

2015

The dual role of self-enhancement : protection and stigma

Corina Evelyn Klein
University of Northern Iowa

Copyright © 2015 Corina Evelyn Klein

Follow this and additional works at: <https://scholarworks.uni.edu/etd>

 Part of the [Social Psychology Commons](#)

Let us know how access to this document benefits you

Recommended Citation

Klein, Corina Evelyn, "The dual role of self-enhancement : protection and stigma" (2015). *Electronic Theses and Dissertations*. 154.
<https://scholarworks.uni.edu/etd/154>

This Open Access Thesis is brought to you for free and open access by the Graduate College at UNI ScholarWorks. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

Copyright by
CORINA EVELYN KLEIN
2015
All Rights Reserved

THE DUAL ROLE OF SELF-ENHANCEMENT: PROTECTION AND STIGMA

An Abstract of a Thesis

Submitted

in Partial Fulfillment

of the Requirements for the Degree

Master of Arts

Corina Evelyn Klein

University of Northern Iowa

May, 2015

ABSTRACT

Despite the availability of effective treatment options for posttraumatic stress disorder (PTSD), these treatments are highly under-utilized. One of the most cited barriers to treatment among people with PTSD symptoms is public stigma. In fact, the majority of the population experiences a potentially traumatic event (PTE) in their lifetime and should contribute to an assumption of a lack of stigma toward people with PTSD symptoms. Yet, it may be that the stigma perceived by people with PTSD symptoms is more nuanced than what is seen in stigma for other disorders. More often than not, people who experience a PTE will be resilient to its effects. Of particular interest is whether people who are resilient against PTEs may harbor stigmatizing attitudes toward people who develop PTSD. Resilience research has demonstrated that although self-enhancement—a tendency to evaluate oneself in an overly positive manner—promotes resilience and protects against PTSD development, it also leads to negative social interactions. Self-enhancers tend to focus on others' flaws as a way of bolstering their own self-image. As such, self-enhancement may be a key variable in understanding the nature of stigma attitudes toward people with a diagnosis of PTSD. Due to the relative lack of research into public stigma behaviors toward people diagnosed with PTSD, the current study was designed to examine whether self-enhancement contributes to the creation of stigmatizing behaviors toward people diagnosed with PTSD.

A total of 114 college students were randomly assigned to read one of two vignettes which varied in the perceived responsibility for the PTE, and completed

measures of trauma history, PTSD symptoms, resilience, self-enhancement, personal stigma, and social distance. All participants endorsed at least one historic PTE. Self-enhancement moderated the relationship between PTE and PTSD development such that high self-enhancers with relatively few PTE experienced fewer PTSD symptoms—at high levels of PTE, the effects of self-enhancement fell away. That is, as the number of PTEs increased, high self-enhancers were just as likely to endorse PTSD symptoms as low self-enhancers. Perceived controllability moderated the relationship between self-enhancement and personal stigma, but only for females. Additionally, self-enhancement demonstrated a moderate positive relationship with personal stigma toward and desired social distance from people with PTSD symptoms.

When observing others' experience of distress, self-enhancers may view those people as weak and engage in stigmatizing behaviors as a result. These findings suggest that by tailoring anti-stigma programs to address characteristics of self-enhancement that contribute to stigmatizing attitudes, the success of such programs could be increased. Reduction of stigma could increase treatment utilization, thereby decreasing the potential impact of PTSD for the individual and society.

THE DUAL ROLE OF SELF-ENHANCEMENT: PROTECTION AND STIGMA

A Thesis

Submitted

in Partial Fulfillment

of the Requirements for the Degree

Master of Arts

Corina Evelyn Klein

University of Northern Iowa

May, 2015

This Study by: Corina Evelyn Klein

Entitled: The Dual Role of Self-Enhancement: Protection and Stigma

has been approved as meeting the thesis requirements for the

Degree of Master of Arts in Psychology

Date

Dr. Seth A. Brown, Chair, Thesis Committee

Date

Dr. Sundé M. Nesbit, Thesis Committee Member

Date

Dr. M. Kimberly Maclin, Thesis Committee Member

Date

Dr. April Chatham-Carpenter, Interim Dean, Graduate College

Dedicated to my father, David A. Klein.

ACKNOWLEDGEMENTS

I would like to thank all of my committee members, Dr. Seth A. Brown, Dr. Sundé M. Nesbit, and Dr. M. Kimberly Maclin, without whom this would not have been possible.

TABLE OF CONTENTS

	PAGE
LIST OF TABLES	ix
LIST OF FIGURES	x
CHAPTER 1. INTRODUCTION	1
Overview.....	1
Defining Resilience.....	2
Posttraumatic Stress Disorder	6
PTSD and Stigma.....	12
Current Study	18
CHAPTER 2. METHOD	20
Participants.....	20
Measures	21
Demographics	21
Resilience.....	21
Self-Enhancement	22
Potentially Traumatic Events.....	23
Posttraumatic Stress Disorder Symptoms.....	23
Personal Stigma	24
Social Distance.....	25
Familiarity with PTSD.....	26

Social Desirability.....	27
Vignettes	27
Procedure	28
Data Analysis	29
CHAPTER 3. RESULTS.....	31
Preliminary Analyses.....	31
Overview.....	32
Gender Differences	32
Primary Analyses.....	33
Hypothesis 1.....	33
Overview.....	33
Resilience.....	33
PTSD symptoms	34
Hypothesis 2.....	35
Hypothesis 3.....	35
Hypothesis 4.....	35
Hypothesis 5.....	36
Exploratory Gender Analyses.....	36
Preliminary Analyses.....	36
Regression Analyses	37
Females	37

Males.....	38
CHAPTER 4. DISCUSSION.....	39
Primary Analyses.....	39
Hypothesis 1.....	39
Hypothesis 2.....	42
Hypothesis 3.....	43
Hypothesis 4.....	44
Hypothesis 5.....	45
Exploratory Gender Analyses.....	45
Gender Differences.....	46
Limitations.....	47
Implications.....	51
Future Directions.....	52
Conclusion.....	53
END NOTE.....	54
REFERENCES.....	55
APPENDIX A: DEMOGRAPHICS QUESTIONNAIRE.....	76
APPENDIX B: CONNOR-DAVIDSON RESILIENCE SCALE-REVISED.....	78
APPENDIX C: EGOISTIC SELF-ENHANCEMENT.....	79
APPENDIX D: SELF-DECEPTIVE ENHANCEMENT.....	80
APPENDIX E: TRAUMATIC LIFE EVENTS QUESTIONNAIRE.....	82

APPENDIX F: SHORT PTSD RATING INTERVIEW	85
APPENDIX G: PERSONAL STIGMA SCALE	86
APPENDIX H: SOCIAL DISTANCE SCALE	87
APPENDIX I: LEVEL OF CONTACT REPORT	88
APPENDIX J: SOCIAL DESIRABILITY SCALE	89
APPENDIX K: CONTROLLABLE PTE VIGNETTE	90
APPENDIX L: INEVITABLE PTE VIGNETTE.....	92
APPENDIX M: DEBRIEFING PAGE.....	94

LIST OF TABLES

TABLE	PAGE
1 Descriptive Statistics, Bivariate Correlations, and Gender Analyses	65
2 Hierarchical Multiple Regression Analyses Predicting the Impact of Self-Enhancement on the Relationship between PTEs and Resilience	66
3 Hierarchical Multiple Regression Analyses Predicting the Impact of Self-Enhancement on the Relationship between PTEs and PTSD Symptoms	67
4 Hierarchical Multiple Regression Analyses Predicting the Impact of Perceived Controllability on the Relationship between Self-Enhancement and Stigma	68
5 Hierarchical Multiple Regression Analyses Predicting the Impact of Self-Enhancement on the Relationship between PTEs and PTSD Symptoms in Females	69
6 Hierarchical Multiple Regression Analyses Predicting the Impact of Perceived Controllability on the Relationship between Self-Enhancement and Stigma Attitudes in Females	70
7 Hierarchical Multiple Regression Analyses Predicting the Impact of Self-Enhancement on the Relationship between PTEs and PTSD Symptoms in Males.....	71
8 Hierarchical Multiple Regression Analyses Predicting the Impact of Perceived Controllability on the Relationship between Self-Enhancement and Stigma Attitudes in Males	72

LIST OF FIGURES

FIGURE	PAGE
1 Effect of the Interaction of Self-Enhancement and PTEs on Resilience	73
2 Moderating Effect of Self-Enhancement on the Relationship between PTEs Experienced and PTSD	74
3 Perceived Controllability as a Moderator of the Relationship between Self-Enhancement and Personal Stigma in Females.....	75

CHAPTER 1

INTRODUCTION

Overview

Research on mental illness stigma has focused broadly on the impact of stigma on “severe” or “serious” mental disorders (Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001; Rusch, Angermeyer, & Corrigan, 2005). A particular emphasis has been placed on schizophrenia, major depression, and substance use disorders (Corrigan, Edwards, Green, Diwan, & Penn, 2001; Griffiths et al., 2006; Holmes, Corrigan, Williams, Canar, & Kubiak, 1999; Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Stuart & Arboledo-Florez, 2001). This research has provided a wealth of information regarding the perceived causes of stigma towards those with mental illness, and how stigma impacts those toward whom it is directed. Still, there is a notable lack of research into the relationship between stigma and posttraumatic stress disorder (PTSD). What research has been conducted is directed solely at stigma toward veterans with PTSD (Gould, Greenberg, & Hetherington, 2007; Hooyer, 2012; Langston et al., 2010; Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009). Focusing only on veterans with PTSD means that knowledge about stigma toward people with PTSD outside of the military is missed; after all, combat-related trauma is not the only source of PTSD. Indeed, exposure to potentially traumatic events is not a rare experience— for instance, devastating natural disasters affect people globally each year— nor is PTSD the only possible outcome following a potentially traumatic event (PTE). More often than not, people who experience a PTE will be resilient to its effects. Of particular interest is

whether people who are resilient against PTEs may harbor stigmatizing attitudes toward people who develop PTSD.

Most people will experience at least one PTE in their lifetime. Lifetime prevalence rates of PTEs range from 69-80%, with current (past year) rates of approximately 21% (Breslau, Peterson, Poisson, Schultz, & Lucia, 2004; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Norris, 1992; Perkonig, Kessler, Storz, & Wittchen, 2000; Solomon & Davidson, 1997). Men typically experience PTEs at a higher rate than women (Breslau, 2009). Across the lifetime, approximately 61% of men and 51% of women report at least one PTE; 24% of men and 26% of women report experiencing two PTEs; 15% of men and 10% of women report three; and 17% of men and 13% of women report more than three PTEs (Kessler et al., 1995). However, it should be noted that people respond differently to PTEs. A small proportion—around 10-20%—of people exposed to PTEs will have a pathological response leading to depression, posttraumatic stress disorder (PTSD), anxiety, or another disorder (Kessler et al., 1995). However, the remaining 80-90% of people exposed to PTEs will be resilient or recover from exposure to PTEs (Bonanno, Galea, Bucciarelli, & Vlahov, 2007; Breslau, 2009; Breslau et al., 2004; Brunello et al., 2001; van der Werff, van den Berg, Pannekoek, Elzinga, & van der Wee, 2013; Wu et al., 2013).

Defining Resilience

Resilience is broadly considered to be the ability to “bounce back” to normal functioning following exposure to adversity or a PTE. It is important to note, however, that the construct of resilience is defined differently throughout the literature (van der

Werff et al., 2013). The term resilience has been used to encompass “true” resilience— or the ability to maintain homeostatic emotional function following PTE exposure (Bonanno, 2008) — as well as the processes of recovery and posttraumatic growth. Though recovery and posttraumatic growth are often subsumed by the construct of resilience, research indicates that they are likely two separate constructs (Bonanno, 2008; Nelson, 2011). Recovery is considered to be a process whereby normal functioning is impaired by threshold or sub-threshold symptomology lasting up to several months before returning to baseline (Bonanno, 2008). Thus, recovery is often difficult to distinguish from true resilience, as most studies involve retrospective recall of emotional states and this brief period of upset may be forgotten. Posttraumatic growth is defined as the experience of positive adaptation or changes as a result of experiencing a PTE. That is, the experience of life-threatening distress from a PTE causes enough cognitive dissonance about one’s life choices, and subsequently changes are made in that person’s life to bring meaning from the experience (Nelson, 2011). For that matter, research suggests that, unlike true resilience, posttraumatic growth may not be a mutually exclusive state from PTSD symptoms (Nelson, 2011). Indeed, post-traumatic growth could protect against PTSD development, or the experience of PTSD symptoms could catalyze the post-traumatic growth process. Likewise, research suggests that people who are truly resilient may not experience a PTE as being traumatic or a crisis (Nelson, 2011). Therefore resilient people are more likely to return to baseline functioning than experience growth following a PTE (Bonanno, 2008).

The aforementioned research suggests that recovery and posttraumatic growth may be distinct manifestations of the resilience process. Despite this evidence, resilience, recovery, and posttraumatic growth are rarely presented as separate constructs in the literature. Rather, resilience has become the catch-all term for any non-maladaptive reaction to PTEs. Therefore, to maintain continuity and to allow for a broad discussion of non-maladaptive responses to PTEs, the term “resilience” will be used to encompass all three concepts. Resilience is a multi-faceted construct, and the ability to experience resilience following PTEs is based on biological/psychological predispositions, environmental and developmental factors, trauma history, level of social support, and when the PTE was experienced (van der Werff et al., 2013). A broad range of protective factors have been linked to resilience: (1) low neuroticism, high extraversion, and high conscientiousness (Campbell-Sills, Cohan, & Stein, 2006; Pietrzak & Cook, 2013); (2) optimism, cognitive reappraisal, humor, active coping, and trait mindfulness (Wu et al., 2013); (3) self-confidence, self-efficacy, hardiness, and community involvement (Ajdukovic et al., 2013); (4) lower levels of disgust sensitivity (Olatunji, Armstrong, Fan, & Zhao, 2012); (5) emotional flexibility, locus of control, and social problem solving (van der Werff et al., 2013), and (6) self-enhancement (Bonanno, Field, Kovacevic, & Kaltman, 2002; Bonanno, Rennicke, & Dekel, 2005; Bonanno, Westphal, & Mancini, 2010; Gupta & Bonanno, 2010).

Self-enhancement is of particular interest as it is a protective factor related to resilience that seems to have positive implications for the self-enhancer and negative implications that may extend to the people around the self-enhancer (Gupta & Bonanno,

2010; Epley & Whitchurch, 2008; White, Langer, Yariv, & Welch, 2006). Self-enhancement is a tendency to evaluate oneself in an overly positive manner—a tendency shown to predict resilience following a PTE (Bonanno et al., 2002; Bonanno et al., 2005; Bonanno et al., 2010; Gupta & Bonanno, 2010). Self-enhancement was found to be related to better adjustment in Bosnian civilians who witnessed combat and bereaved people whose spouses died violently (Bonanno et al., 2002), high-exposure survivors of 9/11 (Bonanno et al., 2005), and among college students exposed to PTEs (Gupta & Bonanno, 2010). As such, the presence of self-enhancement may moderate the relationship between PTEs experienced and subsequent resilience. The buffering effect of self-enhancement may be due to reduced perceptions of distress during and after exposure to a PTE; alternatively, self-enhancers may be particularly adept at coping with adversity (Gupta & Bonanno, 2010). Thus, self-enhancement seems to lead to positive effects for the self-enhancer (e.g., high self-esteem, resistance to the effects of extreme stress), yet the same self-enhancing characteristics may have negative social outcomes.

Self-enhancers often create good first impressions to those around them, but over time become off-putting (Colvin, Block, & Funder, 1995). Self-enhancers may selectively attend to negative stereotypes about others in an effort to enhance their own self-images (Epley & Whitchurch, 2008). In some cases, self-enhancers have been rated as being less honest over time by friends and relatives (Bonanno et al., 2005). However, the process of self-enhancement has been shown to be automatic in some cases (Epley & Whitchurch, 2008). This automatic activation may explain why self-enhancers tend to misinterpret others' opinions of them as highly favorable despite evidence to the contrary

(Goorin & Bonanno, 2009). These misperceptions do not allow for insensitive reactions to others to be corrected, and may result in decreased social support for people (around the self-enhancer) who may have experienced maladaptive responses to PTEs.

As mentioned previously, not all people are able to successfully adapt following a PTE. Around 10-20% of people exposed to a potentially traumatic event will develop some form of PTSD symptoms; and about one-third of those people will experience chronic, lifelong symptoms (Brunello et al., 2001; Kessler et al., 1995). In order to better understand what self-enhancers target as signs of weakness in people who struggle with PTSD symptoms, it is important to understand the nature and the impact of the development of PTSD.

Posttraumatic Stress Disorder

Per the fifth edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5; American Psychiatric Association, 2013), PTSD is categorized as a trauma and stressor-related disorder triggered by exposure to one or more PTEs. This disorder is characterized by intrusive dreams, memories, or flashbacks; avoidance of reminders of the event; distortions in cognitive functioning and/or mood; and disruptions in reactivity (APA, 2013). The lifetime prevalence of PTSD in the general population is 3-7.8% (Brunello et al., 2001; Kessler et al., 1995). Whereas men are more likely to experience PTEs (Breslau, 2009), women are twice as likely as men to be diagnosed with PTSD— 5-6% of men develop PTSD as compared to 10-14% of women (Breslau, 2009; Brunello et al., 2001; Kessler et al., 1995; Solomon & Davidson, 1997; Yehuda, 2002). Risk is even

greater for people who join the military, as the estimated lifetime prevalence of PTSD is around 23% (Chamberlain, 2012).

