THE EFFECTS OF PERCEIVED SOCIAL SUPPORT AND COPING SELF-EFFICACY ON TRAUMA SYMPTOMS AFTER A TRAUMATIC EVENT

A thesis presented to the faculty of the Graduate School of

Western Carolina University in partial fulfillment of the

requirements of the degree of Master of Arts in Psychology.

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March 2011

Acknowledgements

This thesis would not have been possible without my mentor and chair, Dr. Kia Asberg. I would like to gratefully acknowledge her diligence with the many revisions passing back and forth. She was constantly available for questions and feedback while challenging me to continuously improve on each section we worked on. She celebrated every achievement and worked with me on every problem. I cannot thank her enough and could not ask for a better mentor.

I would also like to thank Dr. Leonardo Bobadilla and Dr. David McCord for their comments and revisions, which only made this thesis stronger. Their very thorough feedback was very much appreciated as well.

Finally, I would also like to thank my cohort for occasionally making me take a break and allowing me to de-stress.

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ABSTRACT

Individuals who have had a traumatic experience are more likely to report psychological maladjustment, such as posttraumatic stress (Marx & Sloan, 2003). However, not everyone who experiences a traumatic event will develop symptoms of posttraumatic stress, and only a fraction (<10%) will develop posttraumatic stress disorder (American Psychiatric Association [APA], 2000). Given the discrepancy between the large number of individuals that report traumatic experience and those who actually develop posttraumatic stress symptoms, research has focused on possible moderators of this relationship. For example, previous research suggests that perceived social support (Haden, Scarpa, Jones, & Ollendick, 2007) and coping self-efficacy (Cieslak, Benight, & Lehman, 2008) may independently influence the relationship between trauma and posttraumatic distress among college students, though contribution and interplay among variables that may buffer the impact of traumatic events remains poorly understood, especially among emerging adults in college (Haden et al., 2007). Thus, the present study examined perceived social support and coping self-efficacy in relation to self-reported trauma symptomatology in a college student sample. This study also utilized both traumatic frequency and traumatic load (number of different traumatic events) as an indicator of traumatic events to examine the relative contributions of each of these variables. Results indicate that trauma symptomatology was inherently different based on sex, with women reporting significantly more symptomatology relative to men. Traumatic load was a significant predictor of traumatic symptomatology as indicated by

the *PTSD Checklist – Civilian version* and approached significance in the *Trauma Symptom Checklist-40,* while traumatic frequency (absolute number of traumatic events) was not a significant predictor of trauma symptomatology as indicated by either the *PTSD Checklist – Civilian version* or the *Trauma Symptom Checklist-40*. Perceived social support and coping self-efficacy were both significant predictors of trauma symptomatology, such that as perceived social support and coping self-efficacy increase, trauma symptomatology decreases, irrespective of the outcome measure used. Findings point to differences between males and females in terms of trauma symptomatology, and also indicate that *how* the trauma is operationalized (and measured) is of importance. Finally, social support and coping self-efficacy predicted psychological adjustment (trauma symptoms) beyond sex and the event itself, suggesting their utility for inclusion in interventions with college students who have experienced trauma.

CHAPTER ONE: INTRODUCTION

A recent study indicated that 85 percent of emerging adults in college (18 to 24-year-olds; Arnett, 2000), have experienced at least one traumatic event (Frazier et al., 2009). For example, the unexplained death of a loved one was reported by 47 percent of students and unwanted sexual attention was reported by 21 percent of students (Frazier et al., 2009). Individuals who have had a traumatic experience are more likely to report psychological maladjustment, such as posttraumatic stress (Marx & Sloan, 2003). However, not everyone who experiences a traumatic event will develop symptoms of posttraumatic stress. Specifically, the prevalence rate of posttraumatic stress disorder (PTSD) is only 8 percent (APA, 2000) and some studies have found that only 4.8% of their total college student samples had enough trauma symptomatology to merit a diagnosis of PTSD (Frazier et al., 2009).. Given the discrepancy between the large number that report traumatic experience and those who develop posttraumatic stress symptoms, research has focused on possible moderators of this relationship, in particular protective variables amenable to change, as they can be utilized in prevention and intervention efforts.

For example, previous research suggests that perceived social support (Haden, Scarpa, Jones, & Ollendick, 2007) and coping self-efficacy (Cieslak, Benight, & Lehman, 2008) may influence independently the relationship between trauma and psychological adjustment among college students. Specifically, perceived social support (SS) refers to the quality of emotional support provided by others, and research has suggested that as

(SS) decreased, distress has increased (Yap & Devilly, 2004). Therefore, trauma symptomatology may decrease given more adequate SS. Coping self-efficacy (CSE) on the other hand is the perception of control over one's life. That is, the extent to which one feels capable of making effective decisions about feelings, behavior, and the future (Cieslak et al., 2008). CSE is not concerned with the *methods* one uses to cope, but rather the *perceived capability* of managing the situation. Also, CSE is related to positive psychological adjustment in previous studies (Cieslak et al., 2008) perhaps due to perceived control over the dangers in one's environment (Benight & Bandura, 2004).

Although research has established the link between trauma and posttraumatic stress, the relative contribution and interaction among variables that may buffer the impact of traumatic events remains poorly understood, especially among the college student population (Haden et al., 2007). Overall, the need for identification of variables that can be harnessed and deployed for protective purposes continues, and the present study addressed this call by examining potentially traumatic events, perceptions of social support, and coping self-efficacy in a sample of college students. Findings may increase our understanding of experiences and resources among college students, and aid in the refinement of prevention, education, and intervention efforts pertaining to trauma and adjustment in this population.

CHAPTER TWO: LITERATURE REVIEW

According to the DSM-IV-TR (APA, 2000), a traumatic event is one that involves real or perceived threat of death or serious injury, or threat to one's physical integrity. Furthermore, a traumatic event can be when one witnesses the death, serious injury, or threat to the physical integrity of another person, or learn that a loved one has gone through one of these experiences. Examples of traumatic events include military combat, natural disasters, personal assault, severe automobile accidents, being diagnosed with a life-threatening illness, or unexpected death of a loved one, among others.

Prevalence of Traumatic Events

Traumatic events are very common; previous research has indicated that 65 (Watson & Haynes, 2007) to 94 (Green et al., 2000) percent of college students have experienced at least one traumatic event. For example, a recent study found that 85 percent of college students report having experienced a traumatic event (Frazier et al., 2009), with unexpected death of a loved one (47 percent), accidents (30 percent), loved one surviving a life-threatening event (29 percent), unwanted sexual attention (20 percent), and sexual assault (15 percent) endorsed as the most prevalent. Also, 21 percent of the study's overall sample experienced a traumatic event over a two month period, with 24 percent of women and 13 percent of men reporting a traumatic event within that time frame (Frazier et al., 2009). Of note, Frazier and colleagues (2009) found that women and minorities reported higher rates of traumatic events than men and Whites, respectively. This is contrary to previous research that suggests that men have a higher

risk of exposure to potentially traumatic events relative to women (Olff, 2007). Frazier and colleagues (2009) attributed this discrepancy to the types of events measured, as they included unexpected death and loved ones surviving life-threatening events, which were reported more frequently in women than in men and may be due to the size of social support systems. Moreover, Frazier and colleagues (2009) found higher trauma symptomatology among women relative to men, which is consistent with previous research (Moser, Hajcak, Simons, & Foa, 2007). Overall, research suggests that although males tend to have a higher exposure to traumatic events, women generally present with more trauma symptoms (e.g., Moser et al., 2007), but findings may vary depending on the definition of trauma.

Overall, the high incidence rate of traumatic events among emerging adults during college indicates a need to assess life experiences, and to make administrators and health staff aware of the types of events that students may experience. Also, research indicates the need for further study of the type of traumatic events for which college students are at risk, as well as the importance of accounting for demographics, such as sex, ethnicity, and race, which may predict risk of trauma and subsequent distress.

Psychological Maladjustment

As noted, research finds that college students who have had a traumatic experience are more likely to report psychological maladjustment relative to those who do not report such events (Marx & Sloan, 2003). Specifically, Swanholm and colleagues (2009) assessed views of optimism/pessimism, trauma history (only a sexual trauma subscale was used), risky sexual behavior, and depression in a large sample of college

students (*N*=648) and found that pessimism, sexual trauma history and risky sexual behavior correlated positively with depressive symptomatology.

