MORAL INJURY AND SUICIDAL IDEATION AFTER MILITARY SERVICE:

MEDIATING AND MODERATING FACTORS

by

WILLIAM MILLER SCHUMACHER

A DISSERTATION

Presented to the Department of Psychology
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

June 2017

DISSERTATION APPROVAL PAGE

Student: William Miller Schumacher

Title: Moral Injury and Suicidal Ideation after Military Service: Mediating and Moderating Factors

This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the Department of Psychology by:

Holly Arrow	Chairperson
Azim Shariff	Core Member
Nicholas B. Allen	Core Member
David Frank	Institutional Representative

and

Scott L. Pratt	Dean of the Graduate School

Original approval signatures are on file with the University of Oregon Graduate School.

Degree awarded June 2017

DISSERTATION ABSTRACT

William Miller Schumacher

Doctor of Philosophy

Department of Psychology

June 2017

Title: Moral Injury and Suicidal Ideation after Military Service: Mediating and Moderating Factors

The term "moral injury" has recently been introduced to describe psychopathology resulting from perpetrating or bearing witness to an event that transgresses deeply held moral beliefs, typically in relation to military service. Two studies examined relations between potentially morally injurious events (PMIEs) during military service, self-conscious emotions, and negative mental health outcomes. The potential moderating contributions of social support and psychopathic personality traits on these relations were also assessed. A subset of 40 of the 501 veterans who completed a detailed on-line survey was also interviewed to gain a more thorough understanding of individual experiences. Veterans who had experienced higher numbers of PMIEs were significantly more likely to experience depression symptoms and suicidal ideation, as well as guilt and shame related to their military service, but high levels of social support decreased the likelihood of negative mental health outcomes and subsequent guilt and shame; psychopathic personality traits did not moderate these relations. Qualitative analysis of the interviews confirmed that social support plays a key role in the prevention of moral injury-related symptoms. Social support was crucial to reintegration after deployment for many veterans. Results indicate that adequate social support following PMIEs may reduce the likelihood of psychopathology. Implications of this study and future directions are discussed.

CURRICULUM VITAE

NAME OF AUTHOR: William Miller Schumacher

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
Vanderbilt University, Nashville

DEGREES AWARDED:

Doctor of Philosophy, 2017, University of Oregon
Master of Science, 2011, University of Oregon
Bachelor of Arts, 2010, Vanderbilt University

AREAS OF SPECIAL INTEREST:

Clinical Psychology
Trauma and Stressor-Related Disorders
Military Psychology

PROFESSIONAL EXPERIENCE:

Psychology Intern, New Mexico VA Healthcare System, 2016-2017

Graduate Teaching Fellow, University of Oregon, 2010-2016

Psychology Practicum Student, New Mexico VA Healthcare System, 2015-2016

Psychology Practicum Student, VA Roseburg Healthcare System, 2014-2015

Psychology Practicum Student, Oregon State Hospital, 2013-2014

Interventionist, Oregon Research Institute, 2012-2013

Psychology Practicum Student, University of Oregon Psychology Clinic, 2011- 2013

Research Assistant, Vanderbilt Psychiatric Hospital, 2009-2010

PUBLICATIONS:

Arrow, H. & Schumacher, W. M. (2017, May 29). Explaining the "moral injury" that leads to military veterans' suicides. *Newsweek*. Retrieved from http://www.newsweek.com/moral-injury-military-veterans-suicides-615664

Schumacher, W. M. (2015). Understanding TBI-related cognitive impairments, cognitive rehabilitation techniques, and implications for evidence-based treatment of PTSD. *The Military Psychologist, 30* (3), 13-17.

ACKNOWLEDGMENTS

I wish to express sincere gratitude to my advisor, Holly Arrow. Without her guidance and financial support, this project would not have been possible. Dr. Arrow was willing to take a risk on accepting a graduate student directly out of undergraduate study who was interested in a topic outside of her primary field of expertise; her willingness to allow me to explore my own interests has led to opportunities for me that would not have been possible otherwise. Holly: Thank you, thank you, thank you.

I also wish to thank the members of my dissertation committee, Drs. Azim Shariff, Nicholas Allen, and David Frank. Their input in the early stages of this project led to substantial improvements in the strength of the study and its broader impact.

I would like to thank all of the veterans and service members who participated in this project. Without their help, this study would not exist.

There are a number of people who contributed to this study at various stages: First, Dr. Mark Alfano was an original member of my dissertation committee and he provided excellent feedback on the original study and guided me to readings that helped develop my understanding of the morality literature. Second, Dr. Brian Clark and Dr. Bryan Messina provided invaluable guidance in statistical analyses. Dr. Clark showed me the analytic possibilities for my ideas and Dr. Messina helped make those possibilities into reality. Third, I'd like to thank Dr. Elizabeth McLaughlin for her knowledge of thematic analysis and willingness to serve as an independent coder.

Finally, I would like to thank all of the administrative staff at the University of Oregon for helping to guide me through the process of completing my doctoral degree that I made substantially more difficult than most. Their willingness to allow me to pursue opportunities in

New Mexico has helped me immeasurably, in both my professional and personal lives. In particular, I'd like to thank Sara Hodges for her flexibility in allowing me to continue working remotely for the University of Oregon, and Lori Olsen for her wisdom and guidance in all things bureaucratic.

For Melissa and Kellan.