A variety of environmental, biological and other individual factors contribute to the development of PTSD symptoms (Brunello et al., 2001; Yehuda, 2002; Zovkic, Meadows, Kaas, & Sweatt, 2013). Biological factors that have been indicated include differences in brain structures (Brunello et al., 2001), neurotransmitter levels (Yehuda, 2002), hypothalamic-pituitary-adrenal (HPA) axis activation (Yehuda, 2002; Zovkic et al., 2013), and differences in how DNA is structured (Zovkic et al., 2013). Brain imaging has allowed researchers to examine the brain structures of people diagnosed with PTSD and compare them to what is known about an average, healthy brain structure. For people diagnosed with PTSD, there appears to be a significant reduction in hippocampal volume, thought to be due to a potential predisposed sensitivity to glucocorticoids causing damage to the brain's ability to rebuild tissue in the hippocampus after an influx of glucocorticoids following a PTE (Brunello et al., 2001). This disruption in the hippocampus could be a source of the memory distortions often present during PTSD symptoms (Yehuda, 2002).

Additionally, there appears to be a greater activation of the amygdala, which is involved in fear responses (Yehuda, 2002). This is paired with a heightened sensitivity of the HPA axis to negative feedback and higher levels of corticotropin releasing hormone—the hormone that is released through the HPA axis to trigger the release of corticotropin, leading to the release of cortisol. Thus, the HPA axis simultaneously secretes large amounts of corticotropin releasing hormone, while also suppressing

cortisol; this results in continued adrenergic activation without the appropriate corresponding cortisol levels (Yehuda, 2002). High levels of adrenergic activation with suppressed cortisol has been found to increase learning in rat studies by making norepinephrine available in the brain for a prolonged period during PTE exposure—thereby increasing the encoding of the memory and the subjective experience of distress (Yehuda, 2002). That is, “PTSD is facilitated by a failure to contain the biologic stress response at the time of trauma...” (Yehuda, 2002, p. 112).

New research into the epigenetic mechanisms of PTSD development has implicated changes at the genomic level in contributing to the development of PTSD. According to Zovkic et al. (2013), when adversity (or a PTE) is experienced early in life, a process called DNA methylation actually changes how a person’s DNA is coded to respond to stress. That is, changes in DNA via methylation can change the biological mechanisms that produce and maintain fear memory, and contributes to one’s predispositions toward PTSD development or resilience (Zovkic et al., 2013). However, biological factors alone typically do not contribute to the development of PTSD. Instead, it is most often a combination of biological vulnerabilities triggered by environmental factors that leads to PTSD development.

Perhaps the most generalizable environmental factor is repeated exposure to PTEs. Research has shown that repeated PTE exposure can increase risk for PTSD development (Breslau, Chilcoat, Kessler, & Davis, 1999), or even erode resilience (Fossion et al., 2013). Repeated exposure to PTEs is a particular problem among combat veterans (Andrews, Brewin, Stewart, Philpott, & Hejdenberg, 2009; Barrera, Graham,

Dunn, & Teng, 2013) and people with lower socioeconomic status (Solomon & Davidson, 1997). However, repeated exposure to PTEs is still not sufficient to produce PTSD symptoms in all cases. Psychiatric history — familial and personal— and early adversity also play roles in whether PTSD develops (Breslau, 2009). It appears that even basic life stressors (e.g., marital discord, being passed over for a promotion, financial difficulty, etc.) can tip the scales toward PTSD development (Hobfoll, Vinokur, Pierce, & Lewandowski-Romps, 2012; Self-Brown, Lai, Thompson, McGill, & Kelly, 2013; Vogt et al., 2011). Perhaps the most influential factor in PTSD development is social support, or rather a lack of social support (Vogt et al., 2011). Social support has been implicated as a mediator between PTE exposure and PTSD symptoms among veterans involved in Operation Enduring Freedom and Operation Iraqi Freedom; in particular, the relative impact of social support for women post-deployment was twice as important as for men (Vogt et al., 2011). Considering that women are twice as likely as men to develop PTSD after PTE exposure (Kessler et al., 1995), social support is a particularly salient factor contributing to PTSD development.

A diagnosis of PTSD may not carry the same negative connotations as would a diagnosis of schizophrenia, in that there is a potential for total remission from symptoms given proper treatment. However, PTSD symptoms do not occur in a vacuum, and in fact tends to co-occur with other disorders. People who develop PTSD have lifetime comorbidity rates of approximately 80% (Galatzer-Levy, Nickerson, Litz, & Marmar, 2013). It is common to receive comorbid diagnoses of mood disorders, anxiety disorders (Fossion et al., 2013; Galatzer-Levy et al., 2013), and panic disorder (Barrera et al.,

2013). The functional impact of any disorder is exponentially increased by the presence of comorbid disorders; in the case of PTSD symptoms, comorbidity has been linked to greater PTSD symptom severity, a greater likelihood of intimate partner violence (Galatzer-Levy et al., 2013) and poorer prognosis for the future (APA, 2013).

Comorbidity therefore extends and compounds the effects of PTSD symptoms, such that a person's ability to function is reduced across familial, occupational, recreational, and romantic domains.

Furthermore, there is consistent evidence of the risk for substance use disorders (SUD) among people diagnosed with PTSD (Haller & Chassin, 2013). Though men are typically more likely than women to develop SUDs (Galatzer-Levy et al., 2013; Haller & Chassin, 2013; Torchalla, et al. 2013), and women are more likely than men to develop PTSD (Kessler et al., 1995), there is evidence to suggest that these differences become negligible among people with comorbid PTSD and severe SUDs (Torchalla, et al. 2013). One reason that is often suggested for this pattern of comorbidity is an effort on the part of the person with PTSD to self-medicate (Haller & Chassin, 2013; Torchalla et al., 2013) in order to relieve the psychological distress of PTSD symptoms. Alternatively, it has been proposed that people with SUDs tend to engage in high risk behavior which places them into situations more likely to result in exposure to a PTE (Torchalla et al., 2013). Regardless of the reason for the comorbidity of PTSD symptoms with SUDs, the impact is undeniable. Research has found that comorbid PTSD/SUD increases the chances of having another comorbid psychiatric disorder, seems to prevent SUD treatments from being effective— and if the program is completed, relapse rates are much

higher— and PTSD/SUD is associated with poorer health and high-risk behaviors (Torchalla et al., 2013). Still, comorbid SUDs are not the most troubling aspect of PTSD symptoms for the individual.

Perhaps the most distressing impact of PTSD symptoms is the high rate of suicidal ideation. The mere presence of PTSD symptoms, without comorbidity, increased suicidal ideation by four times that of people without PTSD symptoms (Jakupcak et al., 2009). The presence of comorbid disorders increases suicidal ideation by 2.5 (Galatzer-Levy et al., 2013) to 5.7 times that of people solely experiencing PTSD symptoms (Jakupcak et al., 2009). Additionally, the rates of completed suicide among veterans diagnosed with PTSD and a comorbid disorder is double the rate of veterans with PTSD symptoms only (Jakupcak et al., 2009). Investigation into the specific ways in which PTSD symptoms lend themselves to suicidal ideation has suggested that detachment/estrangement symptomology in PTSD has the strongest relationship with suicidal ideation (Davis, Witte, & Weathers, 2013). Conversely, social support/connectedness was found to mitigate suicidal ideation (Fanning & Pietrzak, 2013). This supports the idea that social support is a crucial factor in recovery from PTSD, and why fear of social rejection can create such distress.

The impact, consequences, and potential costs of PTSD extend far beyond the individual. People with PTSD tend to utilize health care—but not mental health care—at much higher rates than the general population (Solomon & Davidson, 1997). This could be a result of an increased rate of comorbid somatization disorder (90 times more likely to develop in people with PTSD symptoms compared to non-PTSD populations) causing

physical manifestations of psychological distress. Poor psychological insight causes these physical manifestations of psychological distress to be perceived as legitimate physical ailments (Solomon & Davidson, 1997). In fact, the presence of PTSD symptoms, even without a diagnosis of PTSD, has been linked to an increase in reported chronic illnesses, general illness, and surgical operations (Solomon & Davidson, 1997). It is estimated that approximately one billion dollars in additional healthcare costs are incurred each year through the over-utilization of the health care system by people with PTSD (Rusch et al., 2005). This additional cost places a burden on the individual, healthcare providers, and taxpayers (Brunello et al., 2001). Furthermore, the economy suffers because people with PTSD symptoms tend not to seek mental health treatment, their symptoms are maintained and physical problems persist, leading to missed work or decreased efficiency (Brunello et al., 2001). The value of this decreased efficiency or work days lost has been estimated at the equivalent of \$3 billion annually in the United States (Brunello et al., 2001).

PTSD and Stigma

Currently, there are effective treatments available that could allow people who have developed PTSD to return to stable functioning (Lu, Plagge, Marsiglio, & Dobscha, 2013; Nelson, 2011; Sayer et al., 2009), which begs the question of why these treatments are not being utilized at higher rates. One of the most cited barriers to treatment among people struggling with PTSD symptoms is fear of stigma (Gould et al., 2007; Langston et al., 2010; Lu et al., 2013). Stigma can be defined as a process wherein a person (or group of people) is perceived as tainted or otherwise defective due to a particular attribute, thereby dehumanizing the person targeted by stigma (Link, Yang, Phelan, & Collins,

2004). The perception of potential stigma could be exacerbated by a person's social network. Treatment-seeking and treatment utilization rates have been shown to be heavily influenced by whether one's social network encourages treatment-seeking, or whether someone in the social network has sought treatment previously (Vogel, Wade, Wester, Larson, & Hackler, 2007). For that matter, potential or perceived stigma may lead to a fear of social distancing or rejection. Social rejection is particularly impactful for people with PTSD, as research has indicated the necessity for high levels of social support to aid in the recovery from PTSD (Maercker & Muller, 2004; Vogt et al., 2011; Wethington & Kessler, 1986). In fact, the perception of social support, much like the perception of stigma, may be more important than actual social support or stigmatizing behaviors (Pietrzak et al., 2009; Wethington & Kessler, 1986).

There are three types of stigma: public, self-, and perceived. Public stigma comes about through a process wherein a given person agrees with negative stereotypes about another person or group, leading to prejudice (Rusch et al., 2005). If that person experiences strong negative emotions (e.g., fear, anger) about someone from the stereotyped group, it is likely that discrimination will occur (e.g., withholding resources, social rejection) in future encounters with members of that group (Rusch et al., 2005). Self-stigma is a process in which people within a negatively stereotyped group experiences the same steps of public stigma, only it is toward themselves (Rusch et al., 2005). That is, people within a negatively stereotyped group experience self-prejudice because they agree with the negative stereotypes ("I am mentally ill, which means I am weak willed"). Self-prejudice likewise creates negative emotional experiences (e.g.,

lowered self-esteem), leading to self-stigma in the form of pre-emptive discriminatory behaviors toward themselves—failure to seek a promotion, failure to apply for a home loan, failure to continue investing in personal relationships, and failure to seek help. Fortunately, not all people who are aware of the negative stereotypes attributed to their groups agree with those stereotypes, and will not develop a self-stigma attitude (Rusch et al., 2005).

Indeed, even if there is no direct public or self-stigma there can be perceptions of stigma which create environments of fear for the potentially stigmatized people and can prevent those people from seeking necessary mental health care (Rusch et al., 2005). That is, people in the negatively stereotyped group (i.e., people struggling with PTSD symptoms) may not have experienced direct stigma, but the expectation of negative reactions can discourage help-seeking in an effort to avoid the assumed social rejection that would follow. Social rejection is a particularly relevant fear for people struggling with PTSD symptoms, as decreased social support has been found to hinder the recovery process (Maercker & Muller, 2004; Vogt et al., 2011; Wethington & Kessler, 1986).

It seems counterintuitive that perceived rather than received stigma would have such an impact; however, there are multiple studies suggesting that perceptions of stigma may be more important than the stigma itself (Britt et al., 2008; Pietrzak et al., 2009; Vogel, Wade, & Hackler, 2007). In fact, Vogel, Wade, and Hackler (2007) suggested that perceptions of public stigma predict levels of self-stigma about seeking mental health treatment, leading to more negative attitudes about help seeking, and reduced willingness to seek mental health treatment. Men were particularly susceptible to this effect, which

supports previous research that women were more likely to hold positive attitudes toward mental health treatment. This effect is likely due to a greater perceived stigma toward men as being weak if they seek help (Vogel et al., 2007). Research also suggests greater concerns regarding potential negative familial reactions among those with lower socioeconomic status (Rusch et al., 2005). This is particularly problematic when accounting for the fact that PTEs occur at disproportionately high rates for people with lower socioeconomic statuses (Solomon & Davidson, 1997).

The current study is designed to examine the relationship between self-enhancement and PTSD stigma, to determine whether self-enhancement may contribute to creation of a subtle stigma toward people diagnosed with PTSD. Beyond the detrimental effects of stigma on willingness to seek mental health treatments, stigma can compound the effects of any disorder. The experience of stigma reduces self-esteem (Link et al., 2001), and increases potential for increased depressive symptoms (Britt et al., 2008), familial discord and lost job opportunities (Feldman & Crandall, 2007). In order to cope with the perceived stigma, people with mental illness may avoid friends, family, or coworkers whom they perceive as viewing them negatively for their mental illness status (Link et al., 2001). This avoidance in turn contributes to a reduction in perceived support and serves to further increase perceptions of stigma (Pietrzak et al., 2009; Wethington & Kessler, 1986). Additionally, the high comorbidity rates associated with PTSD (Galatzer-Levy et al., 2013) creates a greater risk for stigma and social distancing.

Desire for social distancing from people diagnosed with PTSD has been shown to be relatively low—only slightly higher than social distance levels for female sexual

arousal and narcolepsy (Feldman & Crandall, 2007). However, there is a significantly greater desire for social distance from people with alcohol and substance abuse (Feldman & Crandall, 2007). Indeed, it has been shown that people, including trained professionals, are likely to see (and treat) the substance use disorder (SUD) rather than PTSD in cases of comorbid PTSD/SUD (Brown, Stout, & Mueller, 1999). Therefore, due to the high rates of comorbidity, the perceptions of stigma for a person with PTSD are going to be greatly increased.

The fact that the majority of the population experiences a PTE in their lifetime may contribute to an assumption of a lack of stigma toward people with PTSD symptoms, as the general population should be sympathetic to the after effects of a PTE. This assumption may be influenced by the model of addiction recovery (White, 2000a, 2000b), wherein former addicts function as a support system, a tether connecting someone in the throes of addiction to the normal world. For centuries, it has been accepted practice for “wounded healers” to use their own experiences to help them guide the treatment of similarly afflicted patients (White, 2000a, 2000b). In a similar fashion, people who are resilient to, or recover from, PTEs could be useful resources to those with PTSD, much as the addiction sponsor is to someone being treated for addiction (White, 2000a, 2000b; Zerubavel & Wright, 2012). Nonetheless, there are dangers inherent to the “healer” and the “patient” in this paradigm. If “wounded healers” fail to recognize their struggles following adversity, it can create damaging separation. That is, the “wounded healers” would see themselves as “cured” whereas the patient is viewed as weak and broken (Zerubavel & Wright, 2012). Such a dichotomous view may be particularly

problematic in the case of resilient self-enhancers. As mentioned above, resilience carries the potential for PTEs to generate no subjective experience of distress or crisis. Even if distress is experienced, rather than recognizing that they happened to have the right combination of protective factors to outweigh any risk factors, resilient self-enhancers may adopt the viewpoint of themselves as being exceptionally mentally strong. This perception of self-strength may come at the cost of viewing people who develop PTSD as being mentally weak (Epley & Whitchurch, 2008). The automatic nature of self-enhancement (Epley & Whitchurch, 2008) and self-enhancers' tendency to misinterpret others' opinions of them as being positive, may create an environment of unintentional stigma and social rejection for those around them who have developed PTSD.

Stigma leading to social rejection has been found to be predicted by three factors: personal responsibility for the disorder, dangerousness, and rarity of the disorder (Feldman & Crandall, 2007). However, since the 1980's when PTSD became an established psychological disorder, the media has most often portrayed people who develop PTSD as "broken heroes," rather than as dangerous people to be feared (Maseda & Dulin, 2012). Likewise, rarity is less likely to play a role considering the aforementioned 3-7.8% lifetime prevalence of PTSD diagnosis in the U.S. (Brunello et al., 2001; Kessler et al., 1995). Thus, though dangerousness and rarity may play roles in the stigmatization of people struggling with PTSD, the most salient factor may be personal responsibility of the development of PTSD symptoms. It stands to reason that if resilient self-enhancers are able to experience an extreme PTE or a high number of PTEs without following a maladaptive path, they may believe that reactions to such situations

are controllable. That is, resilient self-enhancers would simply believe themselves to be highly proficient at controlling their reactions. Likewise, resilient self-enhancers may view people who do develop pathological responses to PTEs as failing to control those reactions; by extension, people struggling with PTSD could also be considered responsible for the development and maintenance of their disorder. That is, an environment of subtle stigma would arise from the stance of resilient self-enhancers toward people with PTSD symptoms as “I got over it, why can’t you?” This environment would then serve to propagate the negative self-views of people struggling with PTSD, causing people struggling with PTSD to believe that others do/will see them as incapable and powerless (Troop & Hiskey, 2013).