Moreover, a study by Scarpa and colleagues (2002) found that the frequency of violent experiences (i.e., high, moderate, and low exposure, respectively) was related to endorsements of current adjustment, such as depression, trait anxiety, aggression, posttraumatic stress disorder, and interpersonal problems associated with personality disorders in this sample (*N*=518). Further, in ANOVA analyses, those included in the high violence exposure group (direct or indirect) had significantly more symptomatology relative to low and moderate exposure groups (Scarpa et al., 2002).

Although studies have focused on a number of indicators of maladjustment following trauma, one of the most frequently studied outcome is posttraumatic stress. According to the DSM-IV-TR, posttraumatic stress consist of symptoms that cause *further distress* to the individual, including re-experiencing the event, avoiding stimuli similar to those of the event, or certain physiological symptoms, such as increased arousal and hypervigilance (APA, 2000). In college students, these trauma related symptoms may contribute to maladjustment, decrease in quality of life (Green et al., 2000) and exacerbate problems in other areas of academic and socioemotional functioning.

For example, though research on the effect of trauma, trauma symptoms, and posttraumatic stress disorder on memory is in its infancy, some studies find that individuals with trauma symptomatology, specifically posttraumatic stress disorder, have impairments in the learning of new information, especially verbal memory. This effect is

present even after controlling for co-occurring alcohol and substance abuse (Verfaellie & Vasterling, 2009) and head injury (Brewin, Kleiner, Vasterling, & Field, 2007). Overall then, there is a significant impairment in learning for those with severe trauma symptomatology when compared both to those who have not experienced a traumatic event and those who have experienced a traumatic event but do not exhibit severe trauma symptoms (Brewin et al., 2007).

Furthermore, a recent study by Rutkowski, Vasterling, Proctor, and Anderson (2010) found that as trauma symptomatology increased, test taking ability decreased. The sample consisted of 654 Army veterans with a mean age of 25.03 years who completed a self-report measure of posttraumatic stress, a logical reasoning test, and a test of verbal ability at Time 1 (before deployment) and Time 2 (after deployment). After controlling for age, gender, sleep, pre-deployment posttraumatic stress, alcohol consumption, traumatic brain injury, and Time 1 scores, results suggested that scores on reasoning and verbal ability tests at Time 2 were reduced for those participants who endorsed higher posttraumatic stress. For example, those veterans who scored on the highest end of the posttraumatic stress scale (in this study, a score of 71 on the Posttraumatic Stress Disorder Checklist-Civilian [PCL-C] version) evidenced a 13 percent reduction in the probability of answering correctly on the logical reasoning or vocabulary tests relative to those who scored the lowest on the posttraumatic stress scale (a score of 17 on the PCL-C), after controlling for baseline standardized test scores, combat experience, and baseline measures of posttraumatic stress. It appears that, regardless of ability level, there is a negative correlation between posttraumatic stress and

probability of answering a typical question on a standardized test. The implications of this study, especially if generalizable to other traumas, could be very telling. Survivors of trauma who pursue higher education or face testing situations for a promotion or job placement may be at a disadvantage if they have posttraumatic stress symptoms. In other words, if findings are generalizable to other traumas, posttraumatic stress symptoms due to natural disasters and various types of victimization may have an effect on test-taking ability, as well (Rutkowski et al., 2010). These studies did not control for depression, however, and research does indicate a significant negative correlation between depression and exam scores, so the relationship between traumatic symptomatology and academics warrants further study (Andrews & Wilding, 2004).

Furthermore, research finds that posttraumatic stress may not only impact negatively memory and test-taking ability, but such symptoms may affect also an individual's quality of life, defined as their well-being in the physical, mental, and social realms of life (Schnurr, Lunney, Bovin, & Marx, 2009). For example, Olatunji, Cisler, and Tolin (2007) conducted a meta-analysis and found that those who experienced posttraumatic stress severe enough to be diagnosed with posttraumatic stress disorder rated lower quality of life, especially in the areas of mental health and work. Also, in a review by Schnurr and collegues (2009) on OEF/OIF Veterans, those individuals who had traumatic symptomatology severe enough to be diagnosed as posttraumatic stress disorder were also more likely to be unemployed, homeless, and divorced or separated relative to veterans without a PTSD diagnosis. Findings indicated also that those with posttraumatic stress disorder were more likely to miss work days and to have diminished

productivity in the workplace, as well as impairments in school and social functioning. In addition, participants with posttraumatic stress disorder also had less satisfaction with relationships and parental functioning. Finally, rates of attempted suicide and impaired social functioning are associated also with posttraumatic symptomatology. However, improvement in quality of life corresponds with decreases in posttraumatic symptomatology in studies with selective serotonin reuptake inhibitors versus placeboes (Schneier & Pantol, 2006). Therefore, given these potentially detrimental outcomes later in life and improvement of life satisfaction with the reduction of PTSD symptoms, early detection of protective variables may be of particular importance.

Furthermore, another meta-analysis by Olatunji and collegues (2010), found that participants with posttraumatic stress disorder had higher rates of anger than controls and those who had other anxiety disorders. Though unclear whether those who are angrier were more likely to develop posttraumatic stress disorder or whether posttraumatic stress disorder contributes to the development of anger problems, the finding that the two are correlated is significant. Specifically, those who have anger difficulties and posttraumatic stress disorder are more likely to have interpersonal difficulties and violent behavior, which might contribute to the high rates of unemployment in this population. Also, anger has been associated with substance abuse, physical health problems, and reported less benefit from the treatment for posttraumatic stress disorder (Olatunji et al., 2010).

Research has indicated also a correlation between substance abuse and the posttraumatic symptomatology of a disaster, assault, and combat (Edwards et al., 2006). Specifically, a study by Edwards and colleagues (2006) examined trauma

symptomatology related to traumatic events using a well validated questionnaire in relation to alcohol and drug using behavior and consequences in a college student sample. In this study, overall trauma symptomatology was predictive of alcohol use, with particular emphasis on intrusive thoughts, dissociative behaviors, and tension reduction behaviors. Thus, the relationship between traumatic events and negative outcomes appears to go beyond trauma symptoms, such that individuals may be at higher risk of maladaptive substance use.

In addition, a study by Taft, Resick, Watkins, and Panuzio (2009), assessed 162 female victims of rape or first degree assault for posttraumatic stress symptomatology and depression, as well as childhood physical and sexual abuse, adult physical and sexual assault, trauma related beliefs, dissociative responses, and severity of trauma symptomatology. They found that those with higher posttraumatic stress symptoms tended to have higher depressive symptoms. Negative trauma-related beliefs and dissociative experiences were also higher in those who endorsed higher frequency of posttraumatic stress symptoms and depressive symptoms. Relative to the present study, however, the most important aspect of the investigation by Taft and colleagues (2009) is that those with higher scores on the measure of posttraumatic stress also experienced more depressive symptoms. In other words, there is strong support for the detrimental effects of traumatic stress symptomatology, beyond the traumatic event itself.

Despite the prevalence of traumatic events, as well as the well established link between such experiences and psychological, socioemotional, and cognitive maladjustment, most individuals who experience a traumatic event are relatively resilient

(i.e., adapt and overcome adversity; Hoge, Austin, & Pollack, 2007). For example, although a significant proportion of survivors develop some trauma symptomatology, only six to twelve percent of trauma survivors go on to develop posttraumatic stress disorder (Fraizer, 2009; Watson & Haynes, 2007). Resilient survivors, however, tend to report more adaptive coping and more adequate support. As a result, resilient survivors may exhibit fewer stress symptoms after a traumatic event (Hoge et al., 2007).

