group members should be more effective at altering normative beliefs than messages from out-group members. For graduate students, this was demonstrated through their desire for support from others in academia and finding the supportive messages provided
by outsiders as less valuable. There are a few reasons why an in-group source might be particularly valuable for norm-based stress. First, in-group sources might have a higher ability to provide validating information, as research suggests that people often seek support from others who share the stressful context, because they understand the stress and can legitimize the support seekers’ feelings (Albrecht & Adelman, 1984; Lockspeiser, O'Sullivan, Teherani, & Muller, 2008; Proudfoot et al., 2012). Second, in addition to validation, messages from in-group sources are likely to be perceived as more credible. Graduate students thought in-group members’ supportive messages were more believable, which echoes previous research that suggests people view experiential experts as more credible than those with less experience (Hu & Sundar, 2010; Proudfoot et al., 2012). For supportive communication, research has found that expertise and credibility are important in advice-giving contexts (Albrecht & Adelman, 1984; Feng & MacGeorge, 2010; Proudfoot et al., 2012) and online contexts (Campbell & Wright, 2002; Wright, 2000). The results of this study suggest that credibility might be important for emotional support or esteem support messages as well, particularly for norm-based stress. Lastly, in-group sources might be particularly adept at changing one’s normative beliefs, because they helped originally communicate the stress-inducing norms. For example, the norms and stigma regarding mental health among the military is a large barrier in preventing military members from receiving mental health services (Hoge et al., 2004), and research suggests having in-group members, or other members of the military, share their mental health struggles can be helpful in counteracting that stigma and motivating help-seeking behaviors (Greene-Shortridge, Britt, & Castro, 2007; Greden et al., 2010).
Practical Implications

The results of this study provide many practical recommendations to help alleviate academic stress. For example, one way to help lighten academic stress is to include multiple definitions for success in departmental messages. This would counteract the existing injunctive norms defining only a specific type of graduate student as successful. Additionally, communicating more openly about the common struggles graduate students experience could help struggling students feel less deviant. This would counteract the existing descriptive norm that most graduate students do not struggle.

When trying to provide support to graduate students, communicators should validate the students’ stress and suggest their feelings are normal. In particular, having more graduate students and faculty members provide these messages would help, as their supportive messages will be more credible in challenging the students’ stress-inducing descriptive and injunctive normative beliefs. Lastly, support providers should assist graduate students in reappraising their stress. Messages that provide coping information focused on reappraisal and benefit-finding might be the most effective in an academic stress context.

As excessive stress negatively impacts health and is associated with intentions to leave academia (Barnes et al., 1998; Chiauzzi et al., 2008), there is a clear need to develop intervention strategies to assist students, faculty, and staff with healthy stress management. Creating intervention materials can be challenging, however, as the materials need to be theoretically sound as well as realistic for and sensitive to the target population (Houston et al., 2011; Larkey & Hecht, 2010). Using the recommendations
above, one could design an effective social support intervention to aid graduate students’
in effectively coping with their stress.

**Strengths and Limitations**

One of the main strengths of this study was the use of purposive random
sampling. This sampling technique guarded against selection bias and generated a
diverse sample of participants. One potential limitation of this study, however, is
volunteer bias. Although the sample was relatively diverse, all of the participants
volunteered to participate. Non-volunteers might have significantly different
experiences. For example, in response to the recruitment email, one student remarked
she did not feel comfortable in discussing her experiences in graduate school. Thus, there
might be significant differences in the experiences of volunteers and non-volunteers that
this study cannot address.

Despite this limitation, this study provides many avenues regarding the role of
communication in stress and coping to investigate. For example, using different
methodologies, researchers should test the proposed model for academic stress and other
applicable areas, such as job stress and military stress. Additionally, the role of in-group
source expertise and credibility has not received much attention in an emotional support
context. Thus, future research should further explore the role of in-group membership
and credibility for emotional and esteem support messages. In a similar vein, uncovering
what types of support out-group members can effectively provide for norm-based stress
would also be beneficial. Lastly, the efficacy of a social support intervention using the
guidelines proposed in this study should be tested. If the intervention is successful, it
could alleviate a growing health issue in academia.
Summary

The goal of this study was to help address the problem of excessive stress in academia by exploring the role communication plays in stress and coping. This study furthers our understanding of how communication can contribute to both the creation and alleviation of stress. By recognizing how messages from the members of the academic community help define stress-inducing norms, what makes supportive messages effective at combating norm-based stress, and successful coping strategies, we can begin to address this increasingly problematic issue in higher education.
Chapter 3: A Test of the Narrative Support Model for Academic Stress

Traditional perspectives on social support suggest that speaker-centered messages are not effective for comforting others (Barker & Lemle, 1984; Burleson, 1994; Burleson, 2003; Burleson & Goldsmith, 1998; Lehman & Hemphill, 1990; MacGeorge, Feng, & Burleson, 2011). Instead, the most effective comforting messages are those that are highly person-centered (MacGeorge et al., 2011). High person-centered messages focus solely on the support recipient and explicitly describe and elaborate on the recipient’s feelings. However, the narrative support model suggests that, under the right conditions, the inclusion of speaker-centered narratives in supportive messages can be effective at alleviating distress. This study aimed to (a) test the proposition that speaker-centered narratives can be an effective element of comforting messages, and (b) test the major propositions of the narrative support model.

To test these propositions, the effectiveness of narrative support messages and non-narrative support messages was examined for graduate students’ dealing with stress. Graduate students are a population that experiences both acute and chronic stress, due to the variety of demands on their time and the ambiguity of their situation (Chiauzzi et al., 2008; Heins, et al., 1984; Hyun et al., 2006). Research suggests graduate students often experience a high degree of physical and mental health problems due to stress and anxiety (Hyun et al., 2006). Despite these issues, graduate students often do not receive the support they need. Fears about appearing "weak" by peers and faculty often
precludes students from receiving support from within their academic environment or from professional services (Hyun et al., 2006), and support from family and friends outside of academia often fail to legitimize or acknowledge their feelings (Aldrich, 2009). Thus, an online intervention where graduate students read supportive messages about stress in graduate school was both an important and effective way to test the model.

**Hypotheses**

First, according to the conversationally induced reappraisal model and the appraisal theory of stress and emotions (Burleson & Goldsmith, 1998; Lazarus, 1999), emotional responses arise from the way a person thinks about a distressing situation. When a situation is appraised as damaging to one’s goals or well-being, negative emotions, such as fear, anger, and sadness, often result (Lazarus, 1999). When situations are perceived as congruent to one’s goals or that any obstacle or difficulties can be overcome, more positively toned emotions, such as hope and excitement, arise (Lazarus, 1999). Thus, changing how threatening one views a situation can change one’s negative affect to positive affect. This is consistent with research on positive reappraisal as an effective coping strategy for managing stress (Folkman & Moskowitz, 2000). Thus, the following is hypothesized:

**H1**: There will be a positive relationship between reappraisal and emotional improvement.

Effective supportive messages can help a support recipient feel better by facilitating a positive reappraisal (Bodie, 2013; Burleson & Goldsmith, 1998; Jones & Wirtz, 2006). Research suggests that person-centeredness is one of the most important elements of effective comforting messages (Burleson, 1994; MacGeorge et al., 2011).
Person-centeredness varies by how much the message acknowledges, elaborates, and legitimizes the feelings and perspective of the support recipient (Burleson, 1994). Low person-centered messages reject the support recipient’s perspective by ignoring or criticizing the other’s feelings. High person-centered messages explicitly discuss the support recipient’s emotions and signal that the person is warranted in feeling upset. Research suggests high person-centered messages are associated with higher levels of reappraisal and emotional improvement (Bodie, 2013; Burleson & Goldsmith, 1998; Jones & Wirtz, 2006). Thus, the following are hypothesized:

**H2a**: There is a positive relationship between person-centeredness and (1) reappraisal and (2) emotional improvement.

**H2b**: Reappraisal will mediate the relationship between person-centeredness and emotional improvement.

Although traditionally scholars have suggested that only listener-centered messages are effective at providing support, the narrative support model suggests that the inclusion of speaker-centered narratives can also be effective. In particular, the combination of a validating, person-centered message with a relevant narrative should be very successful at inducing a reappraisal and improving the recipient’s emotional state under certain conditions. One of the most important conditions is that the narrative support message needs to be high in transformation content. Transformation is conceptualized as message content that proposes a change in how to view the situation. Low transformation messages focus solely on the negative aspects of the distressing situation without suggesting the negative feelings can or will change. These messages should not alter the support recipient’s perspective, as they are a form of co-rumination.
and are associated with negative affect and health (Boren, 2013; Byrd-Craven et al., 2008; Pennebaker & Seagal, 1999). When a supportive message is low in transformation, non-narrative, highly person-centered messages should be more effective at facilitating reappraisals. When transformation is high, however, highly person-centered narratives should be more effective than non-narratives. Thus, the following is hypothesized:

**H3**: There will be a significant interaction between person-centeredness, message format, and transformation on (1) reappraisal and (2) emotional improvement. The indirect effect of person-centeredness on emotional improvement will be moderated by the format of the message and its transformation content. The indirect effect will be highest for high transformation, narrative messages.