TABLE OF CONTENTS

Chapter Page

Chapter Page

Chapter Page

Chapter Page

CHAPTER I

INTRODUCTION

"I remember in [redacted], we were clearing a town and a kid ran out in front of us and threw a grenade. This was a kid. Not a man, a kid. Lucky for us, he had a terrible arm and threw it behind us, and he raised his arm to throw another one, and me and my gunner, we cut the kid in two. He was just a kid, but he was trying to get us and we had to take him out. But it still stays with me." -27-year Special Forces veteran seen in VA Medical Center

"War changes you, changes you. Strips you, strips you of all your beliefs, your religion, takes your dignity away, you become an animal. I know the animals don't…Y'know, it's unbelievable what humans can do to each other."

-Veteran quoted in Jonathan Shay's *Achilles in Vietnam*, p. 83

Modern warfare creates situations in which appropriate moral behavior is unclear. Parents, schools, churches, and society teach children what is right and wrong, what good behavior looks like and what bad behavior looks like. Maxims like "thou shalt not kill" and "good things come to good people" are passed down and integrated into belief systems; but what happens when the choice appears to be taking the life of a child or putting your own life and the lives of your comrades in uniform at risk? Either decision means the loss of life and neither fits with established moral maxims. Many service members face similar decisions in which the available responses do not include a clear morally justifiable option, leading to service members feeling haunted by their decisions for the rest of their lives. Although psychological treatment

offered through Veterans' Affairs programs can address disorders diagnosed using the Diagnostic and Statistical Manual for Mental Disorders (DSM-5; American Psychiatric Association, 2013) such as Major Depressive Disorder and PTSD, currently available treatments fall short of encompassing the psychological difficulties that these men and women face in relation to morally ambiguous decisions during wartime, especially when they have witnessed, participated in, or failed to stop events that transgress their moral beliefs (Drescher et al., 2011). When individuals act or bear witness to actions that violates their sense of morality, they may experience a mismatch between their self-concept and the actions committed or not prevented. The negative psychological outcomes of feeling that one's actions contradict personal moral and ethical beliefs have been termed "moral injury" (Litz et al., 2009; Shay, 2012).

Jonathan Shay laid the foundation of current moral injury theory in *Achilles in Vietnam* (1994) and *Odysseus in America* (2003). Based on his experience treating Vietnam veterans' psychopathology, Shay argues that the diagnosis of PTSD does not address many of the issues that veterans face when returning from deployment, especially the struggle to reconcile wartime actions with deeply held ethical and moral beliefs. Litz and colleagues (2009) expanded upon Shay's work by providing a review of research relevant to events that could cause moral injury and proposing a causal framework of moral injury.

Much of the recent research on moral injury has focused on military personnel who deployed to Iraq and/or Afghanistan. Most has been exploratory (e.g., Drescher et al., 2011), has focused on assessment of potentially morally injurious events (e.g., Nash et al., 2013), or has been based on potential treatment protocols (e.g., Gray et al., 2012). More research is needed to empirically evaluate the framework presented by Litz and colleagues (2009), identify the

symptom constellation reliably associated with moral injury, and find factors that may moderate the development of moral injury after a potentially morally injurious event.

Moral Injury

According to Shay (1994)

> … moral injury is an essential part of any combat trauma that leads to lifelong psychological injury. Veterans can usually recover from horror, fear, and grief once they return to civilian life, so long as "what's right" has not been violated. (p. 20)

Shay argues that although mental health professionals are just beginning to understand and treat the sequelae of moral injury, moral injury has been a part of warfare for as long as war has existed. Shay notes the similarities between the experiences that his Vietnam veteran clients describe and Homer's depiction of Achilles' struggles in *The Iliad*, including how a warrior's betrayal of "what's right" can lead to social isolation, guilt, and a breakdown of moral character.

Shay defines moral injury as the psychological, social, and physiological results of an individual experiencing all three of the following components: (1) betrayal of "what's right" (2) by someone who holds legitimate authority (3) in a high-stakes situation (2010; 2012). Shay argues that betrayal by leaders causes service members to lose trust in almost all other humans save for a small circle of peers, typically a warrior's immediate team members. All others, including previously trusted family, friends, and service members, are viewed as outsiders as the individual develops an intense "us-against-them" mentality. The absence of social trust leads to intense anger, a desire for revenge, guilt, and shame.

Litz and colleagues address the development of guilt and shame from the perspective of violators of "what's right" (rather than from the perspective of someone observing a violation) (2009). They provide a working definition for moral injury as the emotional, social, and

psychological results of "Perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations" (p. 700). Litz and colleagues account for the guilt and shame that may develop through carrying out orders that violate an individual's moral code or failing to prevent others for committing atrocities, for example. In such cases, an individual's own actions are also out of alignment with their personal self-concept. This can lead to feeling betrayed both by others and by oneself.

Litz and colleagues argue that a moral transgression can create internal conflict because the individual cannot reconcile the event with internal schemas and self-concepts. If one is not able to assimilate or accommodate this new source of information, the person will experience guilt, shame, and anxiety about how others will react if they learn about the event. Participating in, witnessing, or failing to prevent a moral transgression results in a betrayal similar to Shay's description; however, in this definition individuals may feel betrayed by their own actions in addition to feeling betrayed by others. The morally injured can no longer trust themselves and thus may feel guilty, ashamed, and hopeless. Although Litz and colleagues do not explicitly discuss betrayal as Shay does, both definitions are intrinsically linked to betrayal trauma theory.

Betrayal Trauma

Betrayal trauma theory (Freyd, 1996; 2001) posits that individuals who experience trauma due to a trusted close other's actions experience different psychological outcomes than those who experience trauma due to a stranger's actions. Betrayal trauma generates more intense anxiety (Kelley, Weathers, Mason, & Pruneau, 2012; Klest, Freyd, & Foynes, 2013), depression (Klest et al., 2013), guilt (Street, Gibson, & Holohan, 2005), and shame (Platt, 2014) than does trauma without a betrayal component.