Given the discrepancy between the large number that report traumatic experience and those who actually develop posttraumatic stress symptoms, research has focused on possible moderators of this relationship, including variables related to the survivor (e.g., demographics, coping) and the trauma itself (e.g., severity, type). For example, research has found higher rates of posttraumatic stress disorder (PTSD) in women than in men, with different types of trauma experienced or different sex-specific psychological or biological reactions to trauma cited as possible explanations for the difference in the rates of this disorder (Olff et al., 2007). Also, severity of the trauma - that is the degree of threat posed to the individual, and previous trauma history could also contribute to higher risk of developing PTSD in some individuals (Bernat et al., 1998). Particularly important is the indication from recent research that the number of different traumatic event *types* one experiences, or traumatic load, is a good predictor of posttraumatic distress (Neuner et al., 2004). Further, traumatic load may be a more reliable predictor of trauma symptomatology than the frequency of traumatic events alone (Kolassa, Kolassa, Ertl, Papassotiropoulos, & De Quervain, 2010). Though, in the study by Kolassa and colleagues PTSD was moderated by the interaction between catechol-O-

methyltransferase Val^{158}Met polymorphism and traumatic load, the gene by environment interaction is beyond the scope of this study. It should be noted, however, that these studies were conducted in Rwanda and Sudan. Neuner and colleagues (2004) commented that community samples in industrialized populations have a narrow range of traumatic exposure, which would limit the use to traumatic load. To our knowledge, traumatic load as a predictor of trauma symptomatology also has not been assessed in college samples; this study endeavors to do so. Moreover, research has indicated also that higher distress associated with a traumatic event increases the risk for trauma symptomatology (Frans, Rimmö, Åberg, & Fredrikson, 2005). Overall, research indicates that traumatic load, frequency, and distress associated with an event may each be useful predictors of psychological outcomes, thus the present study will assess these variables in a sample of college students.

Finally, of particular interest to the proposed study are those protective variables amenable to change, as they can be utilized in prevention and intervention efforts. Thus, understanding the role that specific protective variables play in the trauma - adjustment relationship is of utmost importance. For example, aspects related to perceived social support (SS) (Haden, Scarpa, Jones, & Ollendick, 2007) and to coping self-efficacy (CSE) (Cieslak, Benight, & Lehman, 2008) may influence the relationship between trauma and psychological adjustment among college students. These potential predictors of outcomes among college students, many of whom may have experienced traumatic events, will be discussed next.

Perceived Social Support

There are many types of social support in literature, which may explain the differential relationship this variable has to outcomes and other protective variables, such as health outcomes (Uchino, 2009) and anger (Green & Pomeroy, 2007). Research indicates that there are at least two specific aspects to social support: perceived and received social support. For example, social support may refer to one's social network or the quantity of people available to help or give material or emotional aid (e.g. primary care patients, Eurelings-Bontekoe, Diekstra, & Verschuur, 1995). On the other hand, social support may be conceptualized as the perception that aid provided by others is adequate, or to the perceived quality of one's support, which may influence adjustment (Asberg, Bowers, Renk, & McKinney, 2008). Over the past two decades, research has supported a so-called buffering effect, in that social support, particularly perceived social support, protects against the effects of negative stress (Dahlem, Zimet, & Walker, 1991). The study by Dahlem and colleagues (1991) assessed perceived social support using the Multidimensional Scale of Perceived Social Support, a depression measure, a measure of life events, and a social desirability scale. Results found that high life stress (scores higher than the median on the scale of life events) had significant negative correlations with perceived social support and depression scores. This correlation was not observed in those with low life stress, which indicates that for those with high life stress, perceived social support buffers against depression while those with low life stress do not need perceived social support to buffer against depression.

Overall, perceived social support has been shown to predict positive health outcomes better than received social support in the literature (Uchino, 2009). Since research has found that perceived social support predicts negative life stress and health outcomes, in addition to well-being (Yap & Devilly, 2007), it may predict traumatic stress, as well.

As noted, perceived social support refers to the perception that the person is cared for, is valued, and is part of a group. Perceived social support has been found to have a consistently positive impact on well-being, such that perceived social support will protect victims of traumatic events from depression, anxiety, and stress (Yap & Devilly, 2004). In contrast, those with lower perceived social support have been found to have higher distress levels (Yap & Devilly, 2004). However, perceived social support is very dynamic and fluctuates easily. A study by Holahan and Moos (1990), that used a 405 participant community sample measured depression symptoms, negative life events, personality characteristics – such as self-confidence and an easygoing disposition, family support, and approach coping at Time 1 and Time 2. Interestingly, a subgroup of the participant pool had improved functioning even though they had a large amount of negative stressors. However, there was also a corresponding increase in perception of family support, as well as self-confidence and easygoingness. As this study showed, support can change and there may be a corresponding change in functioning (Holahan & Moos, 1990).

In a study of battered African American women, Thompson and colleagues (2000) measured physical and nonphysical abuse inflicted on a woman by her partner

within the past year. They also measured perceived social support with subscales of emotional support, informational support, and tangible support, as well as general distress and traumatic stress symptoms. Results suggested that higher levels of abuse correlated with lower perceived emotional, informational, and tangible social support (Thompson et al., 2000).

Another study, utilizing 150 college students, measured exposure to traumatic events, when the event(s) occurred, how traumatic the event(s) was, and how much injury each individual sustained. They also measured trauma symptomatology for the event that the participant felt was the most traumatic. Participants also filled out a coping questionnaire asking them how often they engage in certain coping strategies, such as disengagement, interpersonal, or problem-focused coping. Researchers also measured perceived social support from friends and family. Results indicated that perceived support from family contributed to less trauma symptomatology. Participants who reported more injury during the event reported less trauma symptoms if they perceived high levels of support from their friends and used interpersonal coping behaviors (Haden et al., 2007).

Importantly, perceived social support may not just affect the relationship of trauma and trauma symptomatology directly, but it may affect the relationship indirectly through the expression of other resources, such as coping style. Green and Pomeroy (2007) utilized 175 victims of violent and non-violent crime to study the relationship between social support and coping style on distress. The researchers measured received and perceived social support in the areas of emotional, informational, and tangible

support. They also measured well-being in the areas of mental, spiritual, and physical well-being. They also measured coping strategies, depression, anxiety, anger, and posttraumatic stress. There was a significant negative relationship between perceived support and distress, such that as perceived support increased, distress decreased. Those with more social support tend to use more problem-focused coping strategies, though it is not clear whether the authors mean received or perceived social support, or perhaps a combination of the two (Green & Pomeroy, 2007).

A study that surveyed 1200 displaced people in Ethiopia after a civil war assessed abuse in childhood, mental illnesses in participants' families, alcohol abuse, traumatic events in childhood, traumatic events up to two years before the displacement, traumatic events during displacement, perceived social support, and coping strategies. Perceived social support was analyzed using questions regarding attachment, reassurances of worth, alliances, and guidance. They found that perceived social support was positively correlated to a significant level with task-oriented coping (Araya, Chotai, Komproe, & de Jong, 2007).

Overall, research indicates that perceived social support has been found to predict outcomes of stress and negative events better than received social support and that perceived social support has a buffering effect against negative outcomes, perhaps by an interaction with coping behaviors (Asberg, Bowers, Renk, & McKinney, 2008). However, there is still a lack of uniformity in the definition of perceived social support which could lead to confusion as to which aspects of perceived social support are actually being measured. This study endeavors to assess perceived social support given by

friends, families, and significant others, all of which may be related to outcomes in emerging adults (Asberg et al., 2008).

Coping Self-Efficacy

Coping self-efficacy reflects the person's confidence in their ability to effectively cope, or manage, their problems. CSE is not concerned with the *methods* one uses to cope, but rather the perceived capability of *managing* the situation. Coping self-efficacy is rooted in the concept that people need to control their own functioning and manage the events of their lives. This provides motivation and whether people can think in self-enhancing or debilitating ways. Those who are high in self-efficacy should be better able to motivate themselves, they should be less vulnerable to stress, better able to persevere when difficulties arise, and more resilient after some aversive stimulus (Benight & Bandura, 2004).

In a study conducted by Benight and colleagues (1997), researchers surveyed 36 HIV positive homosexual men and 42 healthy men after a hurricane. Coping self-efficacy was measured as the perception that one is able to deal with the demands of hurricane recovery. General distress was assessed using a well established measure, as well as posttraumatic stress using the frequency with which participants experienced seventeen symptoms derived from the revised third version of the American Psychiatric Association's *Diagnostic and Statistical Manual.* In both samples, coping self-efficacy was a significant moderator of the relationship between a traumatic event, in this study a hurricane, and psychological distress, both with the HIV positive and healthy men.