However, this relationship should also be influenced by the uncertainty of the situation. If the situation is highly uncertain, reaching a new, positive appraisal through the inductive process promoted by listener-only centered messages is likely too difficult. When people lack information on how to perceive a certain problem, hearing about another person’s experience can provide a framework on how to view the situation (Carlick & Biley, 2004; Ziebland & Wyke, 2012). When a situation is uncertain, people are more likely to need someone else’s framework to understand the situation. In situations of high uncertainty, narrative support should be more effective at emotional improvement than non-narrative messages. Thus, the following is hypothesized:

**H4**: There will be a significant interaction between message format, transformation, and uncertainty on (1) reappraisal and (2) emotional improvement. The indirect effect of narrative support on emotional improvement will be moderated by its transformation content and the recipient’s uncertainty.
level. The indirect effect will be highest for narratives high in transformation when uncertainty is high.

The narrative support model also predicts that narratives from experiential experts will be more likely to facilitate positive reappraisals. Experiential experts are often effective supporters is because they can legitimize others’ feelings (Proudfoot et al., 2012) and are viewed as more credible than those with less experiential expertise (Hu & Sundar, 2010). Additionally, narratives from experiential experts can engender upward social comparison that provides hope and inspiration to support seekers (Proudfoot et al., 2012; Stanton, Danoff-Burg, Cameron, Snider, & Kirk, 1999; Suls, Martin, & Wheeler, 2002). Thus, the following are hypothesized:

**H5**: There will be a significant interaction between person-centeredness, message format, transformation, and perceived experiential expertise on (1) reappraisal and (2) emotional improvement. The indirect effect will be highest for high transformation narratives when perceived experiential expertise is high.

The perceived similarity of the support provider should also influence the relationship between the person-centeredness, message format, and transformation on comforting. Perceived similarity should increase the effect of a high transformation narrative on reappraisal, because hearing about someone similar effectively coping with the situation can increase the listener’s own coping efficacy. For non-narrative message formats, the similarity of the provider is less likely to play a role. Thus, the following is hypothesized:

**H6**: There will be a significant interaction between person-centeredness, message format, transformation, and perceived similarity on (1) reappraisal and (2)
emotional improvement. The indirect effect will be highest for high transformation narratives when perceived similarity is high.

Overall, when all of the message, source, and situational criteria for effective narrative support are met, narrative support messages should be more effective at producing positive reappraisals and emotional improvement than non-narrative messages. Thus, the following is hypothesized:

**H7**: There will be a significant interaction between person-centeredness, message format, transformation, uncertainty, perceived experiential expertise, and perceived similarity on reappraisal and emotional improvement. The indirect effect will be highest for high transformation narratives when uncertainty, perceived experiential expertise, and perceived similarity are all high.

**Methods**

A 2 (high vs. low person-centeredness) x 2 (narrative vs. non-narrative message format) x 2 (high vs. low transformation) experiment was conducted to test the hypotheses. Data collection consisted of three online surveys over a two-week period.

**Participants**

Graduate students at The Ohio State University were recruited to participate in the study. Participants were contacted through emailed recruitment letters using the available email addresses publicly available on graduate department websites. Participants were informed of the basic details of the study, the planned data collection schedule, and procedures for participating. As an incentive to participate, participants were entered into a raffle to win a gift card for Amazon.com, and each successful completion of a data collection phase earned the participant another raffle entry.
Emails were sent to 2,669 graduate students. Approximately 20% of those contacted consented to participate in the study (544), but 79 were prescreened out of the study (due to either being under 18 years old, not currently enrolled in a graduate program, or experiencing significant depressive symptoms). A total of 209 graduate students completed all three portions of the study. Most participants identified as white, non-Hispanic (78.5%), followed by Asian/Pacific Islander (12.9%), black, non-Hispanic (4.3%), Hispanic (3.3%), and other (1.9%). The majority of the participants were female (61.2%). Ages ranged from 22 to 59 years old (M = 28.25, SD = 4.77). Most participants were pursuing their doctoral degree (80.4%), with the remaining participants were working towards a master’s degree (19.1%) or other advanced degree (.5%). The average length of time in their current program was 2.83 years (SD = 1.70), with a range of .5 to 7 years.

**Manipulations**

*High vs. Low Person-Centeredness.* Two different levels of person-centeredness were used in this study. Low person-centered messages dismissed the idea that the participant should feel stressed. The high person-centered messages acknowledged that feeling stressed in graduate school is understandable and warranted. The specific messages used can be found in the Appendix.

*Narrative vs. Non-Narrative Message Format.* The supportive message was either in a narrative or non-narrative format. The narrative message described the support provider’s own experiences with distress over meeting performance standards. The non-narrative message provided general information and did not refer to the support provider’s own experiences.
Transformation. The supportive messages also differed in level of transformation. Low transformation messages only focused on stress in graduate school and mentioned the situation would not change. High transformation messages included a description of how the situation could improve.

Manipulation Checks

Two measures were used as manipulation checks. First, participants rated the messages using an adaptation of Escalas’ (2004) Narrative Structure Coding Scale (Yang et al, 2008). The five-item measure asks participants to rate their agreement with statements, such as “The message presented the author’s personal life events,” on a scale from 1 (not at all) to 7 (very much). Items were averaged ($\alpha = .88, M = 3.76, SD = 1.45$). Second, participants rated the message using Jones’ (2004) five-item, 7-point semantic differential scale to measure person-centeredness. Scores were averaged ($\alpha = .96, M = 3.99, SD = 1.88$). Items for both scales are located in the Appendix.

Measures

Items for all measures can be found in the Appendix.

Graduate School Specific Stress. In order to measure stress appraisals regarding graduate school, the 28-item Stress Appraisal Measure (SAM) was used (Peacock & Wong, 1990). The reliability and validity of the scale has been established (Peacock & Wong, 1990). The SAM measures both primary and secondary appraisals, as well as the overall perceived stressfulness of a specific situation, using a Likert-type scale. Participants rated how they viewed different aspects of meeting the expectations of their graduate program on a scale from 1 (not at all) to 5 (extremely). Scores were averaged to
create a graduate school specific stress score at Time 1 ($\alpha = .91, M = 2.82, SD = .56$), Time 2 ($\alpha = .92, M = 2.94, SD = .53$), and Time 3 ($\alpha = .92, M = 2.94, SD = .51$).

**Positive Affect.** Positive affect was measured using an established measure of emotion (Ellsworth & Smith, 1988a; 1988b). Participants were asked to rate how much they felt six positive emotions (hope, challenge, happiness, relief, tranquility, and gratefulness) when thinking about the expectations of graduate program on a 5-point scale from 1 (not at all) to 5 (very much). Scores were averaged to create a positive affect score at Time 1 ($\alpha = .88, M = 3.14, SD = .90$), Time 2 ($\alpha = .87, M = 3.04, SD = .79$), and Time 3 ($\alpha = .88, M = 3.05, SD = .72$).

**Negative Affect.** Negative affect was measured using an established measure of emotion (Ellsworth & Smith, 1988a; 1988b). Participants were asked to rate how much they felt six different negative emotions (fear, sadness, guilt, anger, resignation, and envy) when thinking about the expectations of graduate program on a 5-point scale from 1 (not at all) to 5 (very much). Scores were averaged to create a negative affect score at Time 1 ($\alpha = .89, M = 2.97, SD = 1.15$), Time 2 ($\alpha = .90, M = 3.24, SD = 1.13$), and Time 3 ($\alpha = .89, M = 3.20, SD = 1.02$).

**Uncertainty.** An adaptation of the Uncertainty Stress Scale (Hilton, 1994) was used to measure uncertainty. Intended for uncertainty and stress around medical conditions, the Uncertainty Stress Scale measures participants’ perceptions of ambiguity and uncertainty around a situation using a Likert-type scale. For this study, participants rated agreement with items regarding succeeding in graduate school on a scale of 1 (strongly disagree) to 5 (strongly agree). Sample items included “I am uncertain whether I am doing well enough in graduate school” and “I am uncertain on how to manage the
demands of graduate school.” The 10 items were averaged to create an uncertainty score ($\alpha = .93, M = 2.88, SD = 1.26$).

*Perceived experiential expertise.* To measure participants’ perceptions of the support provider’s expertise, a three-item measure from Hu and Sundar (2010) was used. This Likert-type scale assesses agreement with statements regarding the source’s experiential expertise, such as “My partner has personal experience with the issue involved,” on a scale of 1 (*not at all*) to 5 (*very much*). Scores on the 3 items were averaged ($\alpha = .91, M = 3.51, SD = .92$).

*Perceived similarity.* To measure participants’ perceptions of the speaker’s similarity, four items regarding attitude similarity from McCroskey et al.’s (1975) perceived homophily scale were used. The ratings on four items were averaged to create the final perceived similarity scale ($\alpha = .92, M = 3.95, SD = 1.65$).