Current Study

In order to examine the relationship between self-enhancement, resilience, PTSD symptoms, and stigma, five hypotheses were developed. (1) Based on the buffering effect of self-enhancement against multiple PTE exposures in a college student population (Gupta & Bonanno, 2010), it was hypothesized that self-enhancement scores would moderate the relationship between the number of PTEs experienced and self-reported resilience. (2) Resilience scores were expected to be negatively related to PTSD scores, based on the premise of resilience as a construct involving relatively little, if any, pathological response to PTEs or recognition of PTE exposure as a crisis (Nelson, 2011). (3) Self-enhancement was expected to be positively related to stigmatizing attitudes toward PTSD. This hypothesis was based on research indicating that self-enhancers will attend to negative stereotypes about others in an effort to make themselves look better

(Epley & Whitchurch, 2008). (4) Perceived controllability was expected to moderate the relationship between self-enhancement and stigmatizing attitudes toward PTSD. (5) Self-enhancement was expected to be positively related to desired social distance from PTSD. This hypothesis was based on the idea that self-enhancers tend to selectively attend to negative aspects of peers in an effort to maintain a positive view of themselves, such that they tend to unintentionally alienate those around them.

CHAPTER 2

METHOD

Participants

Participants ($N = 114$) were recruited via the introductory psychology student pool at the University of Northern Iowa. Participants were able to sign up for the study via the University Research Participation System (RPS), which allows for researchers to allocate points related to participation in research studies. It also provides researchers with an area in which to specify eligibility requirements for participation. For this study, the following statement was included, both in the main description and in the eligibility requirement section: “Must have experienced at least one potentially traumatic event (e.g., combat, serious illness or injury, sudden death of a loved one, motor vehicle accident, etc.).” As such, participants could identify whether they would meet study requirements without having to participate in a pre-screening process separate from the primary study. Additionally, it also opened up an opportunity for potential participants to inquire about the nature of the requirements prior to entering the study. For instance, several potential participants emailed the researcher to ask whether particular events they had experienced would qualify as a PTE.

Participants were mostly female (56.1%); in their freshman year of college (65.8%); and the average age was approximately 20 years old ($M = 19.72$, $SD = 4.47$). Participants identified as Caucasian (74.6%), African American (6.1%), Asian American (7.0%), Hispanic (2.6%), or Other (8.8 %). Participants were between the ages of 18 and 53, and received partial course credit in exchange for completing the study.

Measures

Demographics

Participants completed a short demographics survey, which included questions about gender, race/ethnicity, and year in school. Additionally, the demographics questionnaire contained items to establish whether participants had ever sought psychological counseling, and what influenced their decisions to seek or not to seek psychological counseling. See Appendix A.

Resilience

The Connor-Davidson Resilience Scale- Revised (CD-RISC-R; Gucciardi, Jackson, Coulter, & Mallett, 2011) is a 10-item measure that has been revised from the original 25-item version (Connor & Davidson, 2003). Item and confirmatory factor analyses supported the improved validity of the 10-item, unidimensional measure compared to the original (Gucciardi et al., 2011). The revised measure included statements such as “I adapt to change,” and “I tend to bounce back after illness or hardship,” which are rated on a Likert scale from 1 = *not true at all* to 5 = *true nearly all the time*. Responses are summed across items, such that higher scores indicate greater resilience. The revised version has demonstrated good internal consistency with an alpha coefficient range of .83 (Gucciardi et al., 2011) to .85, and has demonstrated excellent construct validity with a determinacy factor (the validity coefficient) of .94 for resilience (Campbell-Sills, & Stein, 2007). In this study, the internal consistency was $\alpha = .78$. See Appendix B.

Self-Enhancement

The Egoistic Self-enhancement Scale (ESS) is a subscale of the Egoistic and Moralistic Self-enhancement Scale (EMS; Vecchione, Alessandri, & Barbaranelli, 2013). The ESS consists of seven items rated on a Likert scale from 1 = *very false for me* to 5 = *very true for me*. Items were designed to measure self-views regarding competence, intelligence, and courage. Items included statements like “I have always been absolutely sure of my actions,” and “I have always immediately resolved every problem presented to me.” Responses on the scale were summed across items to create a total scale score, with possible scores ranging from 7 to 35 and higher scores indicating greater self-enhancement. The ESS has demonstrated adequate psychometric properties. Test-retest reliability across four weeks was between .65 and .70, and its coefficient alpha has a range of .68 to .84 (Vecchione, Alessandri, & Barbaranelli, 2013). In this study, this scale had internal consistency of $\alpha = .68$. See Appendix C.

The Self-Deceptive Enhancement scale (SDE) is a subscale of the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1984, 1998). The SDE scale consists of 20 items designed to measure unrealistically positive self-views, and includes statements such as “I am very confident of my judgments,” and “My first impressions of people usually turn out to be right.” Items are rated on a Likert-type scale from 1 = *not true* to 7 = *very true*. The SDE is typically recoded to be scored dichotomously, such that any response below 6 is coded as 0, and responses of 6 or 7 are recoded as 1 (Gupta & Bonanno, 2010). After recoding, item responses are summed such that higher scores indicate more self-enhancement. The SDE scale has demonstrated acceptable

psychometric properties, with a test-retest reliability of .69 over a five week period, and an internal consistency coefficient ranging from .68 to .80. This scale will be used to provide additional information on self-enhancement, and will only be used in analyses if needed. This measure had an internal consistency of $\alpha = .69$ in this study. See Appendix D.

Potentially Traumatic Events

The Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000) is a self-report measure of exposure to potentially traumatic events (PTEs). The measure consists of 21 items (e.g., “Natural disasters,” “Severe assault by acquaintance or stranger”), and participants are asked to rate how frequently, if at all, they have experienced each item. Responses are given as “never,” “once,” “twice,” or “more than twice,” with the option to ask the participant to specify the number if the participant responds with “more than twice.” Item responses are summed to create a cumulative frequency of exposure score. This measure accounts for the wide range of PTEs a person may experience in a lifetime, given that specific instances can be counted for each PTE. The scores in this study ranged from 1 to 37¹. The TLEQ has demonstrated adequate psychometric properties with an average test-retest hit rate of .86 (Kubany et al., 2000). See Appendix E.

Posttraumatic Stress Disorder Symptoms

The Short PTSD Rating Interview (SPRINT; Connor & Davidson, 2001) is a measure designed to assess the occurrence and severity of PTSD symptoms. The SPRINT is an 8-item measure, including statements such as “How much effort did you make to avoid thinking or talking about the event, or doing things which reminded you of what

happened?” Participants respond on a Likert-type scale from 0 = *not at all* to 4 = *very much*. Responses are summed, such that possible scores range from 0 to 32, with 32 representing the most severe symptoms. Connor and Davidson (2001) found that a cut-off score of 17 was appropriate for detecting a potential for PTSD diagnosis. The SPRINT has demonstrated good psychometric properties, with an alpha coefficient ranging from .77 to .88. Additionally, the SPRINT has demonstrated good convergent, divergent, and construct validity (Connor & Davidson, 2001). It is important to note that the psychometric properties of the SPRINT were originally established over the phone, but it was used as a printed self-report measure for the purposes of this study. This measure demonstrated strong internal consistency with $\alpha = .89$. See Appendix F.

Personal Stigma

The Depression Stigma Scale (DSS; Griffiths, Christensen, Jorm, Evans, & Groves, 2004) and the Generalised Anxiety Stigma Scale (GASS; Griffiths, Batterham, Barney, & Parsons, 2011) are stigma scales containing items related to personal and perceived stigma. That is, both scales contain two subscales, one related to participants’ personal attitudes toward depression or anxiety respectively, and one related to what participants feel are most people’s attitudes toward depression or anxiety. For this study, the personal stigma subscales of the DSS and the GASS will be adapted for PTSD, and combined into a 16-item (three items overlaps between scales) measure of personal stigma. These scales were chosen for several reasons. First, the two scales were developed to address personal stigma related to “less severe” disorders (i.e., anxiety and depression). Further, the items seemed to tap into more nuanced stigmatizing attitudes

(e.g., the disorder is a sign of personal weakness, the person should be able to spontaneously recover). Finally, elements of anxiety and depression are often subsumed within the expression of PTSD. Thus, adapting these scales for use with PTSD may be more applicable than adapting a scale targeting schizophrenia stigma. Both scales are rated on a 5-point Likert scale from 0 (*strongly disagree*) to 4 (*strongly agree*) and are summed across items to create a total stigma score, with higher scores indicating greater stigma. The DSS personal stigma subscale has 9 items, (e.g., “Depression is a sign of personal weakness,” and “People with depression could snap out of it if they wanted”) and has demonstrated acceptable psychometric properties, with a coefficient alpha of .77 (Griffiths, Christensen, & Jorm, 2008) and test-retest reliability coefficients ranging from .66 to .79 (Griffiths et al., 2004). The GASS personal stigma subscale consists of 10 items (e.g., “People with an anxiety disorder should be ashamed of themselves,” and “People with anxiety disorder are self-centered”). The GASS personal stigma subscale has demonstrated adequate psychometric properties, with an alpha coefficient of .86, and test-retest reliability over a four month period of .58 (Griffiths et al., 2011). Responses on the Personal Stigma scale (PS) are summed, such that a higher scores indicate greater personal stigma toward the target group. The created Personal Stigma scale had strong internal consistency, with an alpha of .89. See Appendix G.

Social Distance

The Social Distance scale (SD; Link, Cullen, Frank, & Wozniak, 1987) is designed to assess how much social distance a person desires from those with mental illness. The SD scale is typically administered after the presentation of a vignette or

scenario depicting a person with specific symptoms. The SD scale consists of seven items such as, “How would you feel about renting a room in your house to someone like Jim Johnson?” and “How would you feel about having someone like Jim Johnson as a neighbor?” For this study, questions were reworded to be specific to the person described in the vignettes. Participants are asked to respond to the questions on a Likert-type scale from 0 = *definitely willing*, to 3 = *definitely unwilling*. Scores are added together produce a composite SD score ranging from 0 to 21. The SD scale has demonstrated good psychometric properties, with an alpha coefficient ranging from .70 to .92 (Interian et al., 2010; Link et al., 1987). The alpha coefficient for this study was .83. The SD scale is scored cumulatively, such that a higher score indicates a desire for more social distance from the target group. See Appendix H.

Familiarity with PTSD

The Level of Contact Report (LCR; Holmes et al., 1999) is a measure designed to assess how familiar participants are with a mentally ill population. Research has demonstrated that people who have higher levels of familiarity or contact with people with mental illness tend to stigmatize mental illness less than those who are unfamiliar with people with mental illness (Holmes et al., 1999). Again, the items will be reworded to be specific to a person diagnosed with PTSD. The modified LCR is a 12 item, multiple response measure containing statements such as “I have watched a movie or television show in which a character depicted a person with PTSD,” and “I have a relative who has PTSD.” Participants are asked to mark each situation that they have experienced on the list. Based on expert rankings (inter-rater reliability = .83; Holmes et al., 1999), a person

is assigned a score between 1 (no experience) and 12 (most experience) indicating their closest association with a person with mental illness. See Appendix I.

Social Desirability

The Social Desirability Scale–17 (SDS–17; Stöber, 2001) is a 17-item measure designed to assess a person’s tendency to respond in a socially desirable manner. That is, it is a way to detect whether a person is likely to respond in a “socially acceptable” way to sensitive questions. The measure includes statements such as “I never hesitate to help someone in case of emergency,” and “I sometimes litter” (reverse coded). Items are rated on a dichotomous true/false scale. Responses are summed such that higher scores indicate more tendency toward socially desirable responding. The SDS–17 has demonstrated adequate reliability and validity, with an alpha coefficient of .74 (Stöber, 2001). The alpha coefficient of this scale for this study was .63. The SDS–17 will be used as a check during analyses to determine whether participants tended to respond in a socially desirable way, and whether participants who do respond in a socially desirable way differ in any significant way from those who do not. See Appendix J.

Vignettes

Participants were randomly assigned to read one of two vignettes which were written specifically for this study. Both vignettes tell the story of “Jaime” (no gender-identifying pronouns were used) getting into a severe car crash during a blizzard. In the “controllable” condition, Jaime has several opportunities to avoid driving in the blizzard, or to be a safer driver once in the blizzard. In the controllable vignette, Jaime’s choices are written in such a manner to suggest an increase in the probability of a crash. In the

inevitable vignette, despite various attempts to be a safe driver and to leave the highway after the blizzard hits, Jaime still experiences the same crash as in the “controllable” condition. Thus, for the “inevitable” vignette, it seems that the crash was inevitable, regardless of Jaime’s choices. The “controllable” vignette is designed to demonstrate a scenario in which a person might make decisions that increased the likelihood of exposure to a PTE, and thereby could be seen as contributing to the development of PTSD. See Appendix K for the “controllable” vignette, and Appendix L for the “inevitable” vignette.

Procedure

During the recruitment process, participants were informed that at least one prior PTE exposure was required in order to participate in this study. Participants completed a statement of informed consent, detailing what was expected of them during the experiment and provided relevant information regarding who to contact if they experienced distress during or after the experiment. Participants were informed of their ability to leave answers blank if they were not comfortable answering a given question. Participants then completed a battery of questionnaires in the following order: demographics, trauma history (TLEQ), PTSD symptoms (SPRINT), self-enhancement (SDE and ESS), resilience (CD-RISC-R), familiarity with mental illness (LCR), and social desirability (SDS-17). After this round of self-report measures, participants received a vignette about a person who has developed PTSD following a potentially traumatic event. Participants were randomly assigned to read one of two vignettes: controllable or inevitable PTE. Both vignettes featured a gender neutral name, and

described similar levels of impairment and symptomatic experiences. (See Appendices A through J for copies of the measures; see Appendices K and L for the vignettes).

Following the administration of the vignette, participants completed measures of personal stigma (PS) and social distance (SD). Finally, participants received a debriefing email upon completion of the study providing additional contact information for resources in the event of upset following participation in the study (See Appendix M). This email was typically sent during the time that they were completing the questionnaires based on the name given on the informed consent statement. However, for instances in which this was not possible, the email was sent no later than 24 hours post-participation.

Data Analysis

Data first were analyzed for completeness, and to determine whether the missing data were missing-at-random or not-at-random. One participant received a packet with a missing page, which would have contained two questionnaires. Another participant neglected to complete the final questionnaire in the packet. These two cases were excluded from analyses with the corresponding scales via listwise deletion. Further, missing data were noted on the TLEQ, as some participant noted that they had experienced a given PTE (e.g., witness to family violence) so frequently that they were unable to provide a definitive number of instances. Other participants chose not to answer one or more questions within the packet, either because they missed the question or because they did not feel comfortable answering the question. Missing responses did not appear to follow a pattern across participants, and thus were determined to be missing at random. To account for these instances, total scale scores were created with an allowance

for 10% (up to three answers for longer questionnaires) of missing responses. Thus, a participant who chose not to answer a sensitive question still received total scale scores based on completing of the correct number of items, and were included in the overall analyses.

In order to test whether moderating effects were present, the data first needed to be adjusted to allow for independent interpretation of the relationships between variables. Independent variables that were included in hierarchical linear regression analyses were mean centered to help account for issues of collinearity, and to create a meaningful zero point for continuous scale scores (Cronbach, 1987; Frazier, Tix, & Barron, 2004). An interaction term was created by multiplying the centered moderator variable by the corresponding centered independent variable. Any covariates were entered into the first step. The centered independent variable and centered moderator variables were entered in the second and third steps, respectively, with the interaction term entered in the final step (Frazier et al., 2004). Finally, dichotomous variables used in the regression analyses as independent or moderator variables were recoded as ± 1 according to the principle of unweighted effects coding (West, Aiken, & Krull, 1996). This method allows for the categorical variables to be entered into the equation such that the categories do not represent meaningful different levels or changes in the variable.

CHAPTER 3

RESULTS

Preliminary Analyses

Overview

All participants ($N = 114$) had experienced at least one PTE prior to participation, and the mean number of PTEs was 6.82 ($SD = 5.31$). The most commonly reported PTEs were sudden death of a close friend or loved one (76.6%), car accident (66.4%), life threatening or disabling event for a loved one (57%), and natural disaster (39.5%). The majority (92%) reported that they had never received counseling following a PTE. Likewise, 93% of participants reported that they had never experienced symptoms of PTSD. Total scores on the SPRINT scale were examined to assess whether participants may have unknowingly experienced PTSD symptoms. Responses on the SPRINT were retrospective, and participants were instructed to complete it based on their memories following their “most distressing” PTE. Therefore, the SPRINT did not necessarily provide information regarding participants’ current level of PTSD symptoms. Connor and Davidson (2001) suggest a cut-off score of 17 (out of 32) as an indicator of the presence of a potential PTSD diagnosis. Approximately 40.4% ($n = 46$) of the total sample were at or above the cut-off score. Of the participants who reported they had never experienced symptoms of PTSD ($n = 106$), approximately 33.3% were at or above the cut-off score of 17. For participants who indicated they had experienced PTSD symptoms, 71.4% were at or above the cut-off score. The discrepancy between the participants’ responses in this

finding suggest that perceptions of responses to PTE exposure vary even when people consider their own experiences.