Moreover, Benight and colleagues (2000) conducted a one-year longitudinal study in which they surveyed 27 participants who were located across the street from the Alfred P. Murrah Federal Building in Oklahoma City, Oklahoma when it was bombed by a terrorist on April 15, 1995. Coping self-efficacy was assessed relative to participants' ability to deal with the demands of recovering from a bombing. Participants were asked whether they thought they were going to die during this event. Perceived loss of material and other resources were also measured, along with social support in four areas: tangible support, belonging support, appraisal support, and self-esteem support. Finally, psychological distress and posttraumatic stress symptomatology was also assessed. Results suggested that coping self-efficacy significantly influenced the relationship between witnessing the bombing and psychological distress after controlling for threat of death, income, social support, and loss of resources. In other words, higher perception of coping self-efficacy correlated with less psychological distress.

Moreover, a longitudinal study by Benight and Harper (2002) surveyed 50 participants who lived in areas affected by floods and fires. Researchers measured distress 3 to 8 weeks following these events (Time 1) and 1 year after the events (Time 2), in addition to self-efficacy related to floods and fires, and emotional turmoil. Results indicated that coping self-efficacy at the first time participants were surveyed was a robust predictor of stress shortly after the disaster and subsequent posttraumatic stress disorder symptoms at the second time that participants were surveyed, one year later.

In addition, a study by Regehr, Cadell and Jansen (1999), surveyed 71 women who had been victims of rape or attempted rape. A measure of posttraumatic stress

disorder was used to measure the breadth and severity of posttraumatic stress; the presence and severity of depression was also measured, as well as attributions of causality for the rape, locus of control, and self-efficacy. Results indicated that those who had higher perceptions of control over the events of their lives showed lower rates of posttraumatic distress six months or more after their victimization.

Also, according to Cieslak and colleagues (2008), coping self-efficacy is related to psychological recovery after a traumatic event. They conducted two studies to illuminate this relationship, one study gathered data on 66 females with a history of childhood sexual abuse and the second gathered longitudinal data on 70 adults who had experienced a motor vehicle accident. Participant's negative cognitions about themselves and the world around them were assessed, as well as self-blame. Coping self-efficacy in relation to the trauma, which was conceptualized as efficacy when dealing with behavioral, cognitive, and emotional demands relative to their trauma, was assessed. The presence and severity of posttraumatic stress symptoms were reported, as well. Results indicated that coping self-efficacy in relation to childhood sexual abuse in the first study and coping self-efficacy in relation to motor vehicle accidents in the second study mediated the effects of negative cognitions on posttraumatic stress, such that when coping self-efficacy was added into the analysis, negative cognitions (cognitive distortions about self or the world) no longer predicted posttraumatic stress in any significant way and low self-efficacy predicted high posttraumatic stress. Overall, the two studies indicate that coping self-efficacy is a promising mediator for motor vehicle accidents and childhood sexual abuse, respectively. For example, negative cognitions

makes a person believe that they cannot cope with trauma related demands, which then contributes to posttraumatic distress. However, those with higher coping self-efficacy who feel they can cope with demands after a traumatic event will have lower levels of posttraumatic distress. Also, given that survivors of traumatic events are at an increased risk of abusing substances (college students; Edwards et al., 2006), possibly as an attempt to cope with trauma or avoid negative affect associated with the trauma, increasing an individual's coping self-efficacy may be useful and of relevance to the present study.

In addition, some studies find that coping self-efficacy may partially mediate the perception of support, such that when coping self-efficacy increases, perception of social support becomes a non-significant variable when considering the outcome of traumatic events (Benight et al.,1999). Benight and colleagues examined these relationships in a sample of adults following a category three hurricane. Participants (N=67) were asked to rate property damage as a result of the hurricane, as well as loss of resources, such as pets, sentimental possessions, and work. They also rated their perception of social support, in that they endorsed items pertaining to emotional, instrumental, and informational support. Hurricane coping self-efficacy was assessed, in that participants responded to questions about how well they believe that they dealt with demands related to the hurricane, such as finding shelter, dealing with insurance companies, dealing with the threat of looting, and emotional reactions. Optimism and general distress was also measured, as well as intrusive thoughts and avoidance of the traumatic event. Coping self-efficacy mediated partially the relationship between lost resources, social support, and optimism and the outcome of distress. In other words, not only is coping self-

efficacy independently important in the expression of traumatic symptomatology after a traumatic event, it may also influence the expression of the effects of perceived social support on trauma symptomatology. However, Cieslak and colleagues (2008) state that social support may also influence the expression of coping-self-efficacy, though the researchers were vague about the moderating effects of social support on coping self-efficacy. Thus, the relationship warrants further study.

Overall, coping self-efficacy and perceived social support are promising and important predictors of trauma symptomatology across various traumatic events, but inconsistent findings regarding the interplay and relative contribution of these variables in studies of trauma suggests that more research is needed. Finally, social support and coping self-efficacy are particularly important because better understanding of these variables could increase the effectiveness of intervention efforts.

Purpose

The purpose of this study is to examine the relative contribution and interplay of variables that have been linked independently to the expression of traumatic symptoms. Furthermore, this study endeavors to extend a different trauma measurement, traumatic load, to the general population (i.e., beyond populations impacted by war) to better predict posttraumatic stress relative to college students' experiences. Specifically, this study examines the relationship between traumatic load and trauma symptomatology, and explores perceived social support and coping self-efficacy as predictors of the relationship between these two variables. Given that most college students will have experienced a traumatic event, findings of this study may aid in our understanding of the

link between such experiences and psychological adjustment, as well as inform our conceptualization of trauma and protective factors.

First, several bivariate relationships are expected to emerge. Specifically, it is hypothesized that there should be a significant positive correlation between traumatic load and both measures of trauma symptomatology (i.e., TSC-40 and PCL-C), respectively (Hypothesis 1). Distress associated with traumatic events should also predict scores on both measures of trauma symptomatology (Hypothesis 2). Furthermore, there should be a significant negative correlation between perceived social support and each of the trauma symptomatology measures, such that higher scores on the social support measure (MSPSS) will correspond to lower trauma symptomatology scores on the PCL-C and TSC-40, respectively (Hypothesis 3). There should also be a significant negative correlation between coping self-efficacy and trauma symptomatology, such that higher scores on the Coping Self-Efficacy Scale correspond with lower trauma symptomatology on the PCL-C and TSC-40, respectively (Hypothesis 4). Overall, then, it is expected that traumatic load, distress, perceived social support, and coping self-efficacy, respectively, will correlate significantly with scores on each measure of trauma symptomatology.

Finally, it is hypothesized that perceived social support and coping self-efficacy will contribute significantly to the model of trauma symptoms above and beyond traumatic load and frequency (Hypothesis 5).

CHAPTER THREE:METHOD

Participants

The participants for this study were 149 undergraduate psychology students from a public university in the southeastern region. Students from the participant pool were fulfilling requirements for a general psychology class. The mean age for this sample was 18.71, 37.6% (*n* = 57) of this sample were males, and 62.4% (*n* = 94) were female. Caucasians composed most of the sample (87.9%, *n* = 131), while 6% were African American (*n* = 9), .7% were Hispanic (*n* = 1), 1.3% Asian American (*n* = 2), and 4% considered themselves "Other" (*n* = 6).

Measures

Traumatic Load

The *Trauma History Screen* (Carlson, 2005) was used to assess trauma load and the distress caused by these events. This measure, though not validated on a college sample, is used by the National Center for Posttraumatic Stress Disorder as a civilian measure to assess traumatic events. This measure asks about 13 traumatic events, as well as an open question asking about "Some other sudden event that made you feel very scared, helpless, or horrified." This measure asks if each of these events happened, and if so, how many times. This measure also asks if the event bothered the participant emotionally. If an event disturbed them emotionally, the measure asks the participant's age when the event happened. The participant is asked to describe what happened, whether anyone got hurt or killed, if the participant was afraid that they or someone else

might get hurt or killed, whether they felt afraid, helpless, or horrified, and if they felt unreal, spaced out, disoriented, or strange during the event. They are also asked to rate on a 4-point Likert-type scale how long they were bothered by the event after it happened (not at all to a month or more), and to rate on a 5-point Likert-type scale how much the event bothered them emotionally (not at all to very much). This study utilized the Trauma History Screen to indicate traumatic load and traumatic frequency. The variety of traumatic events was analyzed by counting the number of different traumas each participant has experienced. This study found that 80 percent of the sample had at least one traumatic event.