*Reappraisal.* Jones and Wirtz’s (2006) four-item reappraisal scale was used. This Likert-type scale assesses the degree to which participants reevaluated or changed their perspective regarding the situation. Participants rated their agreement with items, such as “I understand the situation better now that I talked about it with my conversational partner,” on a scale from 1 (*not at all*) to 5 (*very much*). The average of the four items was calculated ($\alpha = .90, M = 2.42, SD = .87$).

*Emotional Improvement.* Participants rated their perceived levels of emotional improvement using Jones and Wirtz’s (2006) three-item scale. This scale assesses the degree to which participants found the supportive conversation improved their emotional state regarding the distressing situation. Participants rated their agreement with items, such as “I feel better after talking with my conversational partner,” on a Likert-type scale.
ranging from 1 (strongly disagree) to 5 (strongly agree). Scores were averaged ($\alpha = .94, M = 2.51, SD = 1.04$).

**Global Stress.** In order to measure participants’ stress over the past month, the 10-item Perceived Stress Scale (PSS; Cohen & Williamson, 1988) was used. The PSS has been established as both reliable ($\alpha = .78$) and valid (Cohen & Williamson, 1988). Participants were asked to rate how often they have felt or thought their life was unpredictable, uncontrollable, or too demanding during the past month on a scale from 0 (never) to 4 (very often). Items were averaged to create the final perceived stress score at Time 1 ($\alpha = .86, M = 2.93, SD = .60$) and Time 3 ($\alpha = .74, M = 2.85, SD = .48$).

**Somatic Health.** In order to measure somatic health symptoms, the 15-item Patient Health Questionnaire (PHQ-15; Kroenke, Spitzer, & Williams, 2002) was used. Research has demonstrated the reliability of the measure ($\alpha = .80$), as well as its convergent and discriminant validity (Kroenke et al., 2002). This self-report measure assesses participants’ ratings of 15 different somatic symptoms during the last four weeks on a scale from 0 (not bothered at all) to 2 (bothered a lot). Sample symptoms include "stomach pain", "trouble sleeping" and "headaches." One item was only relevant to female participants (“Menstrual cramps or other problems with your periods”) and was removed for this study. Scores on the remaining 14 items were summed to create a severity of somatic health symptoms index at Time 1 ($M = 7.30, SD = 4.11$) and Time 3 ($M = 6.97, SD = 4.07$).

**Depression.** The 10-item Center for Epidemiological Studies-Depression (CES-D) symptoms index (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993) was used both as a prescreening measure to prevent graduate students experiencing significant
depressive symptoms from participating and as a covariate. The CES-D measures the prevalence of depressive symptoms, such as “I felt that everything I did was an effort” and “I had trouble keeping my mind on what I was doing,” during the past week on a scale of 0 (rarely or none of the time/less than one day) to 3 (most or all of the time/5-7 days). Scores can range from 0 to 30. For the prescreening measure, a cut-off of 20 was selected, because research suggests this is a more accurate cut-off for severe depressive symptoms in college students than the traditional cut-off score of 10 (Peluso, Carleton, Asmundson, 2011; Santor, Zuroff, Ramsay, Cervantes, & Palacios, 1995). Scores on the 10 items were summed to achieve a total CES-D score at Time 1 ($\alpha = .78$, $M = 10.30$, $SD = 5.01$) and Time 3 ($\alpha = .78$, $M = 10.39$, $SD = 5.05$).

**Procedures**

Participants were recruited under the premise that the study was a pilot test of an online stress intervention for graduate students. Participants were informed that they would be paired with another person in the study, and in each pair, one student would describe their feelings about meeting the performance standards of graduate school, and the other student would respond at a later date. All participants were informed that they were randomly selected to write first, and their partner would read their description and respond to them. In actuality, the participants were not paired with anyone else in the study and the response they received was one of the 8 different message conditions. The entire experiment was conducted through Qualtrics, an online survey tool. The experiment included three phases of data collection. The specifics of each data collection are described below.
**Time 1.** From a link in the recruitment email, participants were taken to a Qualtrics survey for the Time 1 data collection. First, participants were presented with consent document. After obtaining informed consent, participants answered prescreening measures to ensure they were 18 years of age or older, currently enrolled as a graduate student, and not experiencing significant depressive symptoms. Those who did not meet the prescreening criteria were presented with stress management resources and were not allowed to participate in the study further. Following prescreening, participants filled out scales measuring the control variables of perceived stress and somatic health symptoms. They then rated their perceptions of uncertainty, stress and affect regarding meeting the demands of their graduate program using the uncertainty stress scale, the SAM, and positive and negative affect measures. Last, they were asked to write a description of their experience with stress in graduate school to their partner and provide demographic information.

**Time 2.** One week after completing the Time 1 survey, participants were emailed with a link to complete Phase 2 of the study. When participants clicked on the link, they were randomly assigned to one of the eight experimental groups. Under the premise that the message was from their partner in the study, participants were asked to read the message and answer the questions that followed. Following message exposure, participants engaged in a thought-listing task, filled out the manipulation check measures, and rated their partner’s experiential expertise and similarity. The last section of the survey asked participants to think about meeting the demands of graduate school and rate how they are feeling at that moment using the SAM followed by the affect measures.
Time 3. Three days after completion of Time 2 measures, participants were emailed another link to complete Phase 3 of the experiment. Participants were asked to rate how they feel about meeting the expectations of their graduate program and if communicating with their partner changed their perspective and feelings using the reappraisal and emotional improvement scales. Participants then filled out the SAM, affect scales, PSS, PHQ-15, and the CES-D again. After completing the Time 3 measures, participants were debriefed and provided with stress management resources.

Results

To determine whether the narrative and the person-centered manipulations were successful, two independent samples t tests were conducted. Results indicated that both manipulations were successful. The narrative condition ($M = 4.76$, $SD = 1.18$) was rated significantly higher in narrative structure than the non-narrative condition ($M = 2.73$, $SD = .86$), $t (191.64) = -14.21, p < .001$, and the high person-centered condition ($M = 5.45$, $SD = .89$) was rated significantly higher in person-centeredness than the low person-centered condition ($M = 2.47$, $SD = 1.33$), $t (177.69) = -18.96, p < .001$.

A series of one-way analysis of variance (ANOVA) tests were conducted to assess whether the experimental groups were equivalent on important baseline measures. There were no significant differences between conditions in depressive symptoms ($F = 1.30$, $df = 7/201$, $p = .253$), somatic health symptoms ($F = 1.49$, $df = 7/201$, $p = .174$), global stress ($F = 1.05$, $df = 7/201$, $p = .397$), graduate school specific stress ($F = 1.65$, $df = 7/201$, $p = .12$), positive affect ($F = .784$, $df = 7/201$, $p = .602$), negative affect ($F = 1.70$, $df = 7/201$, $p = .110$), and uncertainty ($F = 1.76$, $df = 7/201$, $p = .10$) at Time 1.
**Data Analysis**

A series of analyses were conducted in order to test the hypotheses. First, correlations and a simple mediation model were examined for H1-H2. The indirect effect was calculated through the use of OLS regression, and as suggested by Hayes (2009), bootstrapping was conducted to calculate confidence intervals in order to test the significance of the indirect effect.

Following the test of the indirect effect, the conditional indirect effect predicted in H3 was calculated using OLS regression and assessed using bootstrap confidence intervals as described by Preacher, Rucker, and Hayes (2007). The same process was repeated for H4-H7. For all analyses except the correlations, paths were estimated using an SPSS macro called PROCESS (Hayes, 2013). PROCESS uses OLS regression to estimate over 70 different versions of mediation models, moderation models, and conditional process models. To provide a clearer picture of the differences between message conditions, follow-up one-way ANOVAs were conducted to determine which messages were significantly different from each other.

**Data Assumptions**

Prior to analysis, the data was inspected to confirm the assumptions of multiple regression were met. For all outcomes, a linear relationship and homoscedasticity were confirmed by plotting the studentized residuals against the unstandardized predicted values, and there was no multicollinearity as assessed by Tolerance values greater than .1. Two outliers were identified for the dependent variable of reappraisal (standardized residual greater than +/-3 standard deviations). However, these values were kept in the data file, as their leverage values were less than .2 and their Cook’s Distance values were
less than 1. Last, the normality of studentized residuals was confirmed by inspection of histograms and normal Q-Q plots.

**Hypothesis Testing**

Descriptive statistics and correlations are reported in Table 1 and Table 2. As predicted, there was a significant, positive correlation between reappraisal and emotional improvement, \( r (209) = .761, p < .001 \). Additionally, there was a significant, positive correlation between the person-centered condition and reappraisal, \( r_s (209) = .581, p < .001 \), and between the person-centered condition and emotional improvement, \( r_s (209) = .502, p < .001 \). Thus, H1 and H2a were supported. These results suggest that high person-centered messages are associated with greater reappraisal and emotional improvement, and higher reappraisal is associated with greater levels of emotional improvement.