Gender Differences

Prior research has suggested gender differences in the experience of PTEs, PTSD symptoms following PTE exposure, self-enhancement, and stigmatizing attitudes in general. As such, independent samples t-tests were used to compare males and females on all measures to determine whether gender had a meaningful impact on the data. Although females endorsed slightly more PTEs as compared to males, this difference was not significant, $t(112) = .48, p = .64, d = .09$ (See Table 1 for descriptive statistics, correlational analyses, and gender analyses). Likewise, gender did not play a significant role in resilience scores. Although males endorsed slightly higher levels of resilience than females, this effect was also not significant, $t(87.58) = -1.57, p = .12, d = .33$. However, there was a significant effect for gender on the remaining measures. For PTSD symptoms, females reported significantly more symptoms than males, $t(112) = 3.39, p < .01, d = .64$. Conversely, males were higher than females on measures of self-deceptive enhancement, $t(112) = -3.89, p < .001, d = .74$, and egoistic self-enhancement, $t(112) = -4.67, p < .001, d = .88$.

Males also endorsed higher levels of personal stigma toward people with PTSD symptoms, $t(88.05) = -6.46, p < .001, d = 1.37$, and desired social distance from people with PTSD symptoms, $t(112) = -3.17, p < .01, d = .59$, as compared to females. The effect of gender on stigma responses is particularly interesting, as males also endorsed significantly higher levels of socially desirable responding than females, $t(109.93) = -$

2.32, $p < .05$, $d = .44$. However, neither gender endorsed socially desirable responses at a level to indicate that their responses on other measures were changed by social desirability.

Due to the strong effects of gender on the majority of measures, gender was considered a potential covariate in the regression equation outcomes for the primary analyses. As such, gender was recoded to ± 1 , per the unweighted effects coding discussed above, and was entered into the first step as a covariate.

Primary Analyses

Hypothesis 1

Overview. Hierarchical linear regression analyses were used to test the first hypothesis, that self-enhancement would moderate the relationship between number of reported PTEs and self-reported resilience. This hypothesis was tested in two ways: by assessing the effect of number of PTEs experienced, self-enhancement, and their interaction on resilience scores, as well as on PTSD scores. This was done to create a more complete picture of resilience, because resilience reflects general ability to maintain or return to baseline functioning following a PTE. Therefore, it was important to measure both overall resilience as well as resistance to PTSD symptoms.

Resilience. The number of PTEs experienced alone did not account for a significant portion of variance in self-reported resilience (See Table 2). The combination of self-enhancement and PTEs explained a significant proportion of variance in self-reported resilience, $R^2 = .132$, $\Delta R^2 = .130$, $\Delta F(1, 111) = 16.56$, $p < .001$. In this step, self-enhancement significantly predicted resilience, $b = .43$, $SE = .11$, $t(113) = 4.07$, $p < .001$,

whereas PTE was not a significant predictor, $b = .085$, $SE = .09$, $t(113) = 0.52$, $p = .59$. Finally, the addition of the interaction term for PTEs x Self-Enhancement did not significantly explain additional variance in the model. In order to determine whether gender changed the interaction of these variables, the analyses were performed again, including gender as a covariate in the first step. When gender was controlled for, the effects of self-enhancement on the relationship between PTEs and resilience remained approximately the same. See Figure 1.

PTSD symptoms. Analysis of the effect of PTEs experienced on PTSD symptoms showed that number of PTEs experienced explained approximately 12.2% of the variance in PTSD scores (See Table 3). The inclusion of self-enhancement in the model accounted for an additional 5.8% of variance in PTSD symptoms, $R^2 = .18$, $\Delta R^2 = .07$, $\Delta F(1, 111) = 7.78$, $p < .01$. Finally, inclusion of the interaction of PTEs experienced and self-enhancement explained an additional 3.7% of the variance in PTSD scores. In each step, PTEs remained a significant positive predictor of PTSD symptoms, $b = .58$, $SE = .13$, $t(113) = 4.44$, $p < .001$, whereas Self-Enhancement showed a significant negative relationship with PTSD symptoms, $b = -.39$, $SE = .14$, $t(113) = -2.79$, $p < .01$. The interaction of PTEs x Self-Enhancement also significantly predicted PTSD symptoms $b = .06$, $SE = .02$, $t(113) = 2.27$, $p < .05$. Due to the effect of gender on PTSD symptoms and self-enhancement, the analyses were completed again, controlling for gender as a covariate in the first step. In this case, gender demonstrated a significant relationship with the variables, such that it accounted for approximately 9.3% of the variance in PTSD symptoms, $R^2 = .093$, $F(1, 112) = 11.49$, $p < .001$, and was a significant predictor of

PTSD symptoms, $b = 2.34$, $SE = .69$, $t(113) = 3.39$, $p < .001$. When gender was included, the effect of self-enhancement were vastly reduced, such that it only accounted for 1.8% of variance in the model. See Figure 2.

Hypothesis 2

The second hypothesis, that resilience scores would be negatively related to PTSD symptoms, was not supported. A Pearson product-moment correlation showed a non-significant relationship between resilience and PTSD symptoms, $r(112) = -.05$, $p = .58$.

Hypothesis 3

The hypothesis that self-enhancement would be positively related to stigmatizing attitudes toward people diagnosed with PTSD was supported. A Pearson product-moment correlation between self-enhancement and stigma revealed a small but significant positive relationship, $r(112) = .27$, $p < .01$.

Hypothesis 4

The hypothesis that perceived controllability over a PTE would moderate the relationship between self-enhancement and PTSD stigma was partially supported. To control for social desirability and familiarity with PTSD, these variables were entered into the first step as covariates. These variables did not account for a significant amount of variance in personal stigma scores (See Table 4). The inclusion of self-enhancement in the next step accounted for an additional 5.0% of variance $R^2 = .08$, $\Delta R^2 = .05$, $\Delta F(1, 110) = 5.93$ $p < .05$. The combination of perceived controllability of PTEs and self-enhancement did not explain a significant amount of variance. In this step, self-enhancement remained a significant predictor of personal stigma, whereas controllability

did not significantly predict stigma scores. Inclusion of the interaction term for Self-Enhancement x Controllability explained an additional 3.0% of variance in the model, $R^2 = .11$, $\Delta R^2 = .03$, $\Delta F(1, 108) = 3.71$, $p = .057$, which was marginally significant. The interaction was also marginally predictive of personal stigma scores.

As before, the regression analyses were completed again, this time entering gender as a covariate in the first step. Gender did account for a significant amount of variance in personal stigma scores, $R^2 = .29$, $F(1, 112) = 44.83$, $p < .001$. Further, the inclusion of gender in the equation reduced the effects of self-enhancement, such that self-enhancement no longer accounted for a significant amount of variance in the model, $R^2 = .293$, $\Delta R^2 = .003$, $\Delta F(1, 109) = .42$, $p = .52$. The relationship of controllability to personal stigma did not change. Likewise, the interaction of Self-Enhancement x Controllability remained marginally significant ($p = .053$).

Hypothesis 5

Finally, the hypothesis that self-enhancement would be positively related to desired social distance from people diagnosed with PTSD was supported. A Pearson product-moment correlation between self-enhancement and social distance scores revealed a small but significant positive relationship, $r(112) = .22$, $p < .05$.

Exploratory Gender Analyses

Preliminary Analyses

Due to the large effects of gender demonstrated for most measures in the preliminary analyses, and the influence of gender as a covariate in the primary regression analyses, it seemed important to explore the effect of each gender on the data. As such,

the data was split by gender in order to determine what the effects of gender were in the regression equations. This was particularly important to understanding the marginally significant results found in the fourth hypothesis.

Regression Analyses

In order to analyze the regression data by gender, all independent variables and corresponding moderator variables were re-centered based on the gender means, and new interaction terms were created for males and females. Hierarchical regression analyses were then computed to evaluate whether gender played a role in the moderation of the relationship of self-enhancement and personal stigma by perceived controllability.

Females. Data for females were first examined for influences on the moderating effect of self-enhancement on the relationship between PTEs and PTSD scores. Results suggested a significant effect for females, such that prior PTEs explained 10.6% of the variance in PTSD symptoms for females, $R^2 = .11$, $F(1, 62) = 7.34$ $p < .01$ (See Table 5.). Likewise, the inclusion of self-enhancement in the next step explained 8.0% of variance in the model, $R^2 = .19$, $\Delta R^2 = .08$, $\Delta F(1, 61) = 6.03$ $p < .05$. Finally, the interaction of PTEs x Self-Enhancement explained an additional 10.2% of variance in PTSD symptoms, $R^2 = .29$, $\Delta R^2 = .102$, $\Delta F(1, 60) = 8.64$ $p < .01$.

Next, the influence of female gender on the moderating effect of controllability on the relationship between self-enhancement and personal stigma was examined. To control for social desirability and familiarity with PTSD, these variables were again entered into the first step as covariates. These variables did not account for a significant amount of variance in personal stigma scores (See Table 6). The inclusion of self-enhancement in

the next step only explained an additional 1.5% of variance. In the third step, the combination of controllability of PTEs also did not explain a significant amount of variance. In this step, neither self-enhancement nor controllability were significant predictors of personal stigma. In the final step, the interaction of Self-Enhancement x Controllability explained 8.5% of variance in the model, $R^2 = .12$, $\Delta R^2 = .08$, $\Delta F(1, 56) = 5.43$, $p < .05$. The interaction also significantly predicted personal stigma scores, $b = -.54$, $SE = .21$, $t(59) = -2.33$, $p < .05$. See Figure 3.

Males. The effect of male gender did not demonstrate significant relationships with most of the variables in the analyses tested above. However, males did demonstrate a similar effect of PTEs on PTSD symptoms, such that PTEs accounted for a significant amount of variance in PTSD symptoms, $R^2 = .16$, $F(1, 48) = 9.13$, $p < .01$. Male gender did not influence the relationship of self-enhancement to PTSD symptoms, nor was there a significant effect of the interaction of PTEs x Self-Enhancement on PTSD symptoms for males (See Table 7.)

Results showed that social desirability and familiarity with PTSD did not significantly explain variance in personal stigma for males (See Table 8). The inclusion of self-enhancement also did not contribute a significant amount of variance to the model. Neither the inclusion of controllability nor the interaction of Self-Enhancement x Controllability explained significant variance in personal stigma for males. Further, none of the variables were significantly predictive of personal stigma for males.

CHAPTER 4

DISCUSSION

The current study examined the nature of self-enhancement as it relates to resilience, PTSD, and stigma. Self-enhancement is a psychological construct which has demonstrated both positive and negative repercussions. Self-enhancement has been linked to improved resilience against PTSD development (Gupta & Bonanno, 2010), as well as being linked to a tendency to focus on others' negative attributes in order to maintain a positive view of self (Epley & Whitchurch, 2008).

Primary Analyses

Hypothesis 1

The first hypothesis, that self-enhancement would moderate the relationship between PTEs experienced and resilience, was partially supported. Due to its broad definition, it was important to measure resilience on a spectrum, wherein resistance to maladaptive symptoms represented one end of the continuum and the presence of PTSD symptoms represented the opposing end. Thus, the first hypothesis was tested by examining the effect of self-enhancement on the relationship between PTEs experienced and self-reported resilience and PTSD symptoms. Overall, self-enhancement was supported as both a contributor to resilience, as well as a buffer against PTSD symptoms. This is consistent with prior research into the relationship between self-enhancement and resilience (Bonanno et al., 2002; Bonanno et al., 2005; Gupta & Bonanno, 2010). Whereas the number of PTEs explained a substantial amount of variance in PTSD symptoms, it seemed not to affect resilience scores. This finding is surprising considering

previous research suggesting that PTE exposures have an additive effect which can act to “erode” resilience, and increase the likelihood of PTSD development (Barrera et al., 2013; Fossion et al., 2013).

However, it may further support the idea that resilience and PTSD development truly exist on a continuum, and that the presence of one does not preclude the other, as has been suggested by prior researchers (Almedom, & Glandon, 2007). This is also demonstrated by the high levels of PTSD symptoms reported in this sample. As was mentioned above, one-third of participants who said they had never experienced PTSD symptoms following a PTE were at or above the cut-off score to detect potentially diagnosable PTSD on the SPRINT scale. Therefore, it may be the case that resilience is not negated by the presence of PTSD symptoms. These findings suggest support for consideration of resilience as a trait that can co-occur with PTSD symptoms, rather than as a state that is mutually exclusive to PTSD symptoms (Bensimon, 2012).

Perhaps one of the most intriguing findings was the moderating effect of self-enhancement on the relationship between the number of PTEs experienced and PTSD symptoms. As can be seen in Figure 2, it seems that self-enhancement is a critical buffer against PTSD symptoms when the number of PTEs is low. This is consistent with prior research indicating that self-enhancers tend to view PTEs as less threatening than non-self-enhancers (Gupta & Bonanno, 2010). However, as the number of PTE exposures increases, the effect of self-enhancement quickly becomes negligible, such that high self-enhancers are likely to endorse PTSD symptoms at the same rate as low self-enhancers. This finding seems to lend support to the idea that repeated PTE exposures can, over time

contribute to a higher likelihood of PTSD development (Breslau et al., 1999; Fossion et al., 2013), even with the added protection of self-enhancement.

Few studies have investigated self-enhancement as a buffer against PTE exposure (Bonanno et al., 2002; Bonanno et al., 2005; Gupta & Bonanno, 2010). As such, there is little data related to the experience of specific types of PTEs as distressing among self-enhancers. Research has suggested that self-enhancement should continue to buffer against the distress associated with a PTE over time, regardless of the type or number of exposures (Gupta & Bonanno, 2010). Yet, in this sample, these effects were reversed.

One possible explanation for this effect comes from conservation of resources theory (COR; Hobfoll, 1989; Hobfoll et al., 2012). COR theory defines resources as “centrally valued entities... and include personal, social, material, and energy resources” (Hobfoll et al., 2012, p. 219). Research has demonstrated that losing resources is more impactful to a person’s experience of distress and maladaptive symptoms than gaining resources is to preventing the same (Hobfoll et al., 2012). Further, PTEs lead to rapid depletion of these resources, and general life stressors then cause an additional, chronic drain on resources. Thus, in the case of few or “milder” PTE exposures, self-enhancers are likely able to ignore the loss of resources by discounting them as irrelevant to their world view (Epley & Whitchurch, 2008). It may be that even for self-enhancers continued exposure to PTEs, especially combined with other life stressors, can break down the ability to bolster one’s world view such that distress becomes overwhelming. In fact, when considering that the effects of self-enhancement were greatly reduced when controlling for gender indicates that particular life circumstances related to normative

gender roles (e.g., parental responsibilities) might override the protection of self-enhancement. This is likely the case for participants of the current study, who may be dealing with the aftermath of a PTE exposure in conjunction with stressors related to school, work, and separation from family. Thus, although self-enhancement explains a significant amount of variance in both resilience and PTSD symptoms, its effects may be no match for repeated exposure to PTEs.

Hypothesis 2

Results did not support the second hypothesis that PTSD symptoms and resilience would demonstrate an inverse relationship. This suggests that resilience and PTSD symptomology are not mutually exclusive constructs, but more likely represent two possible outcomes on a continuum which may not be linear in nature (Almedom & Glandon, 2007). Just as physical health does not imply the complete lack of any ailment or infirmity, psychological health may also function on a spectrum, whereby a variety of gains and deficits are contributing factors to a person's functional status. The majority of the population will experience a PTE, yet the majority of the population will not experience chronic symptoms of distress (Breslau et al., 2004; Kessler et al., 1995; Norris, 1992; Perkonigg et al., 2000; Solomon & Davidson, 1997). As was mentioned above, maladaptive responses are typically seen when there is a significant loss of resources vital to a person's homeostatic mental state (Hobfoll, 1989; Hobfoll et al., 2012). Thus, it is not as simple as indicating that maladaptive responses alone indicate the lack of mental health altogether. Rather, resilient responses may be suppressed for a time in the face of overwhelming deficits. The presence of resilience even in maladaptive

responses may contribute to a person's ability to prevent chronic issues, or may aid in recovery after chronic symptoms emerge.

Alternatively, it may be that the range of responses for the current sample on the resilience or PTSD symptom measures was restricted. That is, the current sample may represent only a certain proportion of a population who would typically endorse a wider range of resilience responses. This could change the observable relationship between resilience and other variables (i.e., PTSD symptoms), such that the relationship would appear weaker. Examination of the data showed that the responses on the resilience measure were normally distributed, with sufficient variance demonstrated in scores represented across the total possible range from 10 to 50. However, responses on the PTSD symptom scale were skewed toward the high end of the scale. This is demonstrated by the fact that almost half (41%) of the sample endorsed PTSD symptoms at, or above, the cut-off score to indicate a potential PTSD diagnosis. Thus, in conclusion, individuals with lower levels of PTSD symptoms were under-represented in the sample and may have undermined the association between PTSD and resilience.