Freyd argues that betrayal trauma destroys trust and generates shame and guilt more than other types of trauma because the relation between the victim and the perpetrator causes a fundamentally different response. Typically the victim has a trusting relation with the perpetrator, causing reactions that expand beyond the traditional definition of PTSD. PTSD has traditionally been conceptualized as an anxiety disorder developing from fear (Foa & Kozak, 1986) and/or perceptions of current threat or danger (Ehlers & Clark, 2000). Although victims of betrayal trauma may experience some of the same anxiety and fear symptoms related to these constructs, the betrayal of trust makes it difficult to experience trust in the same way again. The victim may assume some personal responsibility for the heretofore-trusted perpetrator's actions and if this belief is assimilated within the individual's cognitive schemas, it may result in intense guilt and shame.

Betrayal trauma can occur with any trusting family or social relationships. Abuse at the hands of a trusted caregiver such as a parent, however, appears to be the most psychologically damaging (e.g., Freyd, 2001; Goldberg & Freyd, 2006). Freyd argues that the caregiver is trusted to provide food, shelter, and protection, and a betrayal of this trust may shatter the dependent's ability to trust others in general. This experience directly parallels Shay's description of moral injury (1994). Shay argues that, in modern warfare, the relation between the military and the individual service member is akin to that between a parent and child. The service member trusts the military to provide basic necessities, without which service members would die. Therefore, a betrayal of the trust that service members place in their commanders, comrades, and the military system as a whole would constitute a betrayal trauma, with similar psychological damage: intense shame, guilt, anxiety and depression.

Warfare also creates opportunities for self-betrayal. Although Freyd focuses exclusively on victims of trauma perpetrated by others, service members may experience betrayal trauma as a result of their own actions during warfare, as suggested by Litz and colleagues (2009). Members of the armed services often face ethically ambiguous situations, which can require split-second decisions that have severe consequences. These can include actions in the line of duty, such as killing an enemy soldier, but can also include actions beyond the rules of engagement like "berserking" or torturing a captured enemy (Shay, 1994). In the event of a moral dilemma, most people "trust" themselves to do the right thing, also known as "self-trust" (Lehrer, 1997). When this self-trust is violated by one's own actions, one's trust in one's own morality is shaken, also potentially resulting in guilt, shame, and depression. This Vietnam veteran describes the guilt and shame associated with self-betrayal: "I look back today, and I'm horrified at what I turned into. What I was. What I did" (Shay, 1994, p. 93).

"Self-Conscious Moral Emotions": Shame and Guilt

Shame and guilt have often been described as "self-conscious moral emotions," because the experience of shame and/or guilt involves negative evaluations based on behavior that violates socially accepted standards (Haidt, 2003; Kim, Thibodeau, & Jorgensen, 2011; Tangney & Dearing, 2002). Although shame and guilt can arise from similar events and have thus historically been used interchangeably, recent research indicates that the two emotions are fundamentally distinct and have different implications for psychological well-being. The experience of shame entails a negative self-evaluation that is global, stable, and uncontrollable (e.g., "I *am* a bad person"), whereas guilt refers to negative evaluation of specific action(s) (e.g., "I *did* a bad thing"). The focus of guilt on specific actions entails an opportunity for self-redemption through reparative actions.

The distinction between the specific emphases of shame and guilt has important implications for psychological symptoms associated with these emotions. The global and stable self-evaluation involved in shame can lead to self-disgust, a desire to disappear, anxiety, and avoidance of others (Frijda, Kuipers, & ter Schure, 1989; Gilbert, 1998). The belief that others will also see one's self as a bad person creates an expectation of social rejection and ostracism (Gruenewald, Dickerson, & Kemeny, 2007). Guilt, on the other hand, does not include the same stable and global evaluations, so an individual experiencing guilt may feel sorrow, remorse, and regret (Gilbert, 1998; Tangney & Dearing 2002) for behavior, but the opportunity to make amends provides hope that is not so readily available in shame.

Both shame and guilt are hypothesized to be central emotions associated with the experience of moral injury (Litz et al., 2009; Shay, 1994), which requires that one has participated in, witnessed, or failed to stop events that transgress one's socially accepted standards or moral code. Moral transgressions can evoke engender intense guilt and/or shame in an individual. Shay provides examples of veterans experiencing "survivor's guilt" when they feel responsible for the death of their comrades—even if they were not involved in the death. Shay also describes the shame that some veterans experience based on their behavior during the Vietnam War, including feeling worthless, and "like a piece of shit." (Shay, 1994, p. 146). Litz and colleagues (2009) argue that both emotions are important in understanding moral injury, but propose that shame is more central due to its strong relation with negative mental health outcomes.

Associated psychological symptoms.

Shame has been consistently linked to lower self-esteem (Ashby, Rice, & Martin, 2006), anxiety (Gilbert, 2000), depression (Kim et al., 2011), PTSD symptoms (Andrews, Brewin,

Rose, & Kirk, 2000) and suicidal ideation (Bryan, Morrow, Etienne, & Ray-Sannerud, 2013). These findings are consistent across multiple populations and age groups.

The relation between guilt and psychological symptoms, however, is less clear. Many of the studies that link guilt-proneness to psychological symptoms do not adequately separate guilt from shame in their assessments, conflating the two emotions and muddying the relation (see Tangney, Stuewig, & Mashek, 2007 for a review). Recent research with an emphasis on "shame-free" guilt finds no relation between guilt and psychological symptoms such as low self-esteem, depression, and anxiety (Quiles & Bybee, 1997; Tangney & Dearing, 2002). In contrast, "shame-free" guilt appears to be adaptive in certain situations, by encouraging prosocial behavior such as empathy and perspective-taking. Few studies have adequately separated shame and guilt, however, and more research is necessary to clarify the relation between guilt and psychological symptoms, especially among service members and veterans.