**Test of Mediation (H2b)**

In order to test directly whether or not reappraisal mediates the relationship between person-centeredness and emotional improvement (H2), a simple mediation model was estimated using PROCESS to calculate the model paths simultaneously. Time 1 global stress (PSS), somatic health symptoms (PHQ), and depressive symptoms (CES-D) acted as control variables, as the severity of one’s stress, depression, and somatic health conditions might play a role in how much one supportive message could induce a reappraisal and emotional improvement. Panel A of Table 3 displays the path coefficients, \( t \)-values, and significance test for each path of the simple mediation model. Path notation was adopted from Preacher and Hayes (2004).
The indirect effect of person-centeredness on emotional improvement through reappraisal was calculated by taking the product of the direct effect of person-centeredness on reappraisal (path a) and the direct effect of reappraisal on emotional improvement (path b). Both path a (1.0098) and path b (.8486) were statistically significant, and the significance of the indirect effect (1.0098 X .8486 = .8569) was assessed by conducting 10,000 bootstrap samples and calculating the 95% confidence interval. As both the upper and lower limits of the confidence interval are above zero (.6610 to 1.0754), the indirect effect is statistically significant and H2 is supported. These results indicate that when person-centeredness is high, emotional improvement is expected to increase by .8569 units through reappraisal.

Additionally, as can be seen in Table 3, both the direct effect of person-centeredness on emotional improvement while controlling for reappraisal (path c’) and the total effect of person-centeredness on emotional improvement (path c) were calculated. When controlling for reappraisal, the direct effect of person-centeredness on emotional improvement is not statistically significant ($p = .08$). The total effect, however, is 1.0578 and statistically significant ($p < .001$). These results suggest that, as predicted, the effect of person-centeredness on emotional improvement operates primarily through reappraisal.

**Test of Moderated Moderation (H3)**

H3 predicted that there would be conditional indirect effect, such that the indirect effect of person-centeredness on emotional improvement via reappraisal would depend upon whether the message was narrative in format and whether the message was high in transformation. It was expected that the conditional indirect effect of person-
centeredness on emotional improvement via reappraisal would be highest for high transformation, narrative messages. In order to test this hypothesis, reappraisal was predicted from person-centeredness, message format, transformation, and their interaction terms.

Table 4 displays the results of the moderated mediation analysis. The interaction coefficient for the three-way interaction (person-centeredness X message format X transformation) on reappraisal was statistically significant (.7480, \( p = .02 \)). Conditional indirect effects were then calculated for the values of both moderators and bootstrap confidence intervals were used as inferential tests (Preacher et al., 2007). Table 3, Panel B displays the results. For the non-narrative, low transformation messages, the conditional indirect effect was statistically significant (.6667, 95 % C.I. = 4608 to .9306). The conditional indirect effect was also significant but smaller for narrative, low transformation messages (.3133, 95 % C.I. = .0695 to .5869). Both the conditional indirect effects for the high transformation messages were higher than the low transformation messages, but the effect for the narrative message was higher (1.3668, 95 % C.I. = .1646, 95 % C.I. = 1.0568 to 1.7053) than the non-narrative message (1.0854, 95 % C.I. = .7652 to 1.4461). For all messages, person-centeredness is associated with greater emotional improvement through increased reappraisal, but this increase is highest for high transformation narrative messages. Thus, H3 was supported.

To more clearly illustrate the differences between the message conditions in reappraisal and emotional improvement, two one-way ANOVAs were conducted. Results indicate there were significant differences in both reappraisal (Welch’s \( F = 39.581, df = 5/85.725, p < .001 \)) and emotional improvement (\( F = 20.916, df = 7/201, p < .001 \))
between message conditions. Table 5 presents the means and results for the post hoc tests for reappraisal and emotional improvement for each message condition. A Games Howell post hoc test was conducted for reappraisal. Results demonstrate that high person-centered, high transformation messages were significantly higher in reappraisal than any other message condition, but the narrative version was significantly higher than its non-narrative counterpart (see Figure 3). Both low person-centered non-narrative support messages were significantly lower in reappraisal than the other message conditions (see Figure 4). For emotional improvement, the Tukey post hoc test indicated that both of the high person-centered, high transformation messages were significantly higher than all other message conditions but there was no significant difference between the narrative and non-narrative version in emotional improvement.

**Test of Moderated Mediation (H4)**

H4 predicted there would be a conditional indirect effect, such that the indirect effect of message format on emotional improvement via reappraisal would be greater when transformation and uncertainty were high. In order to test this hypothesis, reappraisal was predicted from message format, uncertainty, transformation, and their interaction terms. Person-centeredness, PSS, PHQ, and CES-D acted as controls. Neither the interaction coefficient (format X transformation X uncertainty; -.0171, p = .90) nor the direct effect of uncertainty on reappraisal (.0418, p = .59) were statistically significant. Thus, H4 was not supported.

**H5 – H7**

H5 – H7 predicted that the source characteristics of experiential expertise and similarity would moderate the relationship between message characteristics and
reappraisal and emotional improvement. To maintain a reasonable number of manipulations, source factors were not manipulated and were only measured to investigate how their variation influenced reappraisal and emotional improvement. However, inspection of the data revealed that perceptions of the experiential expertise and similarity were highly influenced by the message condition. One-way ANOVAs indicated that experiential expertise ($F = 11.388$, $df = 7/201$, $p < .001$) and similarity ($F = 18.243$, $df = 7/201$, $p < .001$) were significantly different across experimental conditions. Tukey post hoc tests indicate that significantly higher experiential expertise ratings in the high person-centered conditions compared to the low person-centered conditions, and significantly higher similarity ratings in high person-centered, high transformation messages compared to others. These results indicate that participants who received more supportive messages rated their partner as more similar and as having more expertise than those who received less supportive messages. Thus, H5 – H7 cannot be tested.

**Discussion**

A common refrain in the supportive communication literature is that helpers should avoid discussing their own experiences when trying to comfort others (Barker & Lemle, 1984; Burleson, 2003; Burleson & Goldsmith, 1998). The results of this study, however, suggest that personal narratives can be effective comforting messages. In particular, when narrative support messages were both high in person-centeredness and transformation information, support recipients experienced higher levels of reappraisal and emotional improvement than with any other type of supportive message. However,
as the narrative support model suggests, the inclusion of person-centeredness and transformation information was crucial to the effectiveness of narrative support.

As multiple studies have demonstrated (Bodie, 2013; Folkman & Moskowitz, 2000; Garland, Gaylord, & Park, 2009; Haga, Kraft, & Corby, 2009; Jones & Wirtz, 2006), there was a strong relationship between reappraisal and emotional improvement. Participants who evaluated the situation differently after reading their partner’s message also experienced higher levels of emotional improvement. Additionally, the results of study provide further support for the importance of person-centeredness in comforting messages (Burleson, 1994; MacGeorge et al., 2011). For both narrative and non-narrative messages, the high person-centered messages lead to greater reappraisal and emotional improvement than the low person-centered messages. Replicating the findings of Jones and Wirtz (2006) and Bodie (2013), reappraisal mediated the relationship between person-centeredness and emotional improvement. Interestingly, these effects were present three days after message exposure. The durability of supportive message effects have not yet been extensively tested, but this study provides some evidence that supportive message outcomes can persist past the initial interaction.

**Narrative Support**

In addition to providing support to established comforting theories, the unique finding of this study is that effective emotional support can be communicated through a speaker-centered narrative. Moreover, the supportive message associated with the significantly highest level of reappraisal was the high person-centered, high transformation narrative. There are multiple potential reasons why the narrative format induced a higher degree of reappraisal. First, as outlined in the narrative support model
explication, narratives represent our personal appraisals of situations (Mankowski & Rappaport, 2000; Pennebaker & Seagal, 1999; Petersen, Bull, Propst, Dettinger, & Detwiler, 2005), and research suggests people often learn from others’ stories (Miller-Day & Hecht, 2013; Petraglia, 2007; Rappaport, 1993). When people process narratives, they often engage in a self-referencing process, where they apply elements of the narrative to their own relevant issues (Dunlop, Wakefield, & Kashmina, 2010; Escalas, 2007; McDonald, Sarge, Lin, Collier, & Potocki, 2012; Oatley, 2002). Thus, due to structure and processing characteristics, narratives are particularly conducive to the reappraisal process. Additionally, inducing a reappraisal is fundamentally a persuasive process, and there is a good deal of empirical evidence that suggests narrative messages can alter attitudes, beliefs, and opinions (Kreuter et al., 2007). Particularly relevant to supportive communication, past research has found that hearing about others’ similar experiences can change one’s perspective on health issues and increase feelings of self-efficacy (Carlick & Biley, 2004; Sharf & Vanderford, 2003; Ziebland & Wyke, 2012).