Trauma Symptomatology

The Trauma Symptom Checklist – 40 was used to assess the breadth and depth of trauma symptoms that the participants may be feeling. This is a 40 item self-report instrument measures symptom clusters found after traumatic stress and includes a total score and six subscales: anxiety, depression, dissociation, sexual abuse trauma, sexual problems, and sleep disturbance (Lee & Waters, 2003). For the purposes of this study, only the total score was used. The 40 items are measured on a 4-point Likert-type scale where 0 means never and 3 means often, for a possible total score of 120. Previous research utilizing college students has found a mean of 25.62 for the total score, and this study found a mean of 20.76 (Brandyberry & MacNair-Semands, 1998). It has good reliability and predictive validity, with subscale alphas ranging from .66 to .77, and the average full scale alpha range from .89 to .91 (Lee & Waters, 2003). In this study, the alpha score was .94.

The PTSD Checklist – Civilian version (PCL-C; Weathers, Litz, Huska, & Keane, 1994) was used to assess trauma symptoms that are more in line with the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders. The measure asks how often the participant has been bothered by seventeen symptoms from the DSM using a 5-point Likert-type scale (not at all to extremely), for a possible total score of 85. This measure has been validated on college students in research. According to a study by Ruggiero, Ben, Scotti, and Rabalais (2003), Pearson correlation indicates a .75 correlation between the PCL-C and two well validated measures of PTSD and significant discriminate validity with depression measures. Ruggiero and colleagues (2003) also indicated a mean of 29.4, while this study indicates a mean of 27.5 on the PCL-C. This measure is also used by the National Center for Posttraumatic Stress Disorder to assess posttraumatic stress symptoms. In this study, the alpha score was .94.

Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet & Farley, 1988) was used to assess perceived social support. The MSPSS is a 12-item questionnaire on a 7-point Likert-type scale, with one being very strongly disagree and seven being very strongly agree, for a possible total score of 84. Dahlem and colleagues (1991), found a mean of 66.96 (5.58 average score for each question multiplied by 12 questions), while this study found a mean of 70.72 (5.89 average score for each question multiplied by 12 questions).Factor analysis has found three factors within perception of social support: friends, family, and significant other (Clara, Cox, Enns, Murray, & Torgrudc, 2003). Higher scores on each subscale indicate a higher level

of perceived social support in that area, and the sum of the score yields a total perceived social support score. Alpha scores for the three subscales are .93 for friends, .92 for family, and .93 for significant others (Clara et al., 2003). In this study, the alpha for the total score was .93.

Coping Self-efficacy

Finally, the Coping Self-Efficacy Scale (CSE; Chesney, Neilands, Chambers, Taylor, & Folkman, 2006) was used to assess the extent to which participants feel they have control over the events of their lives and manage their problems. This is a 26-item questionnaire on an 11-point Likert-type scale, where 0 means "cannot do at all," 5 means "moderately can do," and 10 means "certain can do", for a possible total score of 260 (Chesney et al., 2006). Recent exploratory factor analysis indicates three factors, and an overall coping self-efficacy score was created using the sum of the ratings on each question; alpha scores for this total is .95 (Chesney et al., 2006). In this study, the alpha score was .96. In an HIV positive population, the mean score was 137 (Chesney et al., 2006); however, a mean could not be found for a college sample. This study indicates a mean of 184 for college students.

Procedure

Participants were undergraduate psychology students who were fulfilling the requirements of their general psychology course (i.e., PSY 150 participant pool). When participants arrived, they were given a brief introduction to the study that gave the general idea of the study variables and items that were asked, such as potentially traumatic or stressful life events, perceptions of people in their lives as well as of

themselves (social support, coping self-efficacy), and symptoms that they may or may not be experiencing. After reading the informed consent form and reviewing the risks, benefits, and associated information of the study, participants decided whether they would like to participate, and those that did signed the informed consent form. Those who decided to participate were also told that researchers are aware of possible negative reactions generated by certain questions; therefore, researchers would refer to the counseling center and have an emergency number for the counselor on call. After signing the informed consent form, researchers had the participants fill out the four questionnaires, and after determining that the questionnaires did not negatively impact the participant's well-being, they were thanked and released from the study.

Analyses

First, to test hypotheses 1, 3, and 4, a correlation matrix was examined to assess bivariate relationships between selected demographics (e.g., age), traumatic load, perceived social support, and coping self-efficacy, and the extent to which these variables correspond with trauma symptomatology scores. Although not specifically stated in our hypotheses, t-tests were performed in regards to sex and trauma symptomatology, as well as the four predictor variables, to indicate group differences within these variables. Since sex was significantly associated with these variables, sex was entered first in the regression. Specifically, to test hypothesis 5, variables that demonstrated a significant correlation with the outcome of trauma symptomatology were entered into a regression equation to explore the extent to which each variable predicted traumatic symptoms. Based on the hypothesis, perceived social support and coping self-efficacy were entered

into the regression to evaluate further their predictive properties beyond sex, traumatic frequency, and traumatic load.

CHAPTER FOUR: RESULTS

This study found that 80 percent of the sample had at least one traumatic event (see Table 1 for distribution of events). To test hypotheses pertaining to bivariate relationships between study variables a correlation matrix was examined. Participants' trauma symptom score as assessed by the PCL-C was significantly correlated with traumatic event frequency (r=.42, p<.01), traumatic load (r=.38, p<.01), perceived social support (r=-.40, p<.01), and coping-self efficacy (r=-.54, p<.01). Similarly, participants' trauma symptom score as assessed by the Trauma Symptom Checklist – 40 (TSC-40) was significantly correlated with traumatic frequency (r=.36, p<.01), traumatic load (r=.32, p<.01), perceived social support (r=-.41, p<.01), and coping-self efficacy (r=-.56, p<.01). Finally, scores on the two trauma symptom scales were significantly correlated as indicated by r=.89, p<.01 (see Table 2). Overall, hypotheses 1, 3, and 4 were supported as indicated by significant positive relationships between trauma symptomatology, as measured by both the PCL-C and TSC-40, and traumatic frequency and load, and inverse relationships between trauma symptomatology and measures of perceived social support (MSPSS) and coping self-efficacy (CSE scale). (Note that hypothesis 2 could not be tested due to a measurement error, i.e., lack of responses on the distress measure associated with experiences of trauma).

Next, t-tests were used to assess differences on study variables as a function of participants' sex (males versus females). Trauma symptomatology scores, as indicated by both the PCL-C and the TSC-40, were significantly different or approaching significance

depending on sex, $t(146) = -2.49$, $p = .01$ for the PCL-C and $t(145) = -1.75$, $p = .08$ for the TSC-40 (see Table 3). Given that trauma symptomatology scores were significantly different or approaching significance based on sex of participants, sex was entered first into the regressions.

To test hypothesis five, two regression analyses were run to assess the ability of perceived social support and coping self-efficacy to predict trauma symptomatology outcomes (as measured by the PCL-C and TSC-40, respectively) above and beyond sex, traumatic frequency, and traumatic load. The first regression, with trauma symptomatology indicated by the PCL-C, showed that sex (Step 1) was significant and explained 3.5 percent of the variance in trauma symptomatology scores, $p<.05$ Next, traumatic frequency and traumatic load in step 2 explained an additional 17.7 percent of trauma symptomatology variance, $p<.01$. In step 3, perceived social support and coping-self efficacy explained an additional 24.2 percent of the variance, $p<.01$. The overall model was also significant and explained 45.3 percent of the variance of trauma symptomatology (PCL-C scores), $F(5, 140) = 23.20$, $p <.0005$. It should be noted that all variables were significant in the final model, with coping self-efficacy demonstrating the highest beta value (beta = -.426, $p <.0005$). The variance in the overall model explained by the variables were as follows: sex explained 1.6 percent, traumatic load explained 1.7 percent, traumatic frequency explained .8 percent, perceived social support explained 2.31 percent, and coping self-efficacy explained 15.37 percent.