Suicidal ideation.

Suicidal ideation is of particular importance for those experiencing shame and guilt related to moral injury, as several studies have found links between the experience of shame and/or guilt and suicidal ideation among veterans. In a study of Vietnam veterans, combat-related guilt was found to be the most significant predictor of both suicidal ideation and suicide attempts (Hendin & Haas, 1991), although the authors did not adequately separate guilt and shame, leaving shame as a potential driving factor. Shame-proneness has been found to correlate strongly with suicidal ideation and suicide attempts in civilian populations (Dutra, Callahan, Forman, Mendelsohn, & Herman, 2008). In a recent study with veterans of the Iraq and Afghanistan wars, a significant association was found between guilt-proneness, direct combat exposure, and severity of suicidal ideation, such that veterans who experienced direct combat

exposure had the strongest relation between guilt-proneness and suicidal ideation (Bryan, Ray-Sannerud, Morrow, & Etienne, 2013). In the first study to directly compare the separate contributions of guilt- and shame-proneness to suicidal ideation among veterans, both guilt- and shame-proneness were associated with severity of suicidal ideation but guilt-proneness had a stronger relation with suicidal ideation than shame-proneness, contrary to the authors' hypotheses (Bryan, Morrow, et al., 2013).

Although the studies described above represent important inquiries into the relation between suicidal ideation and guilt and shame, these studies used measures assessing guilt- and shame-proneness, or an individual's tendency to experience guilt or shame given a hypothetical situation. They did not assess the amount of guilt and/or shame experienced in relation to actions during military service. Guilt- and shame-proneness are often thought of as "trait" characteristics, meaning that the likelihood with which individuals experience guilt and shame in situations is relatively consistent across the individual's lifetime (Tangney & Dearing, 2002). Therefore, it is possible that the findings described above merely reflect the influence of trait likelihood to experience guilt and shame on suicidal ideation, regardless of military service. Little published research has examined the influence of experiencing guilt and shame specifically related to military service on suicidal ideation.

The Role of Social Relationships

Social relationships are important in any individual's health and well-being, but they take on particular importance when dealing with shame associated with moral injury. As discussed above, shame often causes individuals to withdraw and disengage from their social networks because of a sense of being fundamentally flawed or a failure (Haidt, 2003; Lewis, 1995; Tangney et al., 2007). This isolation can also be exacerbated among veterans returning from

deployment, as their comrades may return to different parts of the country and they often have difficulty connecting with civilians who have not had similar experiences (Hoge, 2010; Shay, 1994). Although isolation prevents friends and family from learning about the individual's actions during wartime and thus provides temporary relief for the veteran's anxieties, it also reinforces the avoidance mechanism that contributes to long-term psychological distress associated with moral injury. Without social and emotional connection to supportive listeners, veterans may not have a chance to engage in reparative conversations that challenge their global, stable, and uncontrollable negative self-evaluations.

Many researchers and clinicians have proposed that feeling connected to a social group may lessen the experience of shame and thus reduce the negative psychological impact of moral injury (Gray et al., 2012; Litz et al., 2009; Shay, 1994). Some qualitative interview-based studies suggest that social connectedness plays an important role in recovery from the experience of shame (Brown, 2006; Leeming & Boyle, 2013; Van Vliet, 2009), but little quantitative empirical work has been done to confirm the reliability of these findings. One study of college undergraduates found that those with higher levels of social connectedness experienced less shame and more guilt (Williamson, Sandage, & Lee, 2007), but the generalizability of these results to other populations including older adults and veterans is unclear.

The Role of Personality Traits and Inner Conflict

The development of psychological symptoms associated with moral injury is predicated on the notion that an individual will experience some sort of inner conflict between personal morals and the actions performed, witnessed, or not prevented. Some individuals, however, may not experience this inner conflict regardless of actions. Those with personality traits associated with psychopathy including impulsivity, grandiosity, callousness, and lack of empathy (Cleckley,

1941; Hare, 2003) may engage in "immoral" behaviors without experiencing guilt or shame. Indeed, research indicates that those high in psychopathic personality characteristics can identify that a given action is "wrong," but this has little impact on the individual's decision to engage in that behavior (e.g., Aharoni, Sinnott-Armstrong, & Kiehl, 2012; Cima, Tonnaer, & Hauser, 2010).

These personality traits may be particularly relevant to today's military, as all service members since the Vietnam War have volunteered for their service. Although many choose to join the military out of a sense of duty, a desire to serve their country, or a willingness to defend America's way of life (Bachman, Segal, Freedman-Doan, & O'Malley, 2000), some may join because they seek a sanctioned outlet for antisocial behaviors (Hall & Benning, 2006). Many combat roles offer ample opportunity to engage the enemy, which may be attractive to those who enjoy asserting dominance or committing violence. Those who join the military specifically for these reasons are likely a small minority, but may not demonstrate the same moral injury response as many of their comrades.

CHAPTER II

THE CURRENT STUDIES

Although many have hypothesized links between moral injury, the experience of guilt and shame, negative mental health outcomes, and the moderating role of social relationships, little empirical work has comprehensively connected these variables. The first study reported below examines the relation described above using quantitative measures of guilt and shame specifically in relation to the individual's military service, and also investigates the potential role of personality traits as a moderator. The second study offers a more contextualized and in-depth understanding of these relations through qualitative analysis of interview data with a subset of veterans. Together, the findings provide guidance for both clinical practice and future research.