Hypothesis 3

The hypothesis that self-enhancement would be positively related to stigmatizing attitudes toward people diagnosed with PTSD was supported. Correlational analyses suggested a positive relationship between self-enhancement and stigma. Although the effect size was small ($r = .27$), this finding is an important addition to the body of knowledge for self-enhancement, as no other studies have addressed the relationship of self-enhancement to stigmatizing attitudes. Recent research has determined that

stigmatizing attitudes can be sorted into two categories: weak/not sick or dangerous/unpredictable (Yap, McKinnon, Reavely, & Jorm, 2014). Yap, MacKinnon, Reavely, and Jorm (2014) found support for weak/not sick stigma attitudes toward PTSD in particular. This finding fits with the idea that there is a nuanced stigma for people struggling with PTSD—one which is likely stronger in self-enhancers. Self-enhancers' tendency to attend to others' negative attributes in an effort to maintain an overly positive sense of self (Epley & Whitchurch, 2008), and unintentional alienation of others (Colvin et al., 1995) would likely contribute to stigmatized attitude of people who develop PTSD symptoms as being fundamentally flawed or weak. Self-enhancers' lack of subjective distress after a PTE (Gupta & Bonanno, 2010) suggests a potential for self-enhancers to have a broad view of PTEs as something that can and should be brushed off. Thus, rather than offering support as a “wounded healer” (Zerubavel & Wright, 2012), self-enhancers are more likely to judge a person who does experience distress as weak-willed.

Hypothesis 4

Results demonstrated partial support for the fourth hypothesis regarding the moderating effect of controllability on the relationship between self-enhancement and stigmatizing attitudes. Self-enhancement was a significant predictor of endorsement of personal stigma toward people diagnosed with PTSD, which is consistent with the results discussed above. It was interesting to note that controllability did not help to explain variance in personal stigma. Prior research has demonstrated that perceived responsibility for the disorder is one of the factors that helps to explain stigma leading to social rejection (Feldman & Crandall, 2007). Further, research has demonstrated the utility of

vignettes to induce perceptions of varying levels of controllability (Feldman & Crandall, 2007). However, some research has suggested that effects sizes in studies using vignettes are highly variable, and can be small (Emerton, 2010). As such, it may be the case that the current sample size was too small to detect the difference in controllability between conditions. Alternatively, self-enhancers may perceive controllability differently than non-self-enhancers. This is particularly true considering the marginal support found for the interaction of self-enhancement and perceived controllability.

Hypothesis 5

The hypothesis that self-enhancement would be positively related to desired social distance from people diagnosed with PTSD was supported. This is consistent with prior results regarding self-enhancement and stigma attitudes in general. It also reflects previous research indicating that self-enhancers tend to be sensitive to the flaws in others (Epley & Whitchurch, 2008).

Exploratory Gender Analyses

Due to the relative lack of research into public stigma behaviors toward people diagnosed with PTSD, the current study was designed only to examine whether a specific facet that acts as a protective factor in one instance could also contribute to stigmatizing behaviors (i.e., self-enhancement). To my knowledge, this is the first study to examine self-enhancement in relation to stigmatizing behaviors. Considering the marginal significance found for the interaction of self-enhancement and controllability for predicting personal stigma attitudes, it seemed likely that there might be additional factors contributing to the relationship (e.g., age, gender, race.). Thus, exploratory

analyses were performed to determine what, if any, other factors may have influenced the above findings. However, the exploration of age and race bore no significant finding, whereas gender did appear to have an impact.

Gender Differences

Males reported significantly higher stigmatizing attitudes toward people diagnosed with PTSD, as compared to females. This finding is consistent with some prior research broadly regarding mental illness stigma (Chandra, & Minkovitz, 2006; Farina, 1981; Yap et al., 2014). Likewise, males were higher in self-enhancement than females, which has also been demonstrated in previous research (Gupta & Bonanno, 2010; Vecchione, Alessandri, Barbaranelli, & Caprara, 2013). However, these were quite large effects, which is not consistent with prior research on either stigma or self-enhancement (Chandra, & Minkovitz, 2006; Farina, 1981; Vecchione, Alessandri, Barbaranelli, & Caprara, 2013; Yap et al., 2014) that have typically found relatively small or non-significant effects of gender.

Despite the overall effect of self-enhancement in predicting personal stigma, and the higher levels of stigma and self-enhancement found in males, once the data was analyzed by gender, these effects seemingly disappeared. This may be due to the relatively uniform response pattern demonstrated by males—that is, males were higher in personal stigma overall because most males tended to endorse personal stigma at similar rates. Perhaps this trend speaks to the societal expectation that men view issues such as development of PTSD symptoms as a sign of personal weakness (Chamberlain, 2012). Indeed, prior research into variables related to self-enhancement have suggested that male

self-enhancers are likely to be “hostile to others,” and “subtly negativistic” (Colvin et al., 1995, p. 1155).

Conversely, the interaction of perceived controllability and self-enhancement in females did explain a significant amount of variance in females’ stigmatizing attitudes toward PTSD. This is likely due to the greater variability demonstrated in female’s endorsements of personal stigma attitudes. As can be seen in Figure 3, high self-enhancer females endorsed the most stigma toward people who developed PTSD when presented with a low controllability PTE scenario. That is, high self-enhancer females perceived greater weakness when thinking of a person who had little control over exposure to a PTE. Such a finding is unusual, as prior research has suggested that females have more benign attitudes with regard to stigmatized groups (Chandra & Minkovitz, 2006; Farina, 1981). Further, it is remarkable that perceptions of less control over exposure to PTEs would create more stigma in high self-enhancers. It would be assumed that a higher level of control over the situation would translate to greater blame for the situation. Yet, this assumption seemed to be true only for females low in self-enhancement. Perhaps, for self-enhancers, perceived control over one’s circumstances is considered a strength, regardless of whether one’s choices lead to subsequent PTE exposure.

Limitations

Although the current study advances previous research into the role of self-enhancement in PTSD and resilience, specifically by providing evidence for self-enhancement as a contributor to stigma, there are limitations which need to be addressed. First, the measures of self-enhancement demonstrated poor reliability. However, the only

two measures of self-enhancement currently available were used in this study. Although the ESE scale demonstrated adequate reliability in validation studies (Vecchione, Alessandri, & Barbaranelli, 2013; Vecchione, Alessandri, Barbaranelli, & Caprara, 2013), and was superior to the SDE scale (Paulhus, 1984), both measures demonstrated comparable internal consistency with this sample. However, even with the reduced reliability, effects were demonstrated. Thus, it may be that the effects related to self-enhancement were artificially inflated or deflated due to the inadequate reliability of the measure in this study. The best way to determine whether these effects bear merit will be to develop a stronger measure of self-enhancement by creating a stronger operationalization of the construct, such that the underlying components contributing to this trait can be identified more clearly. One attempt has been made by Taylor, Lerner, Sherman, Sage, and McDowell (2003), whereby they assessed self-enhancement by directly asking participants to rate themselves as better or worse than the average college student on positive and negative characteristics. By gaining such information, along with data from current self-enhancement measures, factor analysis can be utilized to determine specific facets underlying self-enhancement.

Another limitation came from the retrospective nature of PTE and PTSD symptom reporting. Prior studies have demonstrated that people tend to recall fewer PTE exposures over time, and the same is true for PTSD symptoms (Gupta & Bonanno, 2010; Priebe et al., 2013). This did create an issue with participants' ability to enumerate PTEs experienced in childhood. However, due to the cross-sectional nature of the current study, it was not possible to collect real-time PTE exposure. Indeed, a majority of studies on

PTSD and PTE exposure are retrospective (Breslau et al., 2004; Kessler et al., 1995; Norris, 1992; Perkonig et al., 2000; Solomon & Davidson, 1997). Additionally, prior research using a prospective design has indicated that recall of PTEs is more accurate than recall of other life events (Lalande & Bonanno, 2011). Further, real-time recording of PTEs can create ethical dilemmas related to mandatory reporting of child abuse, domestic violence, elder abuse, etc. Requiring only basic, retrospective recall of PTEs and PTSD symptoms related to the worst event potentially increased participants' willingness to share sensitive material more openly.

Relatedly, self-enhancement was measured for current levels, yet it may be that self-enhancement was affected by the experience of PTEs. Research into posttraumatic growth suggests that some people may experience PTEs as a catalyst for improving their self-efficacy, self-esteem, and ability to find meaning in their lives (Nelson, 2011). However, this is unlikely to be the case for self-enhancers, as self-enhancement appears to reduce the experience of distress required for posttraumatic growth (Bonanno, 2008; Nelson, 2011). Indeed, prospective measurement of self-enhancement over time, along with simultaneous PTE tracking, suggested that self-enhancement remains stable even during times of great distress (Gupta & Bonanno, 2010). As such, it seems unlikely that the self-enhancement measured here was an inaccurate representation of the levels present before or during the PTE(s) for self-enhancers.

Another limitation came from the absence of a manipulation check regarding perceptions of controllability by condition. The vignettes were written with distinct differences regarding the choices of the person in them. These differences were carefully

cultivated in order to represent more or less control over circumstances leading to a PTE exposure. As such, it seemed unnecessary to include an additional question regarding perceived control across conditions. However, it would be ideal to have this information in future research in order to create more refined vignettes.

Relatedly, although the vignettes did not visually seem to vary in length, and the total word count difference was minimal (439 in the controllable condition compared to 413 in the inevitable condition; 6% difference), there was a substantial difference when considering the difference in key content words between the two vignettes. The key content in the controllable vignette contained a total of 74 words, whereas the key content in the inevitable vignette contained 38 words, creating an imbalance of 36 total key content words (51% difference) between conditions. It may be that the lengthier content in the controllable condition might have influenced participants' responses such that more or less stigma was produced. Likewise, the shorter length in the inevitable condition may have worked to cause participants to infer more or less information to reach a conclusion about the person depicted. Future studies should seek to determine a method of cultivating differences in perceived control between conditions such that the number of key content words can be held consistent across conditions.

Finally, the current study required participants to complete the measures in person, and this may have influenced participant responses to stigma items. However, this was deemed necessary due to the sensitive nature of the subject (trauma). Further, as the study progressed, it became clear that language barriers were significant for some participants. Multiple participants required assistance to understand how to answer a

question, or to understand psychological disorders referenced. As such, it was advantageous to be able to address these issues in real-time, with answers based on information relevant to the study, rather than information gathered from a less reliable source online.

Implications

Findings from the current study provide the basis for a number of initiatives related to PTSD stigma prevention, as well as the potential for programs targeted at encouraging treatment utilization for those struggling with PTSD symptoms. Individuals with PTSD symptoms tend to over-utilize physical health resources (i.e., ER visits, extraneous surgical procedures; Brunello et al., 2001) and underutilize evidence-based psychological treatments (Lu et al., 2013). One of the most cited barriers to mental health treatment seeking among individuals diagnosed with PTSD is perceived public stigma (Gould et al., 2007; Langston et al., 2010; Lu et al., 2013). As such, the current findings present one avenue by which to reduce this stigma toward people diagnosed with PTSD via psychoeducational programs targeted at self-enhancers. By targeting the stigmatizing attitudes through educational interventions, self-enhancers would be able to provide a more supportive social environment for those around them who struggle with PTSD. This is imperative, as social support has been found to be a crucial factor in PTSD recovery (Maercker & Muller, 2004; Vogt et al., 2011; Wethington & Kessler, 1986). Current initiatives in Canada suggest that the most effective anti-stigma programs may also lend themselves to increased treatment seeking for individuals with PTSD (Corrigan, 2014). That is, a key ingredient of anti-stigma programs has been found to be increased contact

with target group members, and to hear from people who have lived through the experience of the target disorder successfully (Corrigan, 2014). As such, such a program would afford self-enhancers the opportunity to become better educated about the people around them, as well as about their own tendencies and how they contribute to stigma, while also providing a forum by which people struggling with PTSD symptoms could share their stories.

By bolstering social support for people struggling with PTSD symptoms, use of physical healthcare resources could be reduced, as well as potentially reducing the compounding effects of stigma on PTSD symptoms in general. More specifically, increased social support and awareness of the potential for PTSD to co-exist with resilience could help to reduce the impact of PTSD symptoms such that suicide rates might go down as well. Overall, the burden on the individual to seek out assistance or otherwise get better on his/her own would be reduced, as would the societal impact with potential reduction of high healthcare usage, missed days of work, and suicide.

Future Directions

The current findings open multiple avenues for future research. A primary goal of future self-enhancement research should be to better operationalize self-enhancement in order to create a stronger measure. There is a relative lack of research in this area, despite its relationship with a variety of psychological phenomena. Further, future research should address the issue of gender as it relates to both self-enhancement and stigma. Prior research has demonstrated relatively small effects of gender with regard to stigma attitudes, and almost no research has examined the influence of gender on self-

enhancement. As such, better understanding of the relationship of gender in the context of stigma and self-enhancement has the potential to initiate the development of programs targeting these variables. Additionally, future studies should address the issue of in-person measures by developing online studies which can be modified for a variety of languages.

Conclusion

The current study was designed to help bridge the gap in knowledge between adaptive and maladaptive responses in psychology (i.e., PTSD and resilience). Specifically, self-enhancement was examined as a simultaneous personal protective factor and public stigma contributor. As it turns out, positive and pathological psychology may be more intertwined than previously thought. Self-enhancement was found to act as a contributor to resilience, but was effective against PTSD development for only low levels of PTE exposures. Likewise, perceptions of a person's responsibility for PTE exposure functioned to reduce stigma attitudes in high self-enhancer females. The current study is one of the first to address the contribution of self-enhancement to stigmatizing attitudes toward people with PTSD diagnoses. Understanding the mechanisms that bridge the gap between adaptive and maladaptive responses may provide insight into the methods for reducing stigma attitudes and increasing treatment seeking.

END NOTE

¹This score was determined to be an outlier during preliminary analyses. However, results of regression and correlational analyses with the outlier removed remained qualitatively the same.

REFERENCES

- Ajdukovic, D., Ajdukovic, D., Bogic, M., Franciskovic, T., Galeazzi, G. M., Kucukalic, A., ... Priebe, S. (2013). Recovery from posttraumatic stress symptoms: A qualitative study of attributions in survivors of war. *PLoS ONE*, *8*(8), 1-12. doi:10.1371/journal.pone.0070579
- Almedom, A. M. & Glandon, D. (2007). Resilience is not the absence of PTSD any more than health is the absence of disease. *Journal of Loss and Trauma*, *12*, 127-143. doi:10.1080/15325020600945962
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Association.
- Andrews, B., Brewin, C. R., Stewart, L., Philpott, R., & Hejdenberg, J. (2009). Comparison of immediate-onset and delayed-onset posttraumatic stress disorder in military veterans. *Journal of Abnormal Psychology*, *118*, 767-777. doi:10.1037/a0017203
- Barrera, T. L., Graham, D. P., Dunn, N. J., & Teng, E. J. (2013). Influence of trauma history on panic and posttraumatic stress disorder in returning veterans. *Psychological Services*, *10*, 168-176. doi:10.1037/a0031178
- Bensimon, M. (2012). Elaboration on the association between trauma, PTSD and posttraumatic growth: The role of trait resilience. *Personality and Individual Differences*, *52*, 782-787. doi:10.1016/j.paid.2012.01.011
- Bonanno, G. A. (2008). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *Psychological Trauma: Theory, Research, Practice, and Policy*, *5*, 101-113. doi:10.1037/1942-9681.S.1.101
- Bonanno, G. A., Field, N. P., Kovacevic, A., & Kaltman, S. (2002). Self-enhancement as a buffer against extreme adversity: Civil war in Bosnia and traumatic loss in the United States. *Personality and Social Psychology Bulletin*, *28*, 184-196. doi:10.1177/0146167202282005
- Bonanno, G. A., Galea, S., Bucciarelli, A., & Vlahov, D. (2007). What predicts psychological resilience after disaster? The role of demographics, resources and life stress. *Journal of Consulting and Clinical Psychology*, *75*, 671-682. doi:10.1037/0022-006X.75.5.671

- Bonanno, G. A., Rennie, C., & Dekel, S. (2005). Self-enhancement among high exposure survivors of the September 11th terrorist attack: Resilience or social maladjustment. *Journal of Personality and Social Psychology*, *88*, 984-998. doi:10.1037/002-3514.8.6.984
- Bonanno, G. A., Westphal, M., & Mancini, A. D. (2010). Resilience to loss and potential trauma. *Annual Review of Clinical Psychology*, *7*, 511-535. doi:10.1146/annurev-clinpsy-032210-104526
- Breslau, N. (2009). The epidemiology of trauma, PTSD, and other posttrauma disorders. *Trauma, Violence, & Abuse*, *10*, 198-210. doi:10.1177/1524838009334448
- Breslau, N., Chilcoat, H. D., Kessler, R. C., & Davis, G. C. (1999). Previous exposure to trauma and PTSD effects of subsequent trauma: Results from the Detroit Area Survey of Trauma. *American Journal of Psychiatry*, *156*, 902-907. Retrieved from <http://ajp.psychiatryonline.org.proxy.lib.uni.edu/data/Journals/AJP/3701/902.pdf> <http://journals.psychiatryonline.org/data/Journals/AJP/3701/902.pdf>
- Breslau, N., Peterson, E. L., Poisson, L. M., Schultz, L. R., & Lucia, V. C. (2004). Estimating post-traumatic stress disorder in the community: Lifetime perspective on the impact of typical traumatic events. *Psychological Medicine*, *34*(5), 889-898. doi:10.1017/S00332911703001812
- Britt, T. W., Greene-Shorridge, T. M., Brink, S., Nguyen, Q. B., Rath, J., Cox, A. L., ... Castro, C. A. (2008). Perceived stigma and barriers to care for psychological treatment: Implications for reactions to stressors in different contexts. *Journal of Social and Clinical Psychology*, *27*, 317-335. doi:10.1521/jscp.2008.27.4.317
- Brown, P. J., Stout, R. L., & Mueller, T. (1999). Substance use disorder and posttraumatic stress disorder comorbidity: Addiction and psychiatric treatment rates. *Psychology of Addictive Behaviors*, *13*, 115-122. doi:10.1037/0893-164X.13.2.115
- Brunello, N., Davidson, J. R. T., Deahl, M., Kessler, R. C., Mendlewicz, J., Racagni, G., ... Zohar, J. (2001). Posttraumatic stress disorder: Diagnosis and epidemiology, comorbidity and social consequences, biology, and treatment. *Neuropsychobiology*, *43*, 150-162. doi:10.1159/000054884
- Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2005). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy*, *44*, 585-599. doi:10.1016/j.brat.2005.05.001

- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor-Davidson Resilience Scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress, 20*, 1019-1028. doi:10.1002/jts.20271
- Chamberlain, S. M. E. (2012). Emasculated by trauma: A social history of post-traumatic stress disorder, stigma, and masculinity. *The Journal of American Culture, 35*, 358-365. doi:10.1111/jack.12005
- Chandra, A., & Minkovitz, C. S. (2006) Stigma starts early: Gender differences in teen willingness to use mental health services. *Journal of Adolescent Health, 38*, 754.e1-754.e8. doi:10.1016/j.jadohealth.2005.08.011
- Colvin, C. R., Block, J., & Funder, D. C. (1995). Overly positive self-evaluations and personality: Negative implications for mental health. *Journal of Personality and Social Psychology, 68*, 1152-1162. doi:10.1037/0022-3514.68.6.1152
- Connor, K. M., & Davidson, J. R. T. (2001). SPRINT: A brief global assessment of post-traumatic stress disorder. *International Clinical Psychopharmacology, 16*, 279-284. doi:10.1097/00004850-200109000-00005
- Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety, 18*, 76-82. doi:10.1002/da.10113
- Corrigan, P. W. (2014). Opening Minds: The Mental Health Commission of Canada's anti-stigma initiative: Listen to these lessons. *Canadian Journal of Psychiatry, 59*, S6-S7. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4213754/pdf/cjp-2014-vol59-october-supplement-s6-s7.pdf>
- Corrigan, P. W., Edwards, A. B., Green, A., Diwan, S. L., & Penn D. L. (2001). Prejudice, social distance, and familiarity with mental illness. *Schizophrenia Bulletin, 27*, 219-225. Retrieved from <http://schizophreniabulletin.oxfordjournals.org/content/27/2/219>
- Cronbach, L. J. (1987). Statistical tests for moderator variables: Flaws in analyses recently proposed. *Psychological Bulletin, 102*, 414-417. doi:10.1037/003-2909.102.3.414
- Davis, M. T., Witte, T. K., & Weathers, F. W. (2013). Posttraumatic stress disorder and suicidal ideation: The role of specific symptoms within the framework of the interpersonal-psychological theory of suicide. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*, 1-9. doi:10.1037/a0033941

- Emerton, J. L. (2010). *Factors that influence personal stigma towards, and desire for social distance from, a peer with depression in a British adolescent sample*. (Unpublished doctoral dissertation). University of East Anglia, Norfolk, United Kingdom.
- Epley, N., & Whitchurch, E. (2008). Mirror, mirror on the wall: Enhancement in self-recognition. *Personality and Social Psychology Bulletin*, *34*, 1159-1170. doi:10.1177/0146167208318601
- Fanning, J. R., & Pietrzak, R. H. (2013). Suicidality among older male veterans in the United States: Results from the National Health and Resilience in Veterans Study. *Journal of Psychiatric Research*, *47*, 17-1775. doi:10.1016/j.psychires.2013.07.015
- Farina, A. (1981). Are women nicer people than men? Sex and the stigma of mental disorders. *Clinical Psychology Review*, *1*(2), 223-243. doi:10.1016/0272-7358(81)90005-2
- Feldman, D. B., & Crandall, C. S. (2007). Dimensions of mental illness stigma: What about mental illness causes social rejection? *Journal of Social and Clinical Psychology*, *26*, 137-154. doi:10.1521/jsep.2007.26.2.137
- Fossion, P., Leys, C., Kempnaers, C., Braun, S., Verbanck, P., & Linkowski, P. (2013). Depression, anxiety and loss of resilience after multiple traumas: An illustration of a mediated moderation model of sensitization in a group of children who survived the Nazi Holocaust. *Journal of Affective Disorders*, *151*, 973-979. doi:10.1016/j.jad.2013.08.018
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology. *Journal of Counseling Psychology*, *51*, 115-134. doi:10.1037/0022-0167.51.1.115
- Galatzer-Levy, I. R., Nickerson, A., Litz, B. T., & Marmar, C. (2013). Patterns of lifetime PTSD comorbidity: A latent class analysis. *Depression and Anxiety*, *30*, 489-496. doi:10.1002/da.22048
- Goorin, L., & Bonanno, G. A. (2009). Would you buy a used car from a self-enhancer? Social benefits and illusions in trait self-enhancement. *Self and Identity*, *8*, 162-175. doi:10.1080/15298860802501607
- Gould, M., Greenberg, N., & Hetherington, J. (2007). Stigma and the military: Evaluation of a PTSD psychoeducational program. *Journal of Traumatic Stress*, *20*, 505-515. doi:10.1002/jts.20233

- Griffiths, K. M., Batterham, P. J., Barney, L., & Parsons, A. (2011). The Generalized Anxiety Stigma Scale (GASS): Psychometric properties in a community sample. *BMC Psychiatry, 11*, 1-9. doi:10.1186/1471-244X-11-184
- Griffiths, K. M., Christensen, H., & Jorm, A. F. (2008). Predictors of depression stigma. *BMC Psychiatry, 8*, 1-12. doi:10.1186/1471-244X-8-25
- Griffiths, K. M., Christensen, H., Jorm, A. F., Evans, K., & Groves, C. (2004). Effect of web-based depression literacy and cognitive-behavioral therapy interventions on stigmatizing attitudes to depression: Randomised control trial. *The British Journal of Psychiatry, 185*, 342-349. doi:10.1192/bjp.185.4.342
- Griffiths, K. M., Nakane, Y., Christensen, H., Yoshioka, K., Jorm, A. F., & Nakane, H. (2006). Stigma in response to mental disorders: A comparison of Australia and Japan. *BMC Psychiatry, 6*(21), 1-12. doi:10.1186/147-244X-6-21
- Gucciardi, D. F., Jackson, B., Coulter, T. J., & Mallett, C. J. (2011). The Connor Davidson Resilience Scale (CD-RISC): Dimensionality and age-related measurement of invariance with Australian cricketers. *Psychology of Sport and Exercise, 12*, 429-433. doi:10.1016/j.psychsport.2011.02.005
- Gupta, S., & Bonanno, G. A. (2010). Trait self-enhancement as a buffer against potentially traumatic events: A prospective study. *Psychological Trauma: Theory, Research, Practice, and Policy, 2*(2), 83-92. doi:10.1037/a0018959
- Haller, M., & Chassin, L. (2013). The influence of PTSD symptoms on alcohol and drug problems: Internalizing and externalizing pathways. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*, 484-493. doi:10.1037/a0029335
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*, 513-524. doi:10.1037/0003-066X.44.3.513
- Hobfoll, S. E., Vinokur, A. D., Pierce, P. F., & Lewandowski-Romps, L. (2012). The combined stress of family life, work, and war in Air Force men and women: A test of conservation of resources theory. *International Journal of Stress Management, 19*, 217-237. doi:10.1037/a0029247
- Holmes, E. P., Corrigan, P. W., Williams, P., Cannar, J., & Kubiak, M. A. (1999). Changing attitudes about schizophrenia. *Schizophrenia Bulletin, 25*, 447-456. Retrieved from <http://psycnet.apa.org.proxy.lib.uni.edu/journals/szb/25/3/447.pdf>

- Hooyer, K. (2012). Going AWOL: Alternative responses to PTSD stigma in the U.S. military. *Field Notes: A Journal of Collegiate Anthropology*, 4, 106-128. Retrieved from http://veteransupportnet.homestead.com/Going_AWOL.pdf
- Interian, A., Ang, A., Gara., M. A., Link. B. G., Rodriguez, M. A., & Vega, W. A. (2010). Stigma and depression treatment utilization among Latinos: Utility of four stigma measures. *Psychiatric Services*, 61, 373-379. doi:10.1176/appi.ps.61.4.373
- Jakupcak, M., Cook, J., Imel, Z., Fontana, A., Rosenheck, R., & McFall, M. (2009). Posttraumatic stress disorder as a risk factor for suicidal ideation in Iraq and Afghanistan war veterans. *Journal of Traumatic Stress*, 22, 303-306. doi:10.1002/jts.20423
- Kessler, R. C., Sonnega, A. S., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52, 1048-1060. doi:10.1001/archpsyc.1995.03950240066012
- Kubany, E. S., Haynes, S. N., Leisen, M. B., Owens, J. A., Kaplan, A. S., Watson, S. B., & Burns, K. (2000). Development and preliminary validation of a brief broad-spectrum measure of trauma exposure: The Traumatic Life Events Questionnaire (TLEQ). *Psychological Assessment*, 12, 210-224. doi:10.1037//1040-3590.12.2.210
- Lalande, K. M., & Bonanno, G. A. (2011). Retrospective memory bias for the frequency of potentially traumatic events: A prospective study. *Psychological Trauma: Theory, Research, Practice, & Policy*, 3, 165-170. doi:10.1037/a0020847
- Langston, V., Greenberg, N., Fear, N., Iverson, A., French, C., & Wessely, S. (2010). Stigma and mental health in the Royal Navy: A mixed methods paper. *Journal of Mental Health*, 19(1), 8-16. doi:10.3109/09638230802522999
- Link, B. G., Cullen, F. T., Frank, J., & Wozniak, J. F. (1987). The social rejection of former mental patients: Understanding why labels matter. *American Journal of Sociology*, 92, 1461-1500. doi:10.1086/228672
- Link, B. G., Phelan, J. C., Bresnahan, M., Stueve, A., & Pescosolido, B. A. (1999). Public conceptions of mental illness: Labels, causes, dangerousness, and social distance. *American Journal of Public Health*, 89, 1328-1333. doi:10.2105/AJPH.89.9.1328
- Link, B. G., Struening, E. L., Neese-Todd, S., Asmussen, S., & Phelan, J. C. (2001). Stigma as a barrier to recovery: The consequences of stigma for the self-esteem of people with mental illness. *Psychiatric Services*, 52, 1621-1626. doi:10.1176/appi.ps.52.12.1621

- Link, B. G., Yang, L. H., Phelan, J. C., & Collins, P. Y. (2004). Measuring mental illness stigma. *Schizophrenia Bulletin*, *30*, 511-541. Retrieved from <http://psycnet.apa.org/journals/szb/30/3/511.pdf>
- Lu, M. W., Plagge, J. M., Marsiglio, M. C., & Dobscha, S. K. (2013). Clinician documentation on receipt of trauma-focused evidence-based psychotherapies in a VA PTSD clinic. *Journal of Behavioral Health Services & Research*. Advance online publication. doi:10.1007/s11414-013-9372-9
- Maercker, A., & Muller, J. (2004). Social acknowledgement as victim or survivor: A scale to measure a recovery factor of PTSD. *Journal of Traumatic Stress*, *17*, 345-351. doi:10.1023/B:JOTS.0000038484.15488.3d
- Maseda, R., & Dulin, P. L. (2012). From weaklings to wounded warriors: Changing portrayal of war-related post traumatic stress disorder in American cinema. *49th Parallel*, *30*, 1-32. Retrieved from <http://www.49thparallel.bham.ac.uk/back/issue30/MasedaDulin.pdf>
- Nelson, S. D. (2011). The posttraumatic growth path: An emerging model for prevention and treatment of trauma-related behavioral health conditions. *Journal of Psychotherapy Integration*, *21*, 1-42. doi:10.1037/a0022908
- Norris, F. H. (1992). Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology*, *60*, 409-418. doi:10.1037/0022-006X.60.3.409
- Olatunji, B. O., Armstrong, T., Fan, Q., & Zhao, M. (2012). Risk and resiliency in posttraumatic stress disorder: Distinct roles of anxiety and disgust sensitivity. *Psychological Trauma: Theory, Research, Practice, and Policy*, online. doi:10.1037/a00229682
- Paulhus, D. L. (1984). Two-component models of socially desirable responding. *Personality Processes and Individual Differences*, *46*, 598-609. doi:10.1037/0022-3514.46.3.598
- Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self enhancement: A mixed blessing? *Interpersonal Relations and Group Processes*, *74*, 1197-1208. doi:10.1037/0022-3514.74.5.1197

- Perkonig, A., Kessler, R. C., Storz, S., & Wittchen H. U. (2000). Traumatic events and post-traumatic stress disorder in the community: Prevalence, risk factors, and comorbidity. *Acta Psychiatrica Scandinavica*, *101*, 46-59. doi:10.104/j.1600-0447.2000.101001046.x
- Pietrzak, R. H., & Cook, J. M. (2013). Psychological resilience in older U.S. veterans: Results from the National Health and Resilience in Veterans Study. *Depression and Anxiety*, *30*, 432-443. doi:10.1002/da.22083
- Pietrzak, R. H., Johnson, D. C., Goldstein, M. B., Malley, J. C., & Southwick, S. M. (2009). Perceived stigma and barriers to mental health care utilization among OEF-OIF veterans. *Psychiatric Services*, *60*, 1118-1122. doi:10.1176/appi.ps.60.8.1118
- Priebe, K., Kleindeinst, N., Zimmer, J., Koudela, s., Ebner-Priemer, U., & Bohus, M. (2013). Frequency of intrusions and flashbacks in patients with posttraumatic stress disorder related to childhood sexual abuse: An electronic diary study. *Psychological Assessment*, *25*, 1370-1376. doi:10.1037/a0033816
- Rusch, N., Angermeyer, M. C., & Corrigan, P. W. (2005). Mental illness stigma: Concepts, consequences, and initiatives to reduce stigma. *European Psychiatry*, *20*, 529-539. doi:10.1016/j.eurpsy.2005.04.004
- Sayer, N. A., Friedemann-Sanchez, G., Spont, M., Murdoch, M., Parker, L. E., Chiros, C., & Rosenheck, R. (2009). A qualitative study of determinants of PTSD treatment initiation in veterans. *Psychiatry*, *72*, 238-255. doi:10.1521/psyc.2009.72.3.238
- Self-Brown, S., Lai, B. S., Thompson, J. E., McGill, T., & Kelley, M. L. (2013). Posttraumatic stress disorder symptom trajectories in Hurricane Katrina affected youth. *Journal of Affective Disorders*, *147*, 198-204. doi:10.1016/j.jad.2012.11.002
- Solomon, S. D., & Davidson, J. R. T. (1997). Trauma: Prevalence, impairment, service use, and cost. *Journal of Clinical Psychiatry*, *58*, 5-11. Retrieved from <http://psycnet.apa.org/psycinfo/1997-35809-001>
- Stöber, J. (2001). The Social Desirability Scale – 17 (SDS – 17): Convergent validity, discriminant validity, and relationship with age. *European Journal of Psychological Assessment*, *17*, 222-232. doi:10.1027//1015-5759.17.3.222
- Stuart, H., & Arboledo-Florez, J. (2001). Community attitudes toward people with schizophrenia. *Canadian Journal of Psychiatry*, *46*, 245-252.