The second regression equation, with trauma symptomatology outcomes measured by the TSC-40, showed that sex (Step 1) explained 2.1 percent of the variance

in trauma symptomatology scores, but this step was not significant (p =.09). In step 2, traumatic frequency and traumatic load explained an additional 12.6 percent of trauma symptomatology variance (p<.01), and the total variance of the model as a whole, up to Step 2, was 14.7 percent (p<.01). Perceived social support and coping-self efficacy explained an additional 28.8 percent of the variance and the model as a whole explained 43.4 percent of the variance of trauma symptomatology, F (5, 139) = 21.34, p <.0005. In the final model, perceived social support and coping self-efficacy were the only variables that were significant, and traumatic load (load was approaching significance with p = .058). Coping self-efficacy had the highest beta value (beta = -.463, p <.0005). The variance in the overall model explained by the variables were as follows: sex explained .8 percent, traumatic load explained 1.5 percent, traumatic frequency explained .2 percent, perceived social support explained 2.8 percent, and coping self-efficacy explained 18.15 percent (See Table 4).

Table 1: Distribution of Traumatic Events

Event	Number	Percent
A really bad car, boat, train, or airplane accident	43	28.9
A really bad accident at work or home	17	11.4
A hurricane, flood, earthquake, tornado, or fire	45	30.2
Hit or kicked hard enough to injure – as a child	14	9.4
Hit or kicked hard enough to injure – as an adult	15	10.1
Forced or made to have sexual contact – as a child	6	4.0
Forced or made to have sexual contact – as an adult	5	3.4
Attack with a gun, knife, or weapon	5	3.4
During military service – seeing something horrible or being badly scared	0	0
Sudden death of close family or friend	73	49.0
Seeing someone die suddenly or get badly hurt or killed	27	18.1
Some other sudden event that made you feel very scared, helpless, or horrified	38	25.5
Sudden move or loss of home and possessions	12	8.1
Suddenly abandoned by spouse, partner, parent, or family	8	5.4

Table 2: Summary of Correlations Between Study

Variable	1.	2.	3.	4.	5.	6.
1.Frequency	-					
2. Load	.75***	-				
3. SS	-.26**	-.20**	-			
4. CSE	-.19**	-.07	.36***	-		
5. TSC-40	.36***	.32***	-.41***	-.56***	-	
6. PCL-C	.42***	.38***	-.40***	-.54***	.89***	-

* Correlation approaching significance $p = .08$
** Correlations significant at the .05 level
*** Correlations significant at the .01 level
Legend

1. Frequency – *Trauma History Screen*
2. Load – *Trauma History Screen*
3. SS – perceived social support utilized the *Multidimensional Scale of Perceived Social Support*
4. CSE – *Coping Self-Efficacy Scale*
5. TSC-40 – *Trauma Symptom Checklist – 40*
6. PCL-C – *PTSD Checklist – Civilian version*

Table 3: Sex Differences Among Study Variables

	Males		Females				95% Confidence Interval	
Variable	M	SD	M	SD	*t*(144)	*p*	Lower Limit	Upper Limit
Frequency	3.7	3.83	4.49	5.87	-.907	.37	-2.54	.94
Load	1.96	1.65	2.13	1.81	-.555	.58	-.75	.42
PCL-C	24.62	9.42	29.25	13.15	-2.49	.01*	-8.31	-.94
TSC-40	17.53	15.35	22.70	18.45	-1.75	.08	-11.02	.68
SS	71.02	9.68	70.54	13.20	.237	.81	-3.53	4.49
CSE	188.40	38.72	181.30	44.44	.981	.33	-6.74	20.95

* $p < .05$

Legend

Frequency – *Trauma History Screen*

Load – *Trauma History Screen*

SS – perceived social support utilized the *Multidimensional Scale of Perceived Social Support*

CSE – *Coping Self-Efficacy Scale*

TSC-40 – *Trauma Symptom Checklist – 40*

PCL-C – *PTSD Checklist – Civilian version*

Table 4: Regression Analysis Predicting Trauma Symptomatology From Sex, Frequency, Load, SS, and CSE

	Trauma Symptomatolgy			
	TSC-40		PCL-C	
Predictor	ΔR^2	Beta	ΔR^2	Beta
Step 1	.02		.04**	
Sex		.14		.19**
Step 2	.13***		.18***	
Sex		.12		.16**
Frequency		.26**		.31***
Load		.11		.13
Step 3	.29***		.24***	
Sex		.09		.13**
Frequency		.07		.14
Load		.19*		.20**
SS		-.18**		-.17**
CSE		-.46***		-.43***
Total R^2	.43***		.45***	
n	146		146	

* $p = .058$

** $p < .05$

***$p < .01$

Legend

Frequency – *Trauma History Screen*

Load – *Trauma History Screen*

SS – perceived social support utilized the *Multidimensional Scale of Perceived Social Support*

CSE – *Coping Self-Efficacy Scale*

TSC-40 – *Trauma Symptom Checklist – 40*

PCL-C – *PTSD Checklist – Civilian version*

CHAPTER FIVE: DISCUSSION

Findings indicated that the predictor variables were significantly correlated with the outcome variables, such that traumatic frequency, traumatic load, perceived social support, and coping self-efficacy had a significant effect on trauma symptomatology. This was expected given previous research that had found correlations between these predictor variables and the outcome of traumatic stress (e.g., perceived social support; Haden, Scarpa, Jones, & Ollendick, 2007, and coping self-efficacy; Cieslak, Benight, & Lehman, 2008). Also, similar to other research, these results indicated that there was an inherent difference in trauma symptomatology scores solely based on the sex of the individual, with women scoring higher in trauma symptomatology than men. According to Tolin and Foa (2006), women are more likely to experience sexual assault and childhood sexual abuse, while men are more likely to experience accidents, nonsexual assault, and combat. Some variance in trauma symptomatology scores may then be attributed to the type of trauma experienced; however, Tolin and Foa (2006) state that this variance cannot be attributed *solely* to the type of trauma men and women experience. Other differences that Tolin and Foa (2006) note were cognitive reactions to different types of trauma and different expressions of distress between males and females. They also could not definitively rule out that women exhibit more posttraumatic symptomatology when all other variables were constant.

Moreover, findings of the present study suggested that as traumatic load increased, trauma symptomatology tended to increase as well. Also, overall models

demonstrated that traumatic load was a good predictor of trauma symptomatology given that it was a significant predictor on the PCL-C and the effect that was approaching significance on the TSC-40. Though recent studies that utilized traumatic load were in more war-torn countries, this study indicates that this variable can be used in more general populations. On the other hand, traumatic frequency, though significant in step 2 on both of the regressions, was not significant in either regression for the final models when perceived social support and coping self-efficacy were added. Perhaps when SS and CSE variables are examined, traumatic load becomes a more robust predictor of trauma symptomatology relative to frequency. The variables explained more trauma symptomatology when the PCL-C measured symptoms than when the TSC-40 was used, which may be because the TSC-40 examines more general complaints that may indicate problems other than those related specifically to trauma (e.g., headaches, insomnia, stomach problems).

As predicted, there was a significant negative correlation between perceived social support and trauma symptomatology, such that as scores on the MSPSS increased, scores on both the PCL-C and the TSC-40 decreased. This variable remained a significant predictor even when variance for sex, traumatic frequency, and traumatic load was accounted for. This suggests that an individual's perception of their social support adequacy may have a significant effect on their experience of posttraumatic stress. Similarly, there was also a significant negative correlation between coping self-efficacy and trauma symptomatology, such that as the scores on the CSE increased, scores on both the PCL-C and the TSC-40 decreased. Again, this variable remained a significant

predictor when variance for sex, traumatic frequency, and traumatic load was accounted for. This could be interpreted to mean that those who feel they have an ability to cope with their problems (higher coping self-efficacy), regardless of their methods, have less overall posttraumatic stress.

The variables in this study explained a large amount of variance in trauma symptomatology scores (43 percent of the TSC-40 scores and 45 percent of the PCL-C scores) despite not accounting for distress associated with the traumatic event. This is consistent with previous research that examined these variables both in college students (Haden et al., 2007) and other samples, such as natural disaster victims (Benight et al., 1999). Haden and colleges (2007) theorize that the supportive interactions provide emotional support which would provide a cathartic experience and accelerate recovery. Also, those that feel that they can overcome their trauma take a hand in mending their lives rather than having their circumstance dictate more than is necessary (Benight & Bandura, 2004). As such, perhaps bolstering these variables within those affected by trauma will decrease trauma symptoms.