Conceptual Model

The conceptual model for this study is based on Litz and colleagues' (2009) framework for the development of moral injury. When an individual experiences an event that could cause moral injury, the person may feel inner conflict or turmoil between actions taken during the event and personal, deeply held moral beliefs, depending on personality traits. This inner conflict may result in feelings of guilt and shame, and if these feelings persist, the individual may experience psychological symptoms such as depression and suicidal ideation. Feelings of social connectedness may reduce the experience of guilt and shame, thus reducing the experience of psychological symptoms. The relations among these factors are presented in Figure 1. All pieces of the conceptual model for this study are based on Litz and colleagues' (2009) model, with the exception of psychopathic personality traits as a potential moderating variable. The current study aims to test this model by examining the relations that personality traits, guilt,

shame, and social connectedness have with the experience of potential moral transgressions and psychological symptoms.

Hypotheses

1) Participants who experienced potentially morally injurious events (PMIEs) will experience higher levels of shame and guilt when prompted to think about their military experiences than those who did not experience PMIEs during their military service (see Figure 2).

2) Participants who experienced PMIEs will also experience higher levels of depression symptoms and suicidal ideation than those who did not experience PMIEs during their military service.

3) Participants who experience higher levels of shame and guilt when prompted to think about their military service will experience higher levels of depression and suicidal ideation than those who experience lower levels of shame and guilt in relation to their military service (see Figure 3).

4) The experience of shame and guilt in relation to military service will mediate the relation between PMIEs and depression and suicidal ideation symptoms (see Figure 4).

5) Psychopathic personality traits will moderate the relation between PMIEs and military-related shame and guilt, such that those who demonstrate higher levels of psychopathic personality traits will experience lower levels of military-related shame and guilt than those with lower levels of psychopathic personality traits given equal amounts of PMIES (see Figure 5).

6) For participants with lower levels of psychopathic personality traits, a sense of social connectedness will moderate the relation between (1) PMIEs and military-related shame, and (2) PMIEs and military-related guilt. Given equal amounts of PMIEs, those with higher levels of

social connectedness will experience less shame and guilt than those who have lower levels of social connectedness (see Figure 6).

7) Related to Hypothesis 6, among individuals who have all experienced high levels of PMIEs, those who experience current symptoms of depression and suicidal ideation will be more likely to discuss a lack of social supports during their transition out of the military, whereas those who do not experience current symptoms of depression and suicidal ideation will be more likely to discuss having adequate social support during their transition out of the military (again represented in Figure 6).

CHAPTER III

METHOD

Study 1

Participants.

A total of 607 participants recruited through Qualtrics Panel Management completed the study. Of these, 501 participants provided valid responses. The 106 participants who provided invalid responses demonstrated a pattern of responses that remained consistent despite differences in questions (e.g., selecting all 1s or 2s across all questionnaires; please see *Validation items* section below for thorough description of screening procedure). The final sample was 78.0% European Origin/White, 8.8% African-American/Black/African Origin, 5.2% Other, 3.2% Latino-a/Hispanic, 3.0% Bi-racial/Multi-racial, 1.4% Asian-American/Asian Origin/Pacific Islander, and 0.4% American Indian/Alaska Native (see Table 1). All ethnicity categories were within four percentage points of estimates generated by The Veteran Population Projection Model 2014 (VetPop2014; National Center for Veterans Analysis and Statistics, 2015). VetPop2014 provides estimates of the veteran population for Fiscal Year (FY) 2014 to FY2043 based on a variety of sources, such as the Department of Veterans Affairs (VA), Department of Defense (DoD), U.S. Census Bureau, Internal Revenue Service (IRS), and the Social Security Administration (SSA). The point of estimate used for the current study is the closest to the time of data collection: September 30, 2016.

The sample was 89.8% male and 10.2% female, which are both within one percentage point of VetPop2014 estimates. In regards to age, the sample was 0.4% under the age of 20, 4.6% from 20-29, 11.2% from 30-39, 6.8% from 40-49, 11.6% from 50-59, 37.8% from 60-69, 24.0% from 70-79, and 3.6% 80 or above (M_{age} = 60.1, SD_{age} = 15.3). Compared to VetPop2014

estimates, this represents an oversampling from the age ranges of 60-69 and 70-79, and an undersampling from the age ranges of 50-59 and 80 or older. Study participants had a wide variety of educational backgrounds, with 12.4% completing some high school, 24% receiving a high school diploma, 18.2% completing some college, 22.2% receiving a two-year college degree, 7.0% receiving a four-year college degree, 16.2% completing some graduate school, and 0.2% receiving a graduate degree (see Table 2). Married veterans made up a majority of the sample (65.7%), with 14.0% identifying as divorced, 9.8% as single, 6.0% as Widow/Widower, 4.2% as having a partner, and 0.4% as separated. VetPop2014 data was not available for educational background or marriage status.

Of the United States Military veterans that comprise this sample, 39.5% served in the Army, 25.5% served in the Navy, 24% served in the Air Force, 9.2% served in the Marine Corps, 1.0% served in the Coast Guard, and 0.8% did not indicate in which branch they served. This represents an oversampling of Air Force and Navy veterans, and a slight undersampling of Army veterans. See Table 3 for more detailed information regarding participants' branch of service. Participants served an average of 11.4 years in the military ($Med._{length}$ = 7.0, SD_{length} = 9.6), although this average is positively skewed because of a number of participants who had 20+ year careers in the military.

Materials.

Recruitment.

Participants were recruited through Qualtrics Panel Management (QPM). QPM is an online service that recruits participants through actively managed research panels and social media. QPM identified potential participants based on their status as a veteran or active duty

service member and invited them to participate via email. The email contained the following statement:

> Please consider this opportunity to contribute to research on the experiences of service members. We are interested in your experiences during and after military service, including facing difficult situations and returning from deployment. Please follow the link below to learn more about the survey.