- Taylor, S. E., Lerner, J. S., Sherman, D. K., Sage, R. M., & McDowell, N. K. (2003). Portrait of the self-enhancer: Well adjusted and well liked or maladjusted and friendless? *Journal of Personality and Social Psychology*, *84*(1), 165-176. doi:10.1037/0022-3514.84.1.165
- Torchalla, I., Strehlau, V., Li, K., Linden, I. A., Noel, F., & Krausz, M. (2013). Posttraumatic stress disorder and substance use disorder comorbidity in homeless adults: Prevalence, correlates and sex differences. *Psychology of Addictive Behaviors*, *28*(2), 1-11. doi:10.1037/a0033674
- Troop, N. A., & Hiskey, S. (2013). Social defeat and PTSD symptoms following trauma. *British Journal of Clinical Psychology*, *52*, 365-379. doi:10.1111/bjc.12022
- Van der Werff, S. J. A., Van den Berg, S. M., Pannekoek, J. N., Elzinga, B. M., & Van der Wee, N. J. A. (2013). Neuroimaging resilience to stress: A review. *Frontiers in Behavioral Neuroscience*, *7*(39), 1-14. doi:10.3389/fnbeh.2013.00039
- Vecchione, M., Alessandri, G., & Barbaranelli, C. (2013). Measurement and application of egoistic and moralistic self-enhancement. *International Journal of Selection and Assessment*, *21*(2), 1-13. doi:10.1111/ijsa.12027
- Vecchione, M., Alessandri, G., Barbaranelli, C., & Caprara, G. (2013). A longitudinal investigation of egoistic and moralistic self-enhancement. *Journal of Personality Assessment*, *95*, 506-512. doi:10.1080/00223891.2013.810152
- Vogel, D. L., Wade, N. G., & Hackler, A. H. (2007). Perceived public stigma and the willingness to seek counseling: The mediating roles of self-stigma and attitudes toward counseling. *Journal of Counseling Psychology*, *54*(1), 40-50. doi:10.1037/a0022-0167.54.1.40
- Vogel, D. L., Wade, N. G., Wester, S. R., Larson, L., & Hackler, A. H. (2007). Seeking help from a mental health professional: The influence of one's social network. *Journal of Clinical Psychology*, *63*(3), 233-245. doi:10.1002/jclp.20345
- Vogt, D., Smith, B., Elwy, R., Martin, J., Schultz, M., Drainoni, M.-L., & Eisen, S. (2011). Predeployment, deployment, and postdeployment risk factors for posttraumatic stress symptomology in female and male OEF/OIF veterans. *Journal of Abnormal Psychology*, *120*, 819-831. doi:10.1037/a0024457
- West, S. G., Aiken, L. S., & Krull, J. L. (1996). Experimental personality designs: Analyzing categorical by continuous variable interactions. *Journal of Personality*, *64*, 1-48. Retrieved from [http://people.cehd.tamu.edu/~okwok/epsy652R/Articles/West_%20Aiken_Krull%20\(1996\).pdf](http://people.cehd.tamu.edu/~okwok/epsy652R/Articles/West_%20Aiken_Krull%20(1996).pdf)

- Wethington, E., & Kessler, R. C. (1986). Perceived support, received support, and adjustment to stressful life events. *Journal of Health and Social Behavior*, 27(1), 78-89. Retrieved from <http://www.jstor.org/stable/2136504>
- White, W. L. (2000a). The history of recovered people as wounded healers: I. From Native America to the rise of the modern alcoholism movement. *Alcoholism Treatment Quarterly*, 18(1), 1-23. doi:10.1300/J020v18n01_01
- White, W. L. (2000b). The history of recovered people as wounded healers: II. The era of professionalization and specialization. *Alcoholism Treatment Quarterly*, 18(2), 1-25. doi:10.1300/J020v18n02_01
- White, J. B., Langer, E. J., Yariv, L., & Welch IV, J. C. (2006). Frequent social comparisons and destructive emotions and behaviors: The dark side of social comparisons. *Journal of Adult Development*, 13(1), 36-44. doi:10.1007/s10804-006-9005-0
- Wu, G., Feder, A., Cohen, H., Kim, J. J., Calderon, S., Charney, & D. S., Mathe, A. A. (2013). Understanding resilience. *Frontiers in Behavioral Neuroscience*, 7(10), 1-15. doi:10.3389/fnbeh.2013.00010
- Yap, M. B. H., MacKinnon, A., Reavley, N., & Jorm, A. (2014). The measurement of properties of stigmatizing attitudes towards mental disorders: Results from two community surveys. *International Journal of Methods in Psychiatric Research*, 23(1), 49-61. doi:10.1002/mpr.1433
- Yehuda, Rachel. (2002). Post-traumatic stress disorder. *The New England Journal of Medicine*, 346, 108-114. Retrieved from <http://www.nejm.org/doi/full/10.1056/NEJMra012941>
- Zerubavel, N. & M. O. Wright. (2012). The dilemma of the wounded healer. *Psychotherapy*, 49, 482-491. doi:10.1037/a0027824
- Zovkic, I. B., Meadows, J. P., Kaas, G. A., & Sweatt, J. D. (2013). Interindividual variables in stress susceptibility: A role for epigenetic mechanisms in PTSD. *Frontiers in Psychiatry*, 4(60), 1-22. doi:10.3389/fpsy.2013.00060

Table 1

Descriptive Statistics, Bivariate Correlations, and Gender Analyses

Variables	Overall		Correlations							Gender				<i>t</i>
			1.	2.	3.	4.	5.	6.	7.	Males		Females		
1. TLEQ	6.88	(5.36)								6.56	(4.81)	7.04	(5.70)	0.48
2. SPRINT	14.34	(7.67)	.365**							11.86	(8.01)	16.53	(6.69)	3.39**
3. SDE	86.36	(13.34)	-.166	-.438**						91.34	(11.99)	82.19	(12.83)	-3.89**
4. ESE	18.80	(4.65)	-.102	-.256**	.540**					20.86	(4.38)	17.08	(4.22)	-4.67**
5. CDRISC	37.84	(5.63)	.047	-.049	.420**	.366**				38.76	(6.44)	37.05	(4.75)	-1.57
6. SDS	8.93	(2.99)	-.141	-.142	.385**	.437**	.236*			9.66	(2.62)	8.39	(3.18)	-2.32*
7. PSS	16.13	(10.39)	.040	-.304**	.217*	.257**	-.026	.189*		22.32	(10.17)	11.17	(7.60)	-6.46**
8. SD	9.32	(3.93)	.047	-.171	.098	.214*	-.015	-.132	.570**	10.60	(3.33)	8.35	(4.06)	-3.17**

Note. *N* = 111 (resulting in *df* = 110 for t-test analyses). Means are reported with standard deviations in parentheses. TLEQ = Traumatic Life Events Questionnaire; SPRINT = Short PTSD Rating Interview; SDE = Self-Deceptive Enhancement; ESE = Egoistic Self-Enhancement; CDRISC = Connor-Davidson Resilience Scale; SDS = Social Desirability Scale; PSS = Personal Stigma Scale; SD = Social Distance.

p* < .05, *p* < .01

Table 2

Hierarchical Multiple Regression Analyses Predicting the Impact of Self-Enhancement on the Relationship between PTEs and Resilience

Predictor Variable	<i>b</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	ΔF
Step 1		0.050	0.002		0.278	
PTEs	0.052					
Step 2		0.363	0.132	0.130	8.443***	16.569***
PTEs	0.085					
ESE	0.432***					
Step 3		0.379	0.144	0.012	6.156**	1.506
PTEs	0.041					
ESE	0.428**					
PTEs x ESE	-0.023					

Note: *N* = 114. PTEs = Potentially Traumatic Events, ESE = Egoistic Self-Enhancement, PTEs x ESE = the interaction of PTEs and ESE. *b* is the unstandardized Beta coefficient. **p* < .05, ***p* < .01, ****p* < .001.

Table 3

Hierarchical Multiple Regression Analyses Predicting the Impact of Self-Enhancement on the Relationship between PTEs and PTSD Symptoms

Predictor Variable	<i>b</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	ΔF
Step 1		0.349	0.122		15.560***	
PTEs	0.502***					
Step 2		0.424	0.180	0.068	12.145***	7.788**
PTEs	0.472***					
ESE	-0.394**					
Step 3		0.465	0.216	0.037	10.125***	5.171*
PTEs	0.579***					
ESE	-0.386**					
PTEs x ESE	0.056*					

Note: *N* = 114. PTEs = Potentially Traumatic Events, ESE = Egoistic Self-Enhancement, PTEs x ESE = the interaction of PTEs and ESE. *b* is the unstandardized Beta coefficient. **p* < .05, ***p* < .01, ****p* < .001.

Table 4

Hierarchical Multiple Regression Analyses Predicting the Impact of Perceived Controllability on the Relationship between Self-Enhancement and Stigma

Predictor Variable	<i>b</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	ΔF
Step 1		0.179	0.032		1.837	
Desirable Response	0.601					
Familiarity	-0.170					
Step 2		0.286	0.082	0.050	3.255*	5.929*
Desirable Response	0.246					
Familiarity	-0.054					
ESE	0.550*					
Step 3		0.289	0.084	0.002	2.492	0.286
Desirable Response	0.248					
Familiarity	-0.056					
ESE	0.558*					
Condition	-0.493					
Step 4		0.338	0.114	0.030	2.785*	3.706
Desirable Response	0.180					
Familiarity	-0.075					
ESE	0.552*					
Condition	-0.486					
ESE x Condition	-0.392					

Note. *N* = 114. ESE = Egoistic Self-Enhancement. Marginally significant (*p* = .057) results are in boldface. *b* is the unstandardized Beta coefficient.

**p* < .05.

Table 5

Hierarchical Multiple Regression Analyses Predicting the Impact of Self-Enhancement on the Relationship between PTEs and PTSD Symptoms in Females

Predictor Variable	<i>b</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	ΔF
Step 1		.325	.106**		7.341**	
PTE	.382**					
Step 2		.432	.186*	.080*	6.985**	6.033*
PTE	.320*					
ESE	-.458*					
Step 3		.537	.289**	.102**	8.122**	8.644**
PTE	.529**					
ESE	-.396*					
PTE x ESE	.085**					

Note. *N* = 64. ESE = Egoistic Self-Enhancement. *b* is the unstandardized Beta coefficient. **p* < .05 ***p* < .01.

Table 6

Hierarchical Multiple Regression Analyses Predicting the Impact of Perceived Controllability on the Relationship between Self-Enhancement and Stigma Attitudes in Females

Predictor Variable	<i>b</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	ΔF
Step 1		0.132	0.017		0.522	
Desirable Response	-0.224					
Familiarity	0.220					
Step 2		0.180	0.033	0.015	0.650	0.907
Desirable Response	-0.326					
Familiarity	0.223					
ESE	0.230					
Step 3		0.189	0.036	0.003	0.530	0.196
Desirable Response	-0.328					
Familiarity	0.247					
ESE	0.250					
Condition	-0.445					
Step 4		0.348	0.121	0.085	1.543*	5.430*
Desirable Response	-0.445					
Familiarity	0.342					
ESE	0.249					
Condition	-0.535					
ESE x Condition	-0.538*					

Note. *N* = 62. ESE = Egoistic Self-Enhancement. *b* is the unstandardized Beta coefficient.
**p* < .05.

Table 7

Hierarchical Multiple Regression Analyses Predicting the Impact of Self-Enhancement on the Relationship between PTEs and PTSD Symptoms in Males

Predictor Variable	<i>b</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	ΔF
Step 1		4.00	.160**		9.127**	
PTE	.666**					
Step 2		.400	.160	.001	4.489*	.035
PTE	.669**					
ESE	-.046					
Step 3		.402	.161	.001	2.948*	.049
PTE	.670**					
ESE	-.029					
PTE x ESE	.017					

Note. *N* = 50. ESE = Egoistic Self-Enhancement. *b* is the unstandardized Beta coefficient.
p* < .05 *p* < .01.

Table 8

Hierarchical Multiple Regression Analyses Predicting the Impact of Perceived Controllability on the Relationship between Self-Enhancement and Stigma Attitudes in Males

Predictor Variable	<i>b</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	ΔF
Step 1		0.035	0.001		0.028	
Desirable Response	0.942					
Familiarity	-0.063					
Step 2		0.056	0.003	0.002	0.047	0.088
Desirable Response	1.048					
Familiarity	-0.125					
ESE	0.106					
Step 3		0.061	0.004	0.001	0.042	0.028
Desirable Response	1.052					
Familiarity	-0.162					
ESE	0.097					
Condition	-0.279					
Step 4		0.197	0.039	0.035	0.348	1.571
Desirable Response	1.006					
Familiarity	-0.162					
ESE	0.127					
Condition	-0.347					
ESE x Condition	-0.441					

Note. *N* = 49. ESE = Egoistic Self-Enhancement. *b* is the unstandardized Beta coefficient.

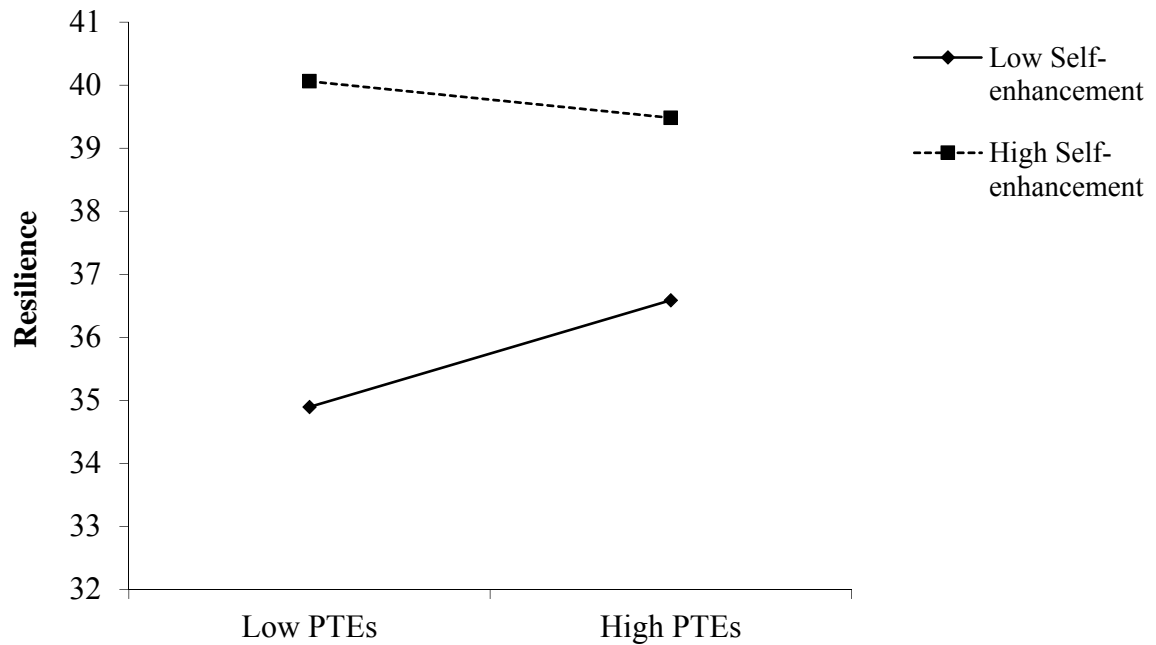


Figure 1. Effect of the interaction of self-enhancement and PTEs experienced on resilience. This figure represents the regression slopes for Potentially Traumatic Events (PTEs) and Resilience at particular values of Self-Enhancement. Thus, the “high” and “low” categories anchor the lines at the minimum and maximum values for PTEs. Likewise, “high” and “low” categories for self-enhancement represent one standard deviation above and below the mean.

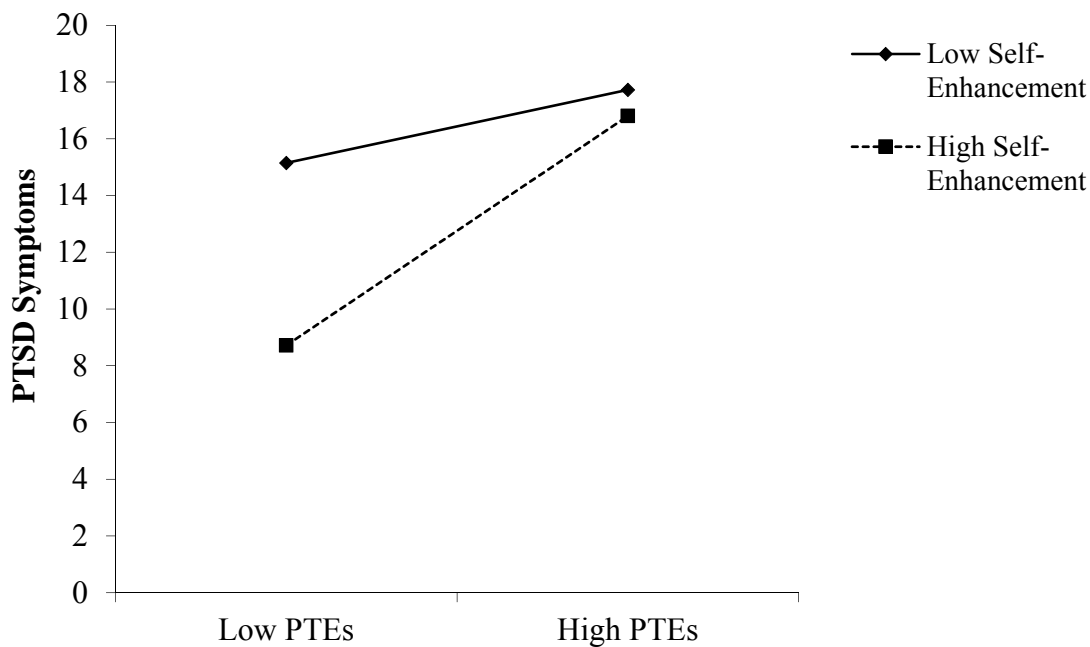


Figure 2. Moderating effect of self-enhancement on the relationship between PTEs experienced and PTSD. This figure represents the regression slopes for Potentially Traumatic Events (PTEs) and PTSD symptoms at particular values of Self-Enhancement. Thus, the “high” and “low” categories anchor the lines at the minimum and maximum values for PTEs. Likewise, “high” and “low” categories for self-enhancement represent one standard deviation above and below the mean. This finding suggests that, for people who experience a low number of PTEs, self-enhancement acts as a protective factor; however, as the number of PTEs increases, self-enhancement becomes less useful in protecting against PTSD symptoms.