It is also possible that the narrative format enhanced the participants’ ability to reappraise. Research suggests the narrative message format can facilitate information processing (Graesser, Olde, & Klettke, 2002; Kreuter et al., 2007; Lang, 1989; Schank & Berman, 2002), and support recipients must be both willing and able to process highly person-centered comforting messages in order to experience their effects (Bodie et al., 2011; Burleson, 2009). When either ability or motivation is absent, the difference between high and low person-centered messages is lessened (Burleson, 2009). Thus, as Holmstrom and Burleson (2011) suggested, the highly inductive process promoted by traditional supportive messages might be too taxing for emotionally upset people to use
to arrive at a reappraisal. This is especially true for this particular study population, as stress diminishes message-processing capacity (Finkelman & Kirschner, 1980; Harris, Hancock, & Harris, 2005; Öhman, Nordin, Bergdahl, Slunga Birgander, & Stigsdotter Neely, 2007; Petrac, Bedwell, Renk, Orem, & Sims, 2009; Sandström, Nyström Rhodin, Lundberg, Olsson, & Nyberg, 2005; van der Linden, Keijsers, Eling, & van Schaijk, 2005). Instead, those who are upset or stressed might need more assistance at seeing the situation differently. The high transformation narrative message provided a positive coping framework for the participants to use to reappraise their own situation in a better light. Whether or not narrative support is actually easier to process than non-narrative support needs to be assessed in future studies.

Similarly, narrative support messages might be inherently higher in politeness than non-narrative support messages. Politeness, or face sensitivity, refers to communication that protects the conversational partner’s positive face, or feelings of self-worth, and negative face, or feelings of autonomy and freedom (Feng & MacGeorge, 2010; Goldsmith, 2004; MacGeorge et al., 2011). To be polite in a supportive communication context, supportive messages should not suggest the recipient is incompetent nor assertively tell the recipient what to do. Narrative support provides reappraisal information subtly; rather than explicitly telling the support recipient how to think, feel or act, the narrative support messages merely provided a description of how the helper perceived their own situation. Research suggests that for advice, politeness enhances support recipients’ ability to engage in problem solving (Feng & MacGeorge, 2010). Although politeness was not directly measured in this study, the narratives might have been considered more polite and thus recipients were better able to engage in the
reappraisal process. As a critical message characteristic for many supportive message types (Goldsmith, 2004; MacGeorge et al., 2011; MacGeorge, Feng, Butler, Budarz, 2004), the politeness of narrative support should be assessed in the future.

Although the high person-centered, high transformation narrative message was associated with the highest levels of reappraisal and emotional improvement, the difference in emotional improvement between the narrative and non-narrative form was not significant. The narrative format prompted a higher level of reappraisal, but it was not enough to produce a significant difference in emotional improvement. Although the model explained 59% of the variance in emotional improvement, there are a number of other factors that can influence emotional improvement. For example, research suggests that different message cues, such as the length of the message and positive emotion words, and other cues, such as immediacy behaviors and the gender of the supporter, can produce emotional improvement (Burleson, 2009). Additionally, although reappraisal mediated the relationship between person-centeredness and emotional improvement, the direct effect of person-centeredness on emotional improvement approached statistical significance ($p = .08$). As person-centeredness signals care and warmth (Jones & Wirtz, 2006), the high person-centeredness of the non-narrative message might have elicited emotional improvement directly.

**Transformation**

The major benefits of the narrative format were dependent on the transformation content of the messages. Results indicated that high transformation content was a critical factor in producing emotional improvement for narrative support messages, as the conditional indirect effect of person-centeredness on emotional improvement through
reappraisal was lowest for low transformation narratives. Furthermore, the high person-centered, high transformation non-narrative was significantly higher in reappraisal and emotional improvement than the high person-centered, low transformation narrative. These findings support the value of including transformation content in narrative support. Interestingly, it also demonstrates that transformation content improves the function of the non-narrative support messages; the conditional indirect effect was higher for non-narrative messages when transformation was high. Although not directly measured in this study, transformation information might have increased the recipients’ coping efficacy, which in turn helped them reappraise their situation as more controllable and less threatening. Future research should explore the role of coping efficacy in the comforting process.

**Uncertainty**

Contrary to what was expected, uncertainty did not moderate the relationship between message format and reappraisal. Higher levels of uncertainty were expected to increase the effectiveness of narrative support messages, because the recipients do not have enough prior information to reappraise the situation on their own and thus they need to adopt someone else’s appraisal directly. However, the results of this study suggest that the uncertainty of the situation does not increase the effectiveness of narrative support over non-narrative support. Previous research suggests that during situations of uncertainty, people seek out support from others who have been there (Albrecht & Adelman, 1984; Carlick & Biley, 2004; Ziebland & Wyke, 2012), so it was inferred that uncertainty increases the need for narrative support. However, it might not be the case that uncertainty drives people to specifically seek out stories about others’ experiences,
but rather, uncertain support recipients desire help from others who have credible knowledge of the situation. Additionally, it was theorized that those higher in uncertainty would appreciate narrative support because it provided information on the prevalence of the issue. However, both the narrative and non-narrative messages provided information on the prevalence of stress in graduate school, and when prompted to write to their partner about their stress, the participants read about the prevalence of stress on campus. Thus, all of the participants received information about the normality of stress in graduate school. So although it is possible that uncertainty plays no role in the effectiveness of narrative support, it is also possible that the design of the study masked its potential effect.

Source Characteristics

Hypotheses 5 through 7 were proposed to test the influence of the source similarity and experiential expertise on the effectiveness of narrative support, but the study design led to unexpected complications. Because these factors were measured after message exposure, the supportiveness of the message largely influenced participants’ perceptions of the source. Although not examined in a supportive communication context, previous research has demonstrated that message factors can influence perceptions of source credibility (Austin & Dong, 1994; Eastin, 2001; Metzger et al., 2010; Slater & Rouner, 1996). For example, one study examined how message quality evaluations influence source credibility judgments and attitude change (Slater & Rouner, 1996). The authors argued that because audience members often do not know much about the source of a message, the audience must rely on the message’s quality to make source credibility assessments. Even when audience members have knowledge of the
source, the quality of the message should also be an important determinant of credibility and persuasion. Results indicated that message quality evaluations, in terms of how well written and interesting the message was, predicted subsequent source credibility judgments. Additionally, message quality evaluations partially mediated the influence of initial source credibility assessments on subsequent credibility judgments and predicted belief change. Although researchers often discuss the message and source as separate, static entities, future supportive communication studies should consider how these factors influence each other and work in tandem to produce message outcomes.

**Strengths and Limitations**

One of the main strengths of this study is the focus on actual supportive communication outcomes. Many supportive communication studies examine participants’ perceptions of message effectiveness rather than directly measure supportive communication outcomes such as reappraisal and emotional improvement (MacGeorge et al., 2011). Additionally, the longitudinal design of the study provided multiple benefits: (a) the ability to control for baseline stress and other relevant characteristics, (b) established a time order, such that message exposure clearly occurred prior to message effects, and (c) demonstrated that supportive message outcomes can persist for at least three days after message exposure. The online nature of the study also allowed for strict control over the experimental stimuli. Although some supportive communication studies use confederates in face-to-face interactions to measure reappraisal and emotional improvement (i.e., Jones & Wirtz, 2006), simulating an asynchronous, online interaction allowed for complete control over the messages participants received. Conducting the experiment online also allowed participation to
occur where graduate students would normally access an online intervention, testing the feasibility and practicality of the online intervention for this population.

However, these strengths also had associated drawbacks. First, although research suggests that online experiments produce valid results (Reips, 2000), it is not possible to determine if the participants’ environment influenced the results in any way. Second, the longitudinal design led to participant attrition; less than 40% of the people who started Survey 1 finished all three parts of the experiment. Although there were no differences between those who completed all three parts and those who dropped out in Time 1 global and specific stress, affect, depressive symptoms, somatic health symptoms, age, degree type, and time in program, a significantly higher percentage of men dropped out of the study (56.8%) compared to women (43.2%), $\chi^2 (1, N = 443) = 14.454, p < .001$.

Research suggests that there are small differences in how men and women evaluate supportive messages (MacGeorge, Graves, Feng, Gillihan, & Burleson, 2004), although gender was not a significant predictor or moderator of supportive outcomes in this study. However, it is unclear whether there are any significant differences between men who stayed and men who dropped out in how they would process and respond to supportive messages.

**Future Research Directions**

As this was the first test of the narrative support model, it is important for future research to continue to examine narrative support. For example, researchers should explore the effectiveness of narrative support for different topics and different populations; the messages used in this study were designed for a specific population dealing with a specific issue. Additionally, this study explored the effect of one
situational characteristic, uncertainty, but there are other situational characteristics, such as the severity of the stressor, that might influence the effectiveness of narrative support. Although this study found that narrative support could produce desirable effects in an online, asynchronous conversation, whether or not these messages would work well in a synchronous, face-to-face conversation is unknown. Future research should explore how narrative support operates in different supportive interactions and contexts.