Given that traumatic load was a significant predictor for both models of trauma symptomatology, and traumatic frequency was not significant in either of final models, perhaps focusing on co-occurring types of trauma would be helpful in relieving symptoms of stress. Another implication for the findings is the utilization of – and support for – variables that can be manipulated in therapy, such as perception of social support and the ability to cope with problems. Many aspects of trauma cannot be changed, such as age of the person at the time of the event and the type of trauma that

they experience, but the predictor variables in this study can be controlled. As such, stressing (and identifying) social support and modifying beliefs about an individual's ability to cope (coping self-efficacy) in therapy may result in a reduction in symptoms after a traumatic event. Also, given that coping self-efficacy explained the most unique variance in both models, focusing on this variable as a target for intervention may generate the most positive effect on posttraumatic stress. It is also possible that interventions that focus on skill building in trauma survivors (e.g., Seeking Safety; Najavits, 2002) can indirectly enhance an individual's perception that they can effectively deal with adversity and stress.

Results of this study must be interpreted in light of a number of limitations. For example, there are many areas of the actual trauma that this study did not investigate, such as the severity and duration of the trauma, or age at the time of trauma. Inclusion of these indicators may change the results. For example, certain types of trauma (e.g. robbery or sexual assault) may be more strongly linked to outcomes and may better explain the variance in symptomatology relative to the variables included in this study (Frans, Rimmö, Åberg, & Fredrikson, 2005). Furthermore, there may be a different way to categorize and conceptualize trauma beyond frequency or load that may better predict trauma symptomatology. Future research may try to incorporate other aspects of the trauma, such as those listed above, to better predict outcomes. Also, this study utilized college students as a sample, which may not be generalizable to other populations, such as veteran populations or populations with a high frequency of one type of trauma. Future studies may utilize other populations to see if these predictor variables,

specifically self-efficacy and social support, remain significant. Also, variables were only assessed at one time using self-reports, and perhaps a longitudinal design would illuminate how new experiences of trauma impacts functioning. Such a design might also want to examine changes in coping self-efficacy and perception of social support over time, to better assess their influence on trauma symptomatology. Also, given that traumatic load is a newer and relatively unproven method of measuring traumatic events, the relationship between traumatic frequency and traumatic load should be further examined in future studies. In addition, perhaps frequency (absolute number of traumatic events) is an adequate predictor of trauma symptomatology when examined by itself. Findings of the present study may suggest, however, that frequency is less predictive of traumatic symptomatology than load after other variables, such as SS and CSE, are assessed, and this may need to be taken into consideration in future research as there may be better ways to measure trauma. Also, this study indicates that traumatic load is a significant predictor of trauma symptomatology in a college sample, and future studies may apply this assessment of traumatic events to other populations to examine the extent of the contribution of this measurement.

It should also be noted that the sample was a fairly homogeneous group and primarily Caucasian. As such, it may not be representative of the general population in terms of how many traumatic events experienced or expression of traumatic symptoms. Furthermore, this study was based solely on self-reports, and participants may not have been forthcoming or candid with all traumatic events or symptomatology. Further, there is no objective data to corroborate the findings, such as physiological data about

symptomatology. Despite these limitations, however, perceived social support and coping self-efficacy may still need to be assessed in trauma survivors who come to the attention of professionals, as these variables may influence the development of symptoms. Additionally, traumatic load needs to be further explored for its predictive ability in regards to trauma symptomatology.

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APPENDICES

Appendix A: Informed Consent Form

Informed Consent Form for The Effects of Perceived Social Support and Coping Self-Efficacy on Trauma Symptoms After a Traumatic Event

What is the purpose of this research?

The purpose of this research is to explore the relationships among students' experiences that may have been traumatic and your perceptions of various people in your life, your feelings of stress and your ability to cope, and your satisfaction with life. In other words, we are looking to obtain responses from a large number of students and examine how they view themselves and the people around them. This may help inform administrators and service providers about the views and needs of students on our campus.

What will be expected of me?

If you are a student and you are 18 years of age or older, you are eligible to participate in this study. First, you will be introduced to the study, including risks and benefits, and if you want to participate, you will sign an informed consent form prior to filling out the study survey. Participation is completely voluntary and you can decide to withdraw from the study at any time without penalty. If you consent to participation, you may be given research credits (units), extra credit points, or other types of points toward a course grade as determined by your instructor. No other reward (monetary or otherwise) will be provided for participation. Next, you will be asked to fill out a packet of surveys, and it will take approximately 30 minutes. Some people need more or less time, but we will ask you to please read each question carefully. You may skip any item that you do not want to answer. Please do not put your name on any of the questionnaires – only on the consent forms! When you have completed the packet of questionnaires, you will return the packet and the informed consent form to the experimenter and he or she will separate the consent form from the rest of the packets. That way your responses will be kept confidential. When you return your informed consent form and questionnaire packet, you will also be given a Debriefing Form that further explains the purpose of the study and lists contact information for the researcher and appropriate resources.

How long with the research take? Approximately 30 minutes

Will my answers be anonymous?

Your answers will remain confidential. Specifically, you will not be asked to provide your name or identifying information on the surveys. Your consent form is the only form that will have your name on it, and it will be separated from your survey packet. Your survey packet will have a participant number on it, but it will only be matched to the number on your consent form if you wish to be removed from the study and have your data/survey destroyed, or if you are identified as being a risk of serious harm to yourself or others (e.g., if you endorse suicidality/homicidality). The surveys and consent forms will be kept in separate files in a locked office. Your responses will not be linked to your name.

Can I withdraw from the study if I decide to? Yes! You can withdraw from the study at any time without penalty.

Is there any harm that I might experience from taking part in the study?

There are no risk of physical, legal, psychological, or social harm to participants. Other than transient emotional discomfort that you may experience as a result of reflecting on your symptoms and perceptions while filling out the surveys, every effort will be made to ensure your safety and well-being. Specifically, the experimenter will remain alert and you can ask questions at any time. Also, the debriefing form will list resources available to students (free of charge) in the event you should experience more lasting distress. If you are at risk of harm to self or others, we may ask that you see the experimenter (Dr. Asberg or the graduate student) so that they can point you to appropriate services.

How will I benefit from taking part in the research?

In addition to the direct benefit of earning points toward a course, the potential benefits to participants includes; the opportunity to experience first-hand how researchers conduct surveys and gather information in this type of psychological research. You might also find it useful to reflect on your own experiences and perceptions as evoked by the survey questions. Finally, your participation may ultimately inform clinicians, researchers, consumers, and the community at large regarding the relationships among study variables that are included in the surveys.

Who should I contact if I have questions or concerns about the research?

Contact me or Dr. Asberg at the Department of Psychology at Western Carolina University, Cullowhee, NC 28723 (Phone: 828-227-3365). You can also contact the IRB Chair at (828) 227-3177.

Name_____

Signature_____ Date: _____

Appendix B: Demographics

Participant Number

*Please complete the following demographic information. Your name is **not** requested.*

1. **Age in years: _____ 2. Date of Birth: _____**

3. **Your sex (please circle):** 1. Male 2. Female 3. Transgendered

4. **Education (please circle the highest level you have attained):**

   1. Some high school 2. High school diploma 3. Some college

   4. Bachelor's degree 5. Master's Degree 6. Doctoral degree (Ph.D., M.D., J.D.)

5. **Highest education obtained of any parent or guardian (please circle):**

   1. Some high school 2. High school diploma 3. Some college

   2. Bachelor's degree 5. Master's Degree

   6. Doctoral degree (Ph.D., M. D., J. D.)

6. **Approximate annual family income (please circle one of the following):**

   1. $0-$30,000 2. $30,000-$60,000 3. $60,000-$90,000

   4. $90,000-$120,000 5. More than $120,000

7. **Ethnicity/race Demographics (please circle)**

1. Caucasian (non-Hispanic/Latin) 2. African-American (non-Hispanic/Latin)

   3. Hispanic/Latin 4. Asian-American 5. Native American

   6. Pacific Islander 7. Other: _____

8. Year in School: (please circle)

1. Freshman 2. Sophomore 3. Junior 4. Senior

5. Graduate student

Appendix C: Trauma History Screen

Trauma History Screen

The events below may or may not have happened to you. Circle "YES" if that kind of thing has happened to you or circle "NO" if that kind of thing has not happened to you. **If you circle "YES" for any events**: put a number in the blank next to it to show how many times something like that happened.