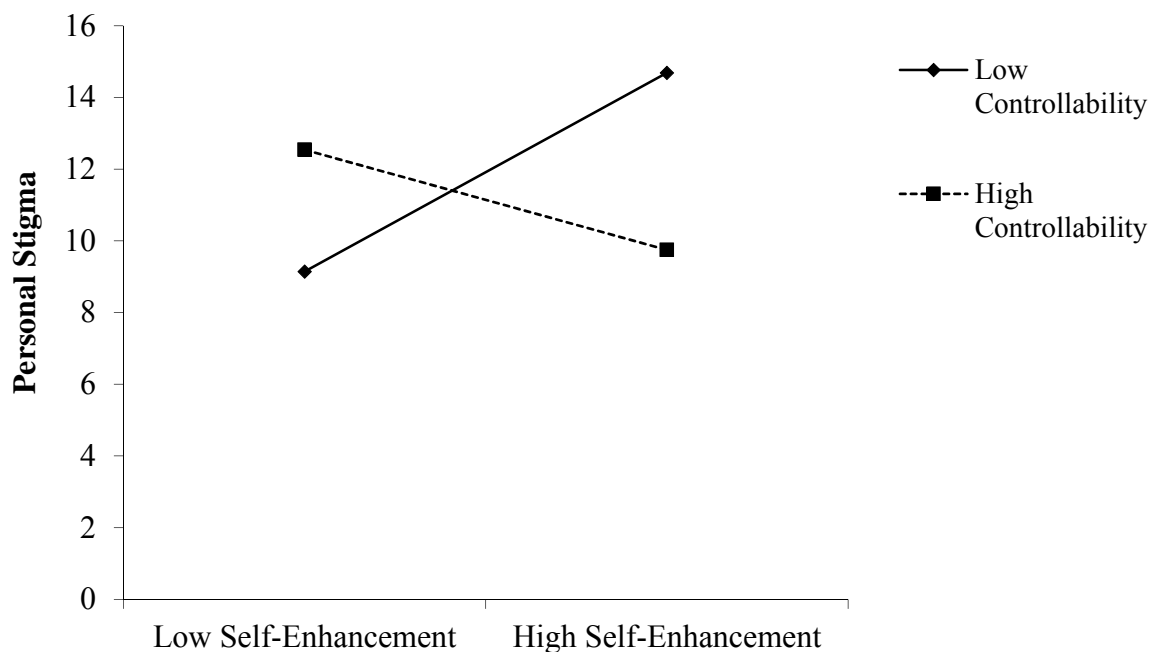


Figure 3. Perceived controllability as a moderator of the relationship between self-enhancement and personal stigma in females. This figure represents the regression slopes for self-enhancement and personal stigma at particular values of controllability. Thus, the “high” and “low” categories anchor the lines at the minimum and maximum values for self-enhancement. High” and low categories for controllability represent the controllable and inevitable conditions. The interaction of the regression lines was significant. Thus high self-enhancer females endorsed greater stigma for someone they perceived to have less control over the development or maintenance of PTSD.

APPENDIX A
DEMOGRAPHICS QUESTIONNAIRE

1. Age: _____
2. What is your gender?

Female or Male
3. Race/Ethnicity

_____ Hispanic or Latino
_____ African American
_____ Caucasian
_____ Native American
_____ Asian/Pacific Islander
_____ Other: _____
4. What is your year in school?

_____ Freshman
_____ Sophomore
_____ Junior
_____ Senior
_____ Graduate student
_____ Not applicable
5. Have you ever experienced symptoms of posttraumatic stress disorder (PTSD)?

Yes or No

6. Have you ever sought psychological counseling following an upsetting or distressing event?

Yes or No

7. For the previous question, what made you decide to/not to seek counseling following an upsetting or distressing event? Please write your answer in the space below.

APPENDIX B

CONNOR-DAVIDSON RESILIENCE SCALE REVISED

Please read each of the following statements and indicate on a scale from 1 to 5 how true each statement is for you.

1	2	3	4	5
Not true at all	Mostly not true	Neither true nor false	Mostly true	True nearly all the time

- ___ 1. I can adapt to change
- ___ 2. I can deal with whatever comes
- ___ 3. I try to see the humorous side of problems
- ___ 4. Coping with stress can strengthen me
- ___ 5. I tend to bounce back after illness or hardship
- ___ 6. I can achieve my goals despite obstacles
- ___ 7. I can stay focused under pressure
- ___ 8. I am not easily discouraged by failure
- ___ 9. I think of myself as a strong person
- ___ 10. I can handle unpleasant feelings

APPENDIX C

EGOISTIC SELF-ENHANCEMENT

Please read the following statements and indicate on a scale from 1 to 5 how true the statement is for you.

1	2	3	4	5
Very false for me		Neither true nor false for me		Very true for me

- ___ 1. I have always been absolutely sure of all my actions.
- ___ 2. I have always been fully satisfied with myself.
- ___ 3. I have always immediately understood everything I have read.
- ___ 4. I have always been able to control my emotions.
- ___ 5. Faced with danger, I have never been frightened, even when it's very grave.
- ___ 6. I have always immediately resolved every problem presented to me.
- ___ 7. For every challenge or competition I attended, I have always received awards.

APPENDIX D

SELF-DECEPTIVE ENHANCEMENT

Please read each of the following statements and indicate to what extent the statement is true for you on a scale from 1 to 7. *Even items are reverse scored.

1	2	3	4	5	6	7
Not true	Somewhat not true	Fairly not true	Neutral	Fairly true	Somewhat true	Very true

- ___ 1. My first impressions of people usually turn out to be right.
- ___ 2. It would be hard for me to break any of my bad habits.
- ___ 3. I don't care to know what other people really think of me.
- ___ 4. I have not always been honest with myself.
- ___ 5. I always know why I like things.
- ___ 6. When my emotions are aroused, it biases my thinking.
- ___ 7. Once I've made up my mind, other people can seldom change my opinion.
- ___ 8. I am not a safe driver when I exceed the speed limit.
- ___ 9. I am fully in control of my own fate.
- ___ 10. It's hard for me to shut off a disturbing thought.
- ___ 11. I never regret my decisions.
- ___ 12. I sometimes lose out on things because I can't make up my mind soon
enough.
- ___ 13. The reason I vote is that my vote can make a difference.
- ___ 14. My parents were not always fair when they punished me.
- ___ 15. I am a completely rational person.

- ___ 16. I rarely appreciate criticism.
- ___ 17. I am very confident of my judgments.
- ___ 18. I have sometimes doubted my ability as a lover.
- ___ 19. It's all right with me if some people happen to dislike me.
- ___ 20. I don't always know the reasons why I do the things I do.

APPENDIX E

TRAUMATIC LIFE EVENTS QUESTIONNAIRE

Please read each of the following statements and indicate the number of times, if any, you have experienced each one. Place a check next to the response that best fits your experience.

1. Natural disaster

0 times 1 time 2 times If 2+ times, please indicate actual number _____

2. Motor vehicle accidents

0 times 1 time 2 times If 2+ times, please indicate actual number _____

3. Other accidents

0 times 1 time 2 times If 2+ times, please indicate actual number _____

4. Warfare or combat

0 times 1 time 2 times If 2+ times, please indicate actual number _____

5. Sudden death of a close friend or loved one

0 times 1 time 2 times If 2+ times, please indicate actual number _____

6. Robbery involving a weapon

0 times 1 time 2 times If 2+ times, please indicate actual number _____

7. Severe assault by acquaintance or stranger

0 times 1 time 2 times If 2+ times, please indicate actual number _____

8. Witness to severe assault of acquaintance or stranger

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

9. Threat of death or serious bodily harm

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

10. Childhood physical abuse

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

11. Witness to family violence

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

12. Physical abuse by an intimate partner

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

13. Sexual abuse before age 13 by someone at least 5 years older

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

14. Sexual abuse before age 13 by someone close in age

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

15. Sexual abuse during adolescence

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

16. Sexual abuse as an adult

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

17. Stalking

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

18. Life-threatening illness

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

19. Life-threatening or permanently disabling event for a loved one

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

20. Miscarriage

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

21. Abortion

___ 0 times ___ 1 time ___ 2 times ___ If 2+ times, please indicate actual number _____

APPENDIX F

SHORT PTSD RATING INTERVIEW

Please think of the potentially traumatic event(s) you have experienced. If you have experienced multiple events, please think of the one that you recall affecting you the most. Then read the following statements carefully and consider each statement in regards to the time immediately after your worst traumatic event.

0	1	2	3	4
Not at all	A little bit	Moderately	Quite a lot	Very much

___ 1. How much were you bothered by unwanted memories, nightmares, or reminders of the event?

___ 2. How much effort did you make to avoid thinking or talking about the event, or doing things which reminded you of what happened?

___ 3. To what extent did you lose enjoyment for things, keep your distance from people, or find it difficult to experience feelings?

___ 4. How much were you bothered by poor sleep, poor concentration, jumpiness, irritability, or feeling watchful around you?

___ 5. How much were you bothered by pain, aches, or tiredness?

___ 6. How much would you get upset when stressful events or setbacks happened to you?

___ 7. How much did the above symptoms interfere with your ability to work or carry out daily activities?

___ 8. How much have the above symptoms interfered with your relationships with family or friends?

APPENDIX G

PERSONAL STIGMA SCALE

Please read each of the following items about posttraumatic stress disorder (PTSD) and indicate how much you agree with each statement on a scale from 0 to 4.

0	1	2	3	4
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

- ___ 1. People like Jaime do not have a real medical illness.
- ___ 2. Jaime's diagnosis is a sign of personal weakness.
- ___ 3. People like Jaime could snap out of it if they wanted to.
- ___ 4. People like Jaime should be ashamed of themselves.
- ___ 5. People like Jaime do not make suitable employees.
- ___ 6. People like Jaime are unstable.
- ___ 7. People like Jaime are to blame for their problem.
- ___ 8. People like Jaime are just lazy.
- ___ 9. People like Jaime are a danger to others.
- ___ 10. People like Jaime are self-centered.
- ___ 11. People like Jaime are dangerous.
- ___ 12. It's best to avoid people like Jaime to avoid becoming traumatized yourself.
- ___ 13. People like Jaime are unpredictable.
- ___ 14. If I were like Jaime, I would not tell anyone.
- ___ 15. I would not employ someone if I knew they'd been diagnosed like Jaime.
- ___ 16. I would not vote for a politician if I knew they'd had a diagnosis like Jaime.

APPENDIX H
SOCIAL DISTANCE SCALE

Please read the following questions, and indicate your level of willingness on the following scale as it applies to each statement.

0	1	2	3
Definitely willing	Probably willing	Probably unwilling	Definitely unwilling

___ 1. How would you feel about renting a room in your home to someone like Jaime?

___ 2. How about as a worker on the same job as someone like Jaime?

___ 3. How would you feel having someone like Jaime as a neighbor?

___ 4. How about as the caretaker of your children for a couple of hours?

___ 5. How about having your children marry someone like Jaime?

___ 6. How would you feel about introducing someone like Jaime to a young woman/man you are friendly with?

___ 7. How would you feel about recommending someone like Jaime for a job working for a friend of yours?

APPENDIX I

LEVEL OF CONTACT REPORT

Please read each of the following statements carefully. After you have read all the statements below, place a check by the statements that best depict your exposure to persons with PTSD.

I have watched a movie or television show in which a character depicted a person with PTSD.

My job involves providing services/treatment for persons with PTSD.

I have observed, in passing, a person I believe may have had PTSD.

I have observed people with PTSD on a frequent basis.

I have PTSD.

I have worked with a person who had PTSD at my place of employment.

I have never observed a person that I was aware had PTSD.

My job includes providing services to people with PTSD.

A friend of the family has PTSD.

I have a relative who has PTSD.

I have watched a documentary on the television about someone with PTSD.

I live with a person who has PTSD.

APPENDIX J

SOCIAL DESIRABILITY SCALE

Please read each of the following statements and indicate whether it is true or false for you.

- | | | |
|--|---|---|
| 1. I sometimes litter | T | F |
| 2. I always admit my mistakes openly and face the potential negative consequences | T | F |
| 3. In traffic I am always polite and considerate of others | T | F |
| 4. I have tried illegal drugs (for example, marijuana, cocaine, etc.) | T | F |
| 5. I always accept others' opinions, even when they don't agree with my own | T | F |
| 6. I take out my bad moods on others now and then | T | F |
| 7. There has been an occasion when I took advantage of someone | T | F |
| 8. In conversations I always listen attentively and let others finish their sentences | T | F |
| 9. I never hesitate to help someone in case of emergency | T | F |
| 10. When I have made a promise, I keep it — no ifs, ands, or buts | T | F |
| 11. I occasionally speak badly of others behind their back | T | F |
| 12. I would never live off other people | T | F |
| 13. I always stay friendly and courteous with other people, even when I am stressed out | T | F |
| 14. During arguments I always stay objective and matter-of-fact | T | F |
| 15. There has been at least one occasion when I failed to return an item that I borrowed | T | F |
| 16. I always eat a healthy diet | T | F |
| 17. Sometimes I only help because I expect something in return | T | F |

APPENDIX K

CONTROLLABLE PTE VIGNETTE

Jaime is 25 years old, and lives northern Minnesota. Every year in Jaime's hometown, there are multiple blizzards causing intense white out conditions and leaving black ice on the roads. A few years ago, a big promotion increased Jaime's work responsibilities, and Jaime has felt immense pressure not to let anyone down. (As a result, Jaime has taken many more driving risks, including driving in white out conditions. Despite several near misses, including an incident involving a pedestrian, Jaime has continued to take risks.) Last December, Jaime was preparing for the long drive necessary to attend an important meeting, when the local weather service announced a severe winter storm warning. According to the warning, heavy snow was coming into the area, accumulation of 10 inches expected within the hour, with blowing snow causing white out conditions. Jaime decided that it would be possible to get to the meeting before the storm got "too bad." Once on the highway, Jaime noticed that most cars were going 30 mph or less. Jaime began to speed up, as the snow continued to fall and visibility was reduced. Though Jaime's car fish-tailed several times, Jaime continued to speed past cars. Suddenly, Jaime hit a patch of black ice and Jaime lost all control of the car. Jaime's car spun several times, nearly hitting several cars before finally sliding off the road into a tree. Jaime was severely injured in the accident. Jaime's injuries included a broken leg, whiplash, and facial contusions. Physical therapy has been required to regain full movement in Jaime's injured leg.

It has been several months, and Jaime has mostly healed from the injuries, but the memories of the accident continue to interrupt Jaime's life. Jaime is awakened nearly every night by dreams of the incident. Jaime continues to commute to work, but often becomes paralyzed with anxiety and a sense of impending doom during the drive. When this happens, Jaime typically must call off from work. Additionally, Jaime's entire route to work has been altered to avoid the highway on which the accident occurred. This change has added 45 minutes to Jaime's commute, often making Jaime late to work. The incidents have already resulted in Jaime being demoted. After the most recent incident, Jaime's boss has threatened termination if more days are missed. Jaime feels compelled to check the Weather Channel every 15 minutes, and will refuse to leave the house if there is a weather advisory. Jaime fears unexpected weather events, and has complained to friends of constantly feeling tense and "jumpy." Jaime recently decided to seek out psychological help, and was diagnosed with posttraumatic stress disorder (PTSD).

APPENDIX L

INEVITABLE PTE VIGNETTE

Jaime is 25 years old, and lives in northern Minnesota. Every year in Jaime's hometown, there are multiple blizzards causing intense white out conditions and leaving black ice on the roads. A few years ago, a big promotion increased Jaime's work responsibilities, and Jaime has felt immense pressure not to let anyone down. Last December, Jaime was halfway into a long drive necessary to attend an important meeting, when the local weather service announced a severe winter storm warning. According to the warning, heavy snow was coming into the area, accumulation of 10 inches expected within the hour, with blowing snow causing white out conditions. Jaime decided that it would be possible to get to the meeting before the storm got "too bad." Within 20 minutes, Jaime realized the highway would become too dangerous before long. So Jaime began to look for the next available exit, while slowing from 55 mph to 20 mph as the snow continued to reduce visibility. With only a few miles to go before the next exit, Jaime hit a patch of black ice and lost all control of the car. Jaime's car spun several times, nearly hitting several cars before finally sliding off the road into a tree. Jaime was severely injured in the accident. Jaime's injuries included a broken leg, whiplash, and facial contusions. Physical therapy has been required to regain full movement in Jaime's injured leg.

It has been several months, and Jaime has mostly healed from the injuries, but the memories of the accident continue to interrupt Jaime's life. Jaime is awakened nearly every night by dreams of the incident. Jaime continues to commute to work, but often

becomes paralyzed with anxiety and a sense of impending doom during the drive. When this happens, Jaime typically must call off from work. Additionally, Jaime's entire route to work has been altered to avoid the highway on which the accident occurred. This change has added 45 minutes to Jaime's commute, often making Jaime late to work. The incidents have already resulted in Jaime being demoted. After the most recent incident, Jaime's boss has threatened termination if more days are missed. Jaime feels compelled to check the Weather Channel every 15 minutes, and will refuse to leave the house if there is a weather advisory. Jaime fears unexpected weather events, and has complained to friends of constantly feeling tense and "jumpy." Jaime recently decided to seek out psychological help, and was diagnosed with posttraumatic stress disorder (PTSD).

APPENDIX M

DEBRIEFING PAGE

Thank you for participating in this study! The general purpose of this study was to examine the ways that prior exposure to potentially traumatic events and your response to those events might change your perceptions of others who responded differently to similar events. That is, would you be more empathetic to someone who developed PTSD if you did not, or would you view them as weaker than yourself.

During the course of your participation in this study, you have been asked some uncomfortable questions related to potentially upsetting prior experiences. Research has shown that the discomfort and upset caused by such memories is typically brief (Becker-Blease & Freyd, 2006), and sometimes can be cathartic.

However, each person experiences such things differently. If you have experienced upset beyond what you feel is typical for you, please contact someone. You have access to free psychological services through the Counseling Center at the UNI Student Health Center, 319-273-2676. If you are uncomfortable seeking services on campus, there are hotlines available. The Statewide Crisis Line is available at 1-800-332-4224.

If you have questions or concerns about the study at any time, please feel free to contact the researcher, Corina E. Klein at kleincae@uni.edu or at 815-990-0487. You may also contact the faculty advisor for this study, Dr. Seth Brown, 319-273-6091.