Additionally, this study compared the effectiveness of traditional non-narrative comforting messages to narrative support messages, but personal narratives might also work well for other types of social support. For example, esteem support is a specific form of emotional support that is needed when a situation threatens one's perceptions of self-esteem or self-worth (Holmstrom, 2012). It is necessary during instances where people make internal attributions for the upsetting event, such that they are attributing the cause of the event to some aspect of themselves (Holmstrom & Burleson, 2011). Thus, in addition to appraisals, causal attributions also play a role in esteem threats. As such, when the emotional upset is due to an esteem threat, supportive communication needs to assist the support recipient in attributing the cause of the event to some external factor. By demonstrating that the helper also went through a similar issue, recipients of narrative support might reattribute the cause to the situation rather than to themselves. The essential transformation information in effective narrative support is also a form of implicit advice. Future research could compare the effectiveness of narrative support messages in communicating advice to non-narrative advice (MacGeorge et al., 2004; Feng & MacGeorge, 2010).
Practical Implications

The results of this study found that narrative support messages from other graduate students could produce measurable improvements in graduate students’ emotional reactions to their stress through reappraisal. That supportive messages can promote reappraisal is particularly encouraging for stress interventions, as research supports the importance of positive reappraisal in adaptively coping with stress (Folkman & Moskowitz, 2000; Garland et al., 2009; Haga et al., 2009). For example, Haga et al. (2009) found that the increased use of cognitive reappraisal was related to well-being, in terms of higher levels of life satisfaction and positive affect, and lower levels of depressed mood and negative affect. This study provides evidence that narrative support messages provided in an online setting can promote cognitive reappraisal and emotional improvement for a population particularly vulnerable to the detrimental effects of excessive stress. Narrative interventions have been used for other purposes in higher education (Yeager & Walton, 2011), so universities could adapt the findings of this study into an intervention for graduate student stress. Additionally, if future research finds narrative support messages are effective for other distressing situations, narrative support interventions could assist many people in coping with difficult life situations.

Conclusion

The purpose of this study was to examine the major tenets of the narrative support model. Results support the contention that personal narratives can be an effective form of social support. Particularly, when narrative support is high in both person-centeredness and transformation content, narrative support is associated with higher levels of reappraisal and emotional improvement than traditional comforting messages.
Overall, this study provides evidence that narrative support is an area worthy of future study.
Chapter 4: General Discussion

The main purpose of this dissertation was to investigate whether speaker-centered narratives could serve a supportive communication function. Although not a traditional format for supportive messages, research suggests that narratives about others’ experiences can provide comfort and emotional support to those undergoing difficulties (Carlick & Biley, 2004; Green, 2006; Kreuter et al., 2007; Shaffer & Zikmund-Fisher, 2013; Sharf & Vanderford, 2003; Ziebland & Wyke, 2012). However, there were no models to explain how speaker-centered narratives provide comfort to support recipients.

This question was explored in the context of academic stress. Specifically, two studies were conducted to determine how to best communicate social support to graduate students. Graduate student stress was chosen as the focus of this investigation, as it is an increasingly serious problem in higher education (Chiauzzi et al., 2008; Drum et al., 2009; Heins, Fahey, & Leiden, 1984; Hyun, Quinn, Madon, & Lustig, 2006), and reports suggest graduate students are not receiving the necessary support (Aldrich, 2009; Hyun et al., 2006). Study 1 used qualitative interviews and grounded theory analytic techniques to determine (a) how graduate students experience stress, (b) how communication constructs stress in graduate school, and (c) what elements of supportive communication are effective in this context. Study 2 used a longitudinal experiment to compare the effectiveness of narrative support messages to traditional non-narrative support messages for graduate student stress.
Study 1

The results of the qualitative interviews supported the contention that stress is a relational process in addition to an individual process (Afifi, Hutchinson, & Krouse, 2006). Much of the stress that graduate students experienced was psychological in nature and generated or fueled by their interactions with others. When asked to define what stress was to them, students often described stress in terms of guilt and fear. Stress manifested in feelings of guilt for taking breaks and fears of failing to meet expectations, and these features were based on the students’ descriptive and injunctive normative beliefs. Through interactions with others in their department, graduate students developed injunctive normative beliefs about which graduate students were valuable and successful and descriptive normative beliefs about how graduate students commonly act. When students perceived themselves as failing to meet these norms, they experienced stress. Although many quantitative studies of graduate student stress focus on common, objective stressors, such as exams or theses (Mazzola, Walker, Shockley, & Spector, 2011), these studies do not capture the psychological and communicative nature of graduate students’ stress. But as these were the elements of stress that graduate students found most problematic, it is important for future research to consider these aspects of stress in graduate school. Additionally, many of the students were using psychological coping methods, such as reappraisal, to deal with their stress. As supportive communication can induce a reappraisal, social support interventions might be especially helpful for this issue.

Only certain supportive messages were helpful for lessening graduate students’ stress. Helpful messages validated the support recipient’s experience, by suggesting that
the recipient was not the only person to struggle or feel that way. The harmful messages, on the other hand, suggested that the students were alone in their struggles or were overreacting in their stress. In-group members, or others in graduate school or academia, primarily delivered the effective supportive messages. Out-group members did not understand the graduate school environment, and thus, their messages either could not validate the recipients’ feelings or lacked credibility.

These findings generated the supportive communication model for norm-based stress. According to the model, when stress is caused by one’s normative beliefs (as it was for graduate students in this study), supportive messages need to help the recipient change or alter their stress-inducing normative beliefs. The messages that are most apt to induce a change in normative perceptions are those that (a) validate the support recipient, suggesting the recipient is not a deviant member of the group; and (b) are delivered by in-group members.

**Study 2**

The purpose of Study 2 was to test the narrative support model. The narrative support model, proposed in the first section of this project, suggests that effective emotional support can be provided through narratives about the helper’s past experiences. When the narrative is high in transformation (validating of the recipient’s current negative emotions and provides effective coping information), the narrative support message can induce a reappraisal of the situation, which results in emotional improvement. Without these elements, however, narrative support should be largely ineffective at comforting others.
The results of this study support the major tenets of the narrative support model. Narratives that were highly person-centered and contained high transformation content were the most effective at inducing a reappraisal and subsequent emotional improvement. In fact, these messages promoted greater levels of reappraisal than the traditional non-narrative form of comforting messages. When person-centeredness and transformation were absent, however, narrative support was largely ineffective at producing reappraisals and emotional improvement. Thus, these message characteristics are highly important for narrative support to operate effectively.

Despite the support for the major propositions of the model, there were elements of the narrative support model that were either unexamined or unsupported in Study 2. First, although source similarity and experiential expertise were measured in this study, the study design caused them to be outcomes of the supportive messages rather than potential moderators. Thus, there are still some unanswered questions regarding the influence of source effects on narrative support effectiveness. Additionally, the importance of a proposed situational characteristic, uncertainty, was unsubstantiated. Contrary to what was hypothesized, uncertainty regarding the situation played no significant role in the effectiveness of any of the supportive messages.

**Model 1 and Model 2**

Although resulting in different supportive communication models, the results of Study 1 and Study 2 are largely complementary. First, both models suggest that the best pathway to alleviating psychological or emotional distress is through a reappraisal or modification of the distressing thoughts. With the norm-based model, stress results specifically from the support recipients’ normative beliefs; in this context, supportive
messages that induce a reappraisal of the distressing normative beliefs are the most helpful. The narrative support model, on the other hand, is applicable to more than just norm-based stress. For narrative support, any distressing situation can be reappraised. In addition to reappraisal, both models suggest that supportive messages need to be validating. It is necessary for support recipients to feel justified in their negative emotions and feel as if their issue is normal. Messages causing support recipients to feel deviant for their struggles and as if they are overreacting are not helpful in either model.

Although the moderating source characteristics are different between the two models, they are not in contention with each other. For the norm-based stress model, in-group membership is an important moderator, and source similarity and experiential expertise are theorized to play a significant role in the success of narrative support messages. Source similarity and experiential expertise could both be characteristics of an in-group source. An in-group source should be similar to the recipient, as the support provider and recipient share group membership, and an in-group source should have experiential expertise with the norms of the environment. The theoretical reasoning for the importance of in-group membership and experiential expertise is also equivalent. With norm-based stress, the in-group source is primarily important because in-group sources have a degree of credibility regarding the norms of the environment. Out-group members do not understand the normative environment, and their messages challenging those normative beliefs appear less credible. For narrative support, experiential experts are also theorized to be more credible than support providers with limited experience. The norm-based stress model does not capture the hypothesized importance of source
similarity for narrative support (increased self-efficacy in enacting the coping behaviors described), but the norm-based model does not contradict it either.

Although the concept of narrative was not explicitly mentioned during interviews in Study 1, graduate students did suggest that hearing messages about others’ similar experiences was helpful. With message validation, graduate students were relieved when they heard other students also struggled with similar issues. These stories helped correct their skewed descriptive normative perceptions that other people did not stress and demonstrated that the participants’ struggles were normal. It is interesting to note that a narrative about the experience of one or a few could challenge perceptions about the behavior of many. With descriptive norms, the normative perception is about what is the common practice in the group (Cialidini & Trost, 1998; Lapinski & Rimal, 2005). When a narrative support message suggests that a member of the group does not conform to that descriptive norm, the narrative challenges the veracity of the support recipient’s normative belief. As such, narrative communication is a possible mechanism to correct incorrect or problematic descriptive normative perceptions (Moran, Murphy, Frank, & Baezconde-Garbanati, 2013). With injunctive norms, the normative beliefs concern which behaviors will be socially rewarded or punished (Cialidini & Trost, 1998; Lapinski & Rimal, 2005). If a narrative support message demonstrates that the reward or punishment is unlikely, it also can challenge the veracity of the stress-inducing normative belief. Additionally, if the narrative support message reveals that a referent other explicitly rejects the injunctive norm or that there is an alternate social reward for a different behavior, it can potentially change the importance of adhering to the norm. As both Study 1 and Study 2 provide evidence to suggest narrative support is an effective
type of message for norm-based, graduate students’ stress, future research should look into explore how narrative support can effectively correct both descriptive and injunctive normative perceptions.