Participants were also informed of compensation, which ranged between $0.50 and $0.75 for completion of the survey.

Consent form.

The consent form provided potential participants with information regarding the purpose of the study, institutions involved with the study, confidentiality, participation expectations, researcher contact information, and institutional review board contact information. The purpose of the study was described as understanding the experience of service members after a stressful event. Participation in the study was restricted to those over the age of 18 who have served in the United States Armed Forces and deployed at least once. To provide consent and continue on to the survey, participants selected a single item that read, "*I agree to participate."* See Appendix A for full form.

Measures.

Demographics.

Participants provided basic personal information such as age (participants entered their ages manually so that age could be used as a variable in later data analyses), gender (participants were provided a text box for this question so that they could identify as they wished), ethnic/racial background (options were based on U.S. Census options, including *African-*

American/Black/African Origin, Asian-American/Asian Origin/Pacific Islander, Latino-a/Hispanic, American Indian/Alaska Native, European Origin/White, Bi-racial/Multi-racial, and *Other*), partner status (participants could check all options that applied; options were *Married, Separated, Divorced, Widow/Widower, Never Married, Have a Partner,* and *Single*), and years of education (options were *Did not complete high school, High school, Some college, 2-year college degree, 4-year college degree, Some graduate school,* and *Graduate degree*). Participants also answered questions specific to their military service, including the year in which they joined the U.S. Military, the year in which they left the U.S. Military, branch(es) of service, highest rank obtained during service, primary job responsibilities in that rank, year of last deployment, and countries in which they served (all questions were free-response for later data analyses). The complete list of demographic questions and response options can be found in Appendix B.

Moral Injury Questionnaire-Military Version.

The Moral Injury Questionnaire-Military Version (MIQ-M; Currier, Holland, Drescher, & Foy, 2015) is a 19-item self-report measure developed to assess potentially morally injurious events (PMIEs) among active duty members and veterans of the U.S. military. All items relate to witnessing (e.g., *Things I saw/experienced left me feeling betrayed or let-down by military/political leaders*), participating in (e.g., *I did things that betrayed my personal values*), or failing to prevent (e.g., *I feel guilt over failing to save the life of someone*) events that transgress the individual's moral beliefs. Participants are asked how often they experienced certain events on a 4 point-scale ranging from *Never* to *Often*. Responses are summed to create a score from 19 to 76 that represents the extent to which an individual experienced PMIEs and can be compared to others' experiences. Higher scores indicate more frequent and more diverse

experience of PMIES. Research indicates the MIQ-M has good incremental and convergent validity with mental health problems such as suicidal ideation and PTSD, and that the MIQ-M has a unidimensional structure specifically assessing for PMIEs (Currier et al., 2015). See Appendix C for full scale.

State Shame and Guilt Scale.

The State Shame and Guilt Scale (SSGS; Marschall, Sanftner, & Tangney, 1994) is a 15-item measure designed to assess current feelings of shame and guilt. Participants indicate the extent to which they identify with statements related to feelings of guilt (e.g., *I feel bad about something I have done*) or shame (e.g., *I want to sink into the floor and disappear*) on a five-point scale ranging from *Not feeling this way at all* to *Feeling this way very strongly*. Responses for each category are summed to create total scores that range from 5 to 25, with higher scores indicating more intense current experiencing of guilt or shame. As these items were derived from phenomenological descriptions of shame and guilt, the measure has high face validity (Tangney, 1996). Inter-item reliabilities for the shame and guilt scales were found to be 0.89 and 0.82, respectively (Tangney & Dearing, 2002), indicating good internal consistency. See Appendix D for full scale.

Levenson Self-Report Psychopathy Scale.

The Levenson Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995) is a 26-item self-report measure designed to assess personality characteristics typically associated with psychopathy. Participants are presented with a series of statements often endorsed by those high in psychopathy (e.g., *People who are stupid enough to get ripped off usually deserve it*, *I tell other people what they want to hear so that they will do what I want them to do*) and asked to indicate to what extent they agree with each statement on a 4-point

scale from *Disagree Strongly* to *Agree Strongly*. Responses are summed to create a total score ranging from 26 to 104, with higher scores indicating higher levels of psychopathic personality traits. The LSRP has demonstrated good internal consistency, reliability (Cronbach's Alpha = 0.82; Falkenbach, Poythress, Falki, & Manchak, 2007) and concurrent validity (Levenson et al., 1995). See Appendix E for full scale.

Beck Scale for Suicide Ideation.

The Beck Scale for Suicide Ideation (BSS; Beck, Steer, & Rantieri, 1988) is a 21-item self-report measure designed to assess current suicidal ideation. Participants are presented with a series of statements in categories related to thoughts of suicide and asked to select the statement that best describes their feelings over the past week. The statements in each category range from none-to-minimal endorsement of the statement over the past week (e.g., *I have no desire to kill myself*) to moderate-to-high endorsement (e.g., *I have a moderate to strong desire to kill myself*). These options are rated on a 3-point scale ranging from 0 to 2 and ratings for the first 19 items are summed to yield a total score ranging from 0 to 38, with higher scores indicating more suicidal ideation (consistent with the authors' intended use; Beck & Steer, 1991). In the current study, the first five questions were used as a screen for suicidal ideation, such that if a participant did not endorse any of the first five items, the remaining sixteen items would not be displayed; however, endorsement of at least one item in the first five prompted the remainder of the items to be displayed. Research indicates it has strong concurrent validity with other measures of suicidal ideation and high internal consistency (Cronbach's Alpha = 0.96). See Appendix F for full scale.

Patient Health Questionnaire Depression Scale.