			Number of times something like this happened
A. A really bad car, boat, train, or airplane accident	NO	YES	____
B. A really bad accident at work or home	NO	YES	____
C. A hurricane, flood, earthquake, tornado, or fire	NO	YES	____
D. Hit or kicked hard enough to injure – as a child	NO	YES	____
E. Hit or kicked hard enough to injure – as an adult	NO	YES	____
F. Forced or made to have sexual contact – as a child	NO	YES	____
G. Forced or made to have sexual contact – as an adult	NO	YES	____
H. Attack with a gun, knife, or weapon	NO	YES	____
I. During military service – seeing something horrible or being badly scared	NO	YES	____
J. Sudden death of close family or friend	NO	YES	____
K. Seeing someone die suddenly or get badly hurt or killed	NO	YES	____
L. Some other sudden event that made you feel very scared, helpless, or horrified	NO	YES	____
M. Sudden move or loss of home and possessions	NO	YES	____
N. Suddenly abandoned by spouse, partner, parent, or family	NO	YES	____

Did any of these things really bother you emotionally? **NO** **YES**

If you answered "YES", fill out a box to tell about EVERY event that really bothered you.

Letter from above for type of event: ____ Your age when this happened: ____
Describe what happened:

When this happened, did anyone get hurt or killed? NO YES When this happened, were you afraid that you or someone else might get hurt or killed? NO YES When this happened, did you feel very afraid, helpless, or horrified? NO YES When this happened, did you feel unreal, spaced out, disoriented, or strange? NO YES After this happened, how long were you bothered by it? Not at all/1 week/ 2-3 weeks / a month or more How much did it bother you emotionally Not at all / a little / somewhat / much / very much

Appendix D: Trauma Symptom Checklist -40

TRAUMA SYMPTOM CHECKLIST (TSC-40)

How often have you experienced each of the following in the past two months?

	Never	1	2	Often
1. Headaches	0	1	2	3
2. Insomnia (trouble getting to sleep)	0	1	2	3
3. Weight loss (without dieting)	0	1	2	3
4. Stomach problems	0	1	2	3
5. Sexual problems	0	1	2	3
6. Feeling isolated from others	0	1	2	3
7. "Flashbacks" (sudden, vivid, distracting memories)	0	1	2	3
8. Restless sleep	0	1	2	3
9. Low sex drive	0	1	2	3
10. Anxiety attacks	0	1	2	3
11. Sexual overactivity	0	1	2	3
12. Loneliness	0	1	2	3
13. Nightmares	0	1	2	3
14. "Spacing out" (going away in your mind)	0	1	2	3
15. Sadness	0	1	2	3
16. Dizziness	0	1	2	3
17. Not feeling satisfied with your sex life	0	1	2	3
18. Trouble controlling your temper	0	1	2	3
19. Waking up early in the morning and can't get back to sleep	0	1	2	3
20. Uncontrollable crying	0	1	2	3
21. Fear of men	0	1	2	3
22. Not feeling rested in the morning	0	1	2	3
23. Having sex that you didn't enjoy	0	1	2	3
24.Trouble getting along with others	0	1	2	3
25. Memory problems	0	1	2	3
26. Desire to physically hurt yourself	0	1	2	3
27. Fear of women	0	1	2	3
28. Waking up in the middle of the night	0	1	2	3
29. Bad thoughts or feelings during sex	0	1	2	3
30. Passing out	0	1	2	3
31. Feeling that things are "unreal"	0	1	2	3
32. Unnecessary or over-frequent washing	0	1	2	3
33. Feelings of inferiority	0	1	2	3
34. Feeling tense all the time	0	1	2	3
35. Being confused about your sexual feelings	0	1	2	3
36. Desire to physically hurt others	0	1	2	3

37. Feelings of guilt	0	1	2	3
38. Feeling that you are not always in your body	0	1	2	3
39. Having trouble breathing	0	1	2	3
40. Sexual feelings when you shouldn’t have them	0	1	2	3

Appendix E: PTSD Checklist – Civilian

PCL-C

Instructions: Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1.Repeated, disturbing *memories, thoughts,* or *images* of a stressful experience from the past.	1	2	3	4	5
2. Repeated, disturbing *dreams* of a stressful experience from the past?	1	2	3	4	5
3. Suddenly *acting* or *feeling* as if a stressful experience *were happening again* (as if you were reliving it)?	1	2	3	4	5
4. Feeling *very upset* when *something reminded you* of a stressful experience from the past?	1	2	3	4	5
5. Having *physical reactions* (e.g., heart pounding, trouble breathing, sweating) when *something reminded you* of a stressful experience from the past?	1	2	3	4	5
6. Avoiding *thinking about* or *talking about* a stressful experience from the past or avoiding *having feelings* related to it?	1	2	3	4	5
7. Avoiding *activities* or *situations* because *they reminded you* of a stressful experience from the past?	1	2	3	4	5
8. Trouble *remembering important parts* of a stressful experience from the past?	1	2	3	4	5
9. *Loss of interest* in activities that you used to enjoy?	1	2	3	4	5
10. Feeling *distant* or *cut off* from other people?	1	2	3	4	5
11. Feeling *emotionally numb* or being unable to have loving feelings for those close to you?	1	2	3	4	5
12. Feeling as if your *future* will	1	2	3	4	5

somehow be *cut short?*					
13. Trouble *falling* or *staying asleep?*	1	2	3	4	5
14. Feeling *irritable* or having *angry outbursts?*	1	2	3	4	5
15. Having *difficulty concentrating?*	1	2	3	4	5
16. Being "*super-alert*" or watchful or on guard?	1	2	3	4	5
17. Feeling *jumpy* or easily startled?	1	2	3	4	5

Appendix F: Multidimensional Scale of Perceived Social Support

Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

	1	2	3	4	5	6	7
1. There is a special person who is around when I am in need.	1	2	3	4	5	6	7
2. There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
3. My family really tries to help me.	1	2	3	4	5	6	7
4. I get the emotional help and support I need from my family.	1	2	3	4	5	6	7
5. I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
6. My friends really try to help me.	1	2	3	4	5	6	7
7. I can count on my friends when things go wrong.	1	2	3	4	5	6	7
8. I can talk about my problems with my family.	1	2	3	4	5	6	7
9. I have friends with whom I can share my joys and	1	2	3	4	5	6	7

sorrows.							
10. There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11. My family is willing to help me make decisions.	1	2	3	4	5	6	7
12. I can talk about my problems with my friends.	1	2	3	4	5	6	7

Appendix G: Coping Self-Efficacy Scale

Coping Self-Efficacy Scale

When things aren't going well for you, or when you're having problems, how confident or certain are you that you can do the following:

Cannot do at all					**Moderately certain can do**					**Certain can do**
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

For each of the following items, write a number from 0 - 10, using the scale above.

When things aren't going well for you, how confident are you that you can:

1. Keep from getting down in the dumps. ____
2. Talk positively to yourself. ____
3. Sort out what can be changed, and what cannot be changed. ____
4. Get emotional support from friends and family. ____
5. Find solutions to your most difficult problems. ____
6. Break an unsettling problem down into smaller parts. ____
7. Leave options open when things get stressful. ____
8. Make a plan of action and follow it when confronted with a problem ____
9. Develop new hobbies or recreations. ____
10. Take your mind off unpleasant thoughts. ____
11. Look for something good in a negative situation. ____
12. Keep from getting sad. ____
13. See things from the other person’s point of view during a heated argument. ____
14. Try other solutions to your problems if your first solutions don’t work. ____
15. Stop yourself from being upset by unpleasant thoughts. ____
16. Make new friends. ____
17. Get friends to help you with the things you need. ____
18. Do something positive for yourself when you get discouraged. ____

19. Make unpleasant thoughts go away. ____
20. Think about one part of the problem at a time. ____
21. Visualize a pleasant activity or place. ____
22. Keep yourself from feeling lonely. ____
23. Pray or meditate. ____
24. Get emotional support from community organizations or resources. ____
25. Stand your ground and fight for what you want. ____
26. Resist the impulse to act hastily when under pressure. ____