**Future Research Directions**

Both Study 1 and Study 2 provide interesting future research directions regarding the influence of the source of the supportive message. For example, Study 1 introduced the idea that group membership could be a crucial factor in social support, as in-group membership lent credibility to the provider’s supportive message. Although source credibility has a role in advice response theory (Feng & MacGeorge, 2010), it has not been incorporated into emotional support theories yet. The role of source credibility in emotional support is a new and interesting avenue for future research to explore. From Study 2, future research should consider how the message influences perceptions of the source and vice versa. Results indicated that the supportive message predicted source similarity and expertise ratings. If future research finds that message factors change initial source perceptions, current supportive communication theories might need to be modified.

Both studies also provide interesting future research directions for the study of narrative support and stress. First, Study 1 introduced the concept of norm-based stress and that supportive communication needs to take into account the origins of the stress to be effective. For graduate student stress, the normative environment is one that heavily contributes to the experience of stress. As such, supportive messages are most effective when they target distressing normative beliefs. Future research should explore what other environments and situations construct norm-based stress. From Study 2, the results
suggest that narrative support can effectively alleviate norm-based stress. Future research could also explore how well narrative support operates when the stress is not tied to the normative beliefs of the recipient. Additionally, future studies should directly measure normative perceptions to determine how much of an effect narrative support and other supportive messages can have on normative beliefs.

Practical Implications

Narrative intervention. The results of this dissertation, and particularly Study 2, suggest that one way to help address the increasingly problematic issue of graduate student stress is through a narrative support intervention. Although graduate students could be trained on how to provide effective narrative support to other graduate students, non-interactive narrative support messages could also be an effective tool. In an article about the use of narratives in cancer communication, Kreuter et al. (2007) suggest that others' stories about their experiences with cancer might serve as a proxy for face-to-face interactive support, saying "... emotional, informational, and appraisal forms of support can be provided in mediated and vicarious ways, not just face to face" (p. 227). Using static narrative messages in a social support intervention is appealing, as many scholars note that supportive communication is often difficult to provide (Goldsmith, 2004; MacGeorge et al., 2011), and social support interventions are often less effective than desired due to the lack of control over the supportive interactions (Brashers & Goldsmith, 2008). Providing narrative support messages on a website for graduate students might be an efficient and effective way to assist graduate students in coping with stress.

Organizational messages. Study 1 demonstrated that departmental messages helped construct the stress that graduate students experienced. Many of the participants
developed their feelings of guilt and fear through discussions and interactions with other students and faculty members, and dismissive messages from others in their department continued to fuel the participants’ worries. Thus, interventions targeting the communication of the organization would be helpful in decreasing graduate student stress. Graduate programs could encourage members of their department to be open and honest about the normality of stress in graduate school. Additionally, results from Study 1 found that departments often communicate which activities are valuable and successful (e.g., high number of publications, tenure track jobs at research institutions), which can alienate students on other paths. Encouraging faculty members and others to explicitly support multiple definitions of success could help decrease the amount of stress graduate students experience.
References


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Mankowski, E. S., & Rappaport, J. (2000). Narrative concepts and analysis in spiritually-


Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and


Appendix A: Figures

Figure 1. The Narrative Support Model
Figure 2. Supportive Communication Model for Norm-Based Stress
Figure 3. Reappraisal in High Person-Centered Messages
Figure 4. Reappraisal in Low Person-Centered Messages
Appendix B: Tables

Table 1 Descriptive Statistics and Pearson’s Correlations between Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
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<tr>
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<td>1. Reappraisal</td>
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<td>.760**</td>
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<td></td>
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<tr>
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<td>4. Global Stress</td>
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<td>.729**</td>
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<td>5. Depressive</td>
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<td>Symptoms</td>
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<td>6. Uncertainty</td>
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*Note: **p < .001. * p < .05. n = 209. Somatic health symptoms, global stress, and depressive symptoms measured at Time 1.
Table 2 Spearman’s Correlations between Conditions and Outcome Variables

<table>
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<tr>
<th>Conditions</th>
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<td>.502**</td>
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<tr>
<td>Format Condition</td>
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<td>.143*</td>
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<tr>
<td>Transformation Condition</td>
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<td>.283*</td>
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</tbody>
</table>

*Note*: **p < .001. * p < .05. n = 209. Person-centered condition (0 = low; 1 = high). Format condition (0 = non-narrative; 1 = narrative). Transformation condition (0 = low; 1 = high).
### Table 3 Regression Results for Simple Mediation Model

#### Panel A: Variables

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<td>8.4090</td>
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<tr>
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<td>10.2037</td>
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</tr>
<tr>
<td>Emotional improvement regressed on reappraisal controlling for person-centeredness ((b))</td>
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<td>12.7744</td>
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</tr>
<tr>
<td>Emotional improvement regressed on person-centeredness controlling for reappraisal ((c'))</td>
<td>.2009</td>
<td>1.7414</td>
<td>.0831</td>
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</table>

#### Panel B: Bias-Corrected Bootstrap Confidence Interval Based on 10,000 Bootstrap Samples for the Indirect Effect \((a \times b)\)

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<th>Upper</th>
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<td>.8569</td>
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n = 209.

\(a, b, c,\) and \(c'\) all refer to the path labels described in Preacher and Hayes (2004) and are unstandardized. CES-D, PSS, and PHQ were controlled for all paths. \(R^2 = .5918\) for the model predicting emotional improvement from person-centeredness and reappraisal with controls.
### Table 4 Results for Moderated Mediation

**Panel A: Regression Results**

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R² = .6049, p < .001.

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R² = .5918, p < .001.

**Panel B: Conditional Indirect Effects of Three-Way Interaction with Bias-Corrected Bootstrap Confidence Interval Based on 10,000 Bootstrap Samples**

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<td>.0695</td>
<td>.5869</td>
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<td>Narrative (1) /High (1)</td>
<td>1.3668</td>
<td>1.0568</td>
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n = 209.

Unstandardized regression path coefficients are reported. CES-D, PSS, and PHQ were controlled for all paths.
<table>
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<td>3.82&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>High PC, High TRAN, Non-Narrative</td>
<td>3.04&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.27&lt;sup&gt;w&lt;/sup&gt;</td>
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</tr>
<tr>
<td>High PC, Low TRAN, Narrative</td>
<td>2.40&lt;sup&gt;c&lt;/sup&gt;</td>
<td>2.58&lt;sup&gt;x&lt;/sup&gt;</td>
<td>27</td>
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<tr>
<td>High PC, Low TRAN, Non-Narrative</td>
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<tr>
<td>Low PC, High TRAN, Narrative</td>
<td>2.16&lt;sup&gt;c,d&lt;/sup&gt;</td>
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<td>26</td>
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<tr>
<td>Low PC, High TRAN, Non-Narrative</td>
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<td>Low PC, Low TRAN, Narrative</td>
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<td>1.83&lt;sup&gt;y,z&lt;/sup&gt;</td>
<td>26</td>
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<tr>
<td>Low PC, Low TRAN, Non-Narrative</td>
<td>1.64&lt;sup&gt;e&lt;/sup&gt;</td>
<td>1.88&lt;sup&gt;y,z&lt;/sup&gt;</td>
<td>25</td>
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</tbody>
</table>

Note: PC = person-centeredness; TRAN = transformation; <sup>a,b,c,d,e,w,x,y,z</sup> = Different subscripts within columns indicate means are significantly different. For reappraisal, differences were assessed by a Games-Howell post hoc test. Emotional improvement was assessed by a Tukey post hoc test.
Appendix C: Study 1 Interview Guide

**Introductory Questions**

- In which graduate program are you currently enrolled?
- How long have you been a student in that graduate program?
- Can you describe what a typical day as a graduate student in your program is like?

**Questions about Stress**

- Can you describe what stress is?
- How does stress influence your life?
- Can you describe your experiences with stress in graduate school?
- What different things have contributed to your stress?
- How do you feel when you are stressed?
- Has there been a particular time when you have experienced a great deal of stress in graduate school? What about that time was so stressful?
- How, if at all, have your experiences with stress changed through your time in graduate school?
- Was stress different for you in the beginning of your program compared to now? How so?
- Overall, if you had to choose a single factor, what do you think has caused you the most stress? What about this particular thing is so stressful?
- In your experience, what, if any, are the negative aspects to stress?
In your experience, what, if any, are the positive aspects to stress?