The Patient Health Questionnaire Depression Scale (PHQ-9; Kroenke, Spitzer, & Williams, 2001) is a 9-item self-report measure designed to assess depression symptoms

experienced over the past two weeks. Participants indicate how often they have been bothered by each symptom listed (e.g., *Little interest or pleasure in doing things*; *Feeling down, depressed, or hopeless*) on a four-point scale from *Not at all* to *Nearly every day*. Scores are summed and range from 0 to 27, with higher scores indicating more depression symptoms. Research by the authors indicates it has excellent internal reliability (Cronbach's Alpha = 0.89) and test-retest reliability (Kroenke, Spitzer, & Williams, 2001). Other studies have demonstrated good convergent validity with other well-validated depression scales (e.g., Martin, Rief, Klaiberg, Braehler, 2006). See Appendix G for full scale.

Social Connectedness Scale-Revised.

The Social Connectedness Scale-Revised (SCS-R; Lee, Draper, & Lee, 2001) is a 20-item self-report measure designed to measure how connected an individual feels to his/her social group. Participants are presented with statements related to social connectedness (e.g., *I find myself actively involved in people's lives, I am able to connect with other people)* and asked to rate how much they agree with each statement on a 6-point scale from *Strongly Disagree* to *Strongly Agree*. Responses are summed to create a total score ranging from 20 to 120, with higher scores indicating greater social connectedness. Research indicates it has high internal consistency (Cronbach's Alpha = 0.92; Williams & Galliher, 2006) as well as good convergent and discriminant validity (Lee et al., 2001). See Appendix H for full scale.

Validation items.

To ensure that only valid data was included in analyses, participants were asked to indicate organizations in which they had participated from a list of eight different types of organizations; if *Military Service* was not selected, they were excluded from participating in the remainder of the survey. Next, two items checked for attention during the survey. They

appeared in the TOSCA-3 (*"This is an attention filter. Please select '1 – not likely' for this statement"* was listed among the other statements) and the LSRP ("*I am carefully reading the survey questions and will answer agree strongly*"). If participants answered either item incorrectly, their data was excluded from analysis. Finally, all data was manually checked for validity using open-ended responses from military service questions and looking for response patterns that stayed consistent despite differences in questions (e.g., selecting all 1s or 2s). When examining open-ended responses, indicators of invalid data included branches of service or ranks that did not fit with United States Military standards or strings of random letters or numbers.

Procedure.

After participants signed the consent form, they began the survey. All participants answered demographic information first, thereby prompting them to think about their experiences during military service. After completing the demographic information, all measures were presented in a randomized order. Once participants completed the survey in its entirety, they had the opportunity to include contact information if they were interested in participating in a follow-up study (described below in the Recruitment section of Study 2) and/or share thoughts and feedback regarding the study and its topics. Participants also viewed an electronic debriefing form that briefly discussed the background and purpose of the current study, described the role that individual participants played in the research, provided contact information for the lead researcher and the Institutional Review Board, and provided phone numbers and websites for veterans' mental health resources. See Appendix I for the full debriefing form.

Analytic plan.

Data analysis began by analyzing potential group differences using omnibus ANOVAs and post-hoc contrasts. The analyses used to test the hypotheses are detailed below.

Hypothesis 1.

The relationship between PMIEs and shame and guilt related to military service was tested by running two separate regressions on participants' PMIEs scores; one using state shame and the other using state guilt. See Figure 2 for the part of the conceptual model that will be tested through this hypothesis.

Hypothesis 2.

The relationship between PMIEs and depression symptoms and suicidal ideation was tested by running a regression on participants' PMIEs scores using depression symptoms and a second regression on participants' PMIEs scores using suicidal ideation.

Hypothesis 3.

The relation between shame and guilt related to military service, and depression symptoms and suicidal ideation was tested using a simple regression model. State shame and guilt were each used to predict depression symptoms and suicidal ideation separately, and were then put into a combined model to examine each state emotion's individual contribution. See Figure 3 for the part of the conceptual model that was tested through Hypothesis 3.

Hypothesis 4.

The mediating role of state shame and guilt between PMIEs and depression symptoms and suicidal ideation was tested using a structural equation model (SEM). See Figure 4 for the part of the conceptual model being tested through Hypothesis 4, and Figure 7 for the statistical model used for Hypothesis 4.

Hypothesis 5.

The moderating effects of psychopathic personality traits on the relation between PMIEs, and shame and guilt was tested using a new SEM model. In addition, indirect effects of the interaction of psychopathic personality traits and PMIEs were explicitly included at low, medium, and high scores on the Levenson Self-Report Psychopathy Scale to examine differential effects of the moderating relation of psychopathic personality traits on the mediated relation hypothesized in Hypothesis 4. See Figure 5 for the part of the conceptual model being tested through Hypothesis 5, and Figure 8 for the statistical model used for Hypothesis 5.

Hypothesis 6.

The moderating effects of social connectedness and psychopathic personality traits on the relation between PMIEs, and shame and guilt were tested using a new SEM model including social connectedness as an additional moderator. As in Hypothesis 6, the differential effects of both moderating relations were explicitly modeled and tested. See Figure 6 for the parts of the conceptual model measured through Hypothesis 6, and Figure 9 for the statistical model used for Hypothesis 6.

Study 2

Participants.