Questions about Coping

• How have you tried to manage your stress?
• How effective do you think these behaviors are for managing your stress?
• What do you think are the most effective ways to lower your stress? How did you discover these methods?
• Have you ever tried something that has worsened your stress? How did this behavior worsen your stress?

Questions about Social Support

• Who have you talked to about stress in graduate school?
• Have you talked to your advisor/faculty member/other students/counselor/family/friends?
• Can you describe your conversations with stress?
• How did these conversations make you feel?
• Who has been the most helpful to you during this time? How has he/she been helpful? What has he/she said that has helped you with your stress?
• Has anyone said anything unhelpful? What did he/she say?

Closing Thoughts

• Overall, after having these experiences, what advice about stress would you give to someone who is beginning graduate school?
• Is there anything you might not have thought about before that occurred to you during this interview?
• Is there anything you would like to add?
• Is there anything you would like to ask me?
Appendix D: Study 2 Stimuli

High Person-Centered, High Transformation Narrative

It’s completely understandable to feel that way. Graduate school can be really stressful. I had no idea how challenging it would be when I started. I felt like I was trapped in this never-ending cycle of wanting a break and then feeling terrible when I took one. Other people in my program seemed fine, but I felt like I was just barely getting by. But it’s better now! I realized everyone was stressed and that I needed to take care of myself. And during really rough days, I remind myself that I’m doing this for a reason. All of this has really helped me manage my stress, and I’m more productive and less stressed than before.

High Person-Centered, High Transformation Non-Narrative

It’s completely understandable to feel that way. It can be really overwhelming to constantly have so much to do, and it’s even worse when you want to do everything well. It’s tough, but taking care of your physical and mental health will help you be more productive and feel better. During stressful moments, remember that not everyone is lucky enough to be studying their passion and you’re doing this for a reason. You’ll get better at dealing with the stress over time.

High Person-Centered, Low Transformation Narrative

It’s completely understandable to feel that way. Graduate school can be really stressful. I had no idea how challenging it would be. I feel like I’m trapped in this never-
ending cycle of wanting a break and then feeling terrible when I take one. I guess it’s just that really want to be a “good” graduate student, but it’s hard because I don’t know if I am performing as well as I should be. Other people in my program seem fine, but I always feel like I am just barely getting by. I wish it would get easier, but it just seems impossible. Nothing’s going to change, so I’ll just have to get used to it.

**High Person-Centered, Low Transformation Non-Narrative**

It’s completely understandable to feel that way. It can be really overwhelming to constantly have so much to do, and it’s even worse when you want to do everything well. You just have to keep working through it all the best you can until you have your degree in hand. Graduate school can be extremely difficult and challenging, and unfortunately, the truth is that it’s going to remain tough until you’re finished. Excessive stress is just a constant part of graduate school.

**Low Person-Centered, High Transformation Narrative**

It’s really not a big deal. You shouldn’t get upset or be stressed about it. In my experience, graduate school can be stressful, but it gets better over time. When I first started graduate school, I had some challenging moments, but once I figured out how to best manage my time, everything got so much easier. My professors even told me I’m one of the best graduate students they’ve seen in years. Now, I know I’m a good student, and I’ll be successful when I graduate. Stress really isn’t a big part of my life anymore.

**Low Person-Centered, High Transformation Non-Narrative**

It’s really not a big deal. There’s no reason to get upset or be stressed about it. I think good graduate students figure out how to deal with their stress and keep working until they get their degree. So don’t worry about it. Things will get better over time.
Low Person-Centered, Low Transformation Narrative

It’s really not a big deal. You shouldn’t get upset or be stressed about it. In my experience, graduate school isn’t that difficult. Sure, I have a lot of things to juggle, but I’m actually doing a really good job of managing it all. My professors even told me I’m one of the best graduate students they’ve seen in years. I really don’t understand why anyone gets stressed over this stuff. It started out well for me, and it’s still going well. I guess some people just start off on the wrong foot and remain there.

Low Person-Centered, Low Transformation Non-Narrative

It’s really not a big deal. There’s no reason to get upset or be stressed about it. I think good graduate students figure out how to deal with their stress and keep working toward until they get their degree. Nothing’s going to change, so just get used to it.
Appendix E: Study 2 Measures

Narrative Salience Scale

1. The message demonstrated the author’s feeling or thinking.
2. The message presented the author’s personal life events.
3. The message had a well-defined beginning, middle, and ending.
4. The message focused on specific, particular events, rather than delivering news or general knowledge.
5. The message showed the author’s personal motivation

Person-Centered Scale

1. Self-centered vs. other-centered
2. Invalidating vs. validating
3. Judging vs. empathizing
4. Disregarding vs. acknowledging
5. Unconcerned vs. concerned

The Stress Appraisal Measure (SAM)

1. Is this a totally hopeless situation?
2. Does this situation create tension in me?
3. Is the outcome of this situation uncontrollable by anyone?
4. Is there someone or some agency I can turn to for help if I need it?
5. Does this situation make me feel anxious?
6. Does this situation have important consequences for me?
7. Is this going to have a positive impact on me?
8. How eager am I to tackle this problem?
9. How much will I be affected by the outcome of this situation?
10. To what extent can I become a stronger person because of this problem?
11. Will the outcome of this situation be negative?
12. Do I have the ability to do well in this situation?
13. Does this situation have serious implications for me?
14. Do I have what it takes to do well in this situation?
15. Is there help available to me for dealing with this problem?
16. Does this situation tax or exceed my coping resources?
17. Are there sufficient resources available to help me in dealing with this situation?
18. Is it beyond anyone’s power to do anything about this situation?
19. To what extent am I excited thinking about the outcome of this situation?
20. How threatening is this situation?
21. Is the problem unresolvable by anyone?
22. Will I be able to overcome the problem?
23. Is there anyone who can help me manage this problem?
24. To what extent do I perceive this situation as stressful?
25. Do I have the skills necessary to achieve a successful outcome to this situation?
26. To what extent does this event require coping efforts on my part?
27. Does this situation have long-term consequences for me?
28. Is this going to have a negative impact on me?
Positive Affect

1. Hope: Hopeful, expectant
2. Challenge: challenged, confident
3. Happiness: Happy, elated
4. Relief: Relieved
5. Tranquility: Calm, relaxed
6. Grateful: grateful

Negative Affect

1. Fear: nervous, afraid
2. Guilt: guilty, ashamed
3. Anger: angry, resentful, frustrated
4. Resignation: resigned
5. Envy: envious

Uncertainty Scale

1. I am uncertain about my present standing in graduate school
2. I am uncertain whether changing my lifestyle will help me succeed in graduate school
3. I am uncertain how to make sense of what I am told about my progress in graduate school
4. I am uncertain whether I am doing well enough in graduate school
5. I am uncertain about the differing explanations I have been given about succeeding in graduate school
6. I am uncertain about whether I can depend on grades as an indicator of my progress
in graduate school

7. I am uncertain whether I will have difficulty coping with graduate school

8. I am uncertain whether what I am currently doing to succeed in graduate school will actually help me

9. I am uncertain about the quality of information I have about my progress in graduate school

10. I am uncertain on how to manage the demands of graduate school

Perceived Experiential Expertise Measure

1. My partner has personal experience with the issue involved

2. My partner has lay knowledge about the issue

3. My partner refers to the everyday experience of people

Perceived Similarity Measure

1. Doesn’t think like me/Thinks like me

2. Behaves like me/Doesn’t behave like me

3. Similar to me/Different from me

4. Unlike me/Like me

Reappraisal Measure

1. I understand the situation better now that I talked about it with my conversational partner

2. Talking with my conversational partner about the event helped me get my mind off it

3. I feel that I ought to reevaluate the event now after the conversation

4. I don’t really see the distressing situation in a different light after the conversation
Emotional Improvement Measure

1. I feel better after talking with my conversational partner.
2. My conversational partner made me feel better about myself.
3. I feel more optimistic now that I have talked with my conversational partner.

Perceived Stress Scale

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and “stressed”? 
4. In the last month, how often have you felt confident about your ability to handle your personal problems? (R)
5. In the last month, how often have you felt that things were going your way? (R)
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things? (R)
9. In the last month, how often have you been angered because of things that were outside your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
Patient Health Questionnaire (PHQ-15)

1. Stomach pain
2. Back pain
3. Pain in your arms, legs, or joints (knees, hips, etc.)
4. Headaches
5. Chest pain
6. Dizziness
7. Fainting spells
8. Feeling your heart pound or race
9. Shortness of breath
10. Pain or problems during sexual intercourse
11. Constipation, loose bowels, or diarrhea
12. Nausea, gas, or indigestion
13. Feeling tired or having low energy
14. Trouble sleeping

Center for Epidemiological Studies- Depression (10-Item)

1. I was bothered by things that usually don't bother me.
2. I had trouble keeping my mind on what I was doing
3. I felt depressed.
4. I felt that everything I did was an effort.
5. I felt hopeful about the future.
6. I felt fearful.
7. My sleep was restless.
8. I was happy.

9. I felt lonely.

10. I could not "get going."