A total of 40 participants who participated in Study 1, experienced high numbers of PMIEs, and showed either high levels of psychological symptoms (depression and suicidal ideation) or low levels of psychological symptoms were recruited (20 in each of the low symptoms and high symptoms groups). The final sample from Study 2 was 75.0% European Origin/White, 7.5% African-American/Black/African Origin, 5.0% Other, 2.5% Latino-a/Hispanic, 7.5% Bi-racial/Multi-racial, 2.5% Asian-American/Asian Origin/Pacific Islander,

and 0.0% American Indian/Alaska Native. All ethnicity categories were within five percentage points of the Study 1 sample, indicating that the subset of Study 2 participants accurately reflected the racial diversity of the overall sample. The sample was 82.5% male and 17.5% female, indicating a slight oversampling of female participants from Study 1. In regards to age, the sample had no participants under the age of 30, 12.5% from 30-39, 2.5% from 40-49, 17.5% from 50-59, 37.5% from 60-69, 25.0% from 70-79, and 5.0% 80 or above (M_{age} = 61.8, SD_{age} = 13.9). This represents an oversampling in age ranges from 50-59 and an undersampling of ranges from 20-29 and 40-49 as compared to Study 1. Study 2 participants completed slightly more education on average than the Study 1 sample, with 7.5% completing some high school, 25.0% receiving a high school diploma, 17.5% completing some college, 22.5% receiving a two-year college degree, 12.5% receiving a four-year college degree, and 15.0% completing some graduate school. As with Study 1, married veterans made up a majority of the sample (60.0%), with 20.0% identifying as divorced, 5.0% as single, 10.0% as Widow/Widower, 2.5% as having a partner, and 2.5% as separated. See Tables 4 and 5 for more detailed demographic information.

37.5% of the Study 2 sample served in the Army, 25.0% served in the Navy, 17.5% served in the Air Force, 15.0% served in the Marine Corps, and 5.0% served in the Coast Guard, which represents an oversampling of Marine Corps veterans from the original Study 1 sample. See Table 6 for more detailed information regarding participants' branch of service. Participants served an average of 13.5 years in the military ($Med._{length}$ = 11.5, SD_{length} = 9.1).

Materials.

Recruitment.

All participants who completed the Study 1 survey were presented with an opportunity to participate in a follow-up interview for further compensation. Participants were informed that their participation in Study 2 would not affect their Study 1 participation and that their contact information would not be connected with their data in any way. To indicate interest in participating in Study 2, participants could provide their name, email address, and telephone number, which would then allow them to be contacted later for participation in the study. See Appendix J for full recruitment information.

Potential participants were contacted by telephone based on the number of potentially morally injurious events (PMIEs) they experienced during military service and the amount of depression symptoms and suicidal ideation they endorsed. For example, a participant with a large number of PMIEs and high scores on the measures of depression and suicidal ideation would be contacted before a participant with a small number of PMIEs and high scores on the depression and suicidal ideation measures. After participants indicated their interest in participating via telephone, they were sent an email with a link to an electronic consent form for Study 2.

Consent form.

The consent form provided potential participants with information regarding the background of the study, purpose of the study, description of the study procedures, compensation, confidentiality, researcher contact information, and institutional review board contact information. The purpose of the study was described as understanding how stressful events during military service affect the individual's life today and factors that made it easier or

more difficult to recover from stressful experiences. Participation in the study was restricted to those over the age of 18 who have served in the United States Armed Forces and deployed at least once. To provide consent, participants typed their full name, the date, and contact information. See Appendix K for full form.

Once participants were called for the interview, they were reminded of the electronic consent document and the researcher briefly reminded them of the contents of the consent document, including the researcher's name and institution, the purpose of the study, confidentiality, and compensation. The participant was then asked to provide verbal consent before the interview could proceed. See Appendix L for the script used during the verbal consent process.

Measures.

Participants engaged in a semi-structured interview regarding their experiences related to moral injury, including types of events experienced and how those events have affected their lives. Participants were also asked about the transition from military to civilian life, whether they had talked about their experiences in the military with anyone, if they felt as though they had good social support when transitioning out of the military, and if they feel as though they have good social support currently. Finally, participants were asked about the most important factor in helping them after their experiences and the one thing that stands out the most about their time in the military. Although an interview script was used to guide the interview process, relevant follow-up questions were asked as necessary based on what the participant discussed during the interview. See Appendix M for the script used during the semi-structured interview.

Data analysis (Hypothesis 7).

Interview responses were analyzed using a six-step process of thematic analysis as described by Braun and Clarke (2006). First, the audio recordings of the interviews were transcribed (by me and by research assistants in our lab) and I then read these transcripts several times in order to enhance understanding of the data contained therein. Next, I coded the transcripts for content, which helped organize the data into meaningful groups. For example, the following text comes from an interview conducted in this study:

> As a regular line corpsman, it was more of a situation of just sometimes being overwhelmed, and wondering if you're doing everything you could…after the fact, you know, when it hit the fan you just did what you did but afterwards you're coming down from that adrenaline high, you wonder, "Did I do enough? Could I have done more? If I was better trained, could I have done more?"

From this excerpt, the codes "felt overwhelmed," "felt unprepared," and "wanted to do more" could be generated.

Once codes were generated from the raw data, the codes were then collated into potential overarching themes. Related codes were grouped together under themes that provide a better description of the data as a whole, rather than the specificity of individual codes. Using a code above as an example, "felt unprepared" might be subsumed under the theme "lack of support from leadership," depending on other codes from the data. When all themes were identified from the codes, all data extracts associated with each theme were reread to serve as an initial review of the themes. Themes were adjusted and reworked as necessary and once themes were finalized, I created a thematic "map" to summarize the content found within the qualitative data,

using both broad overarching themes as well as sub-themes. I then read through the entire dataset again to assess the fit of the thematic map.

After I determined that the thematic map accurately represented the data, I produced clear definitions for each theme, including both the scope and the content of each theme. These themes were described in relation to the existing literature and current research question, using vivid examples from the data.

In order to check that the codes and themes generated provided an accurate and thorough representation of the data, a coder blind to both the hypotheses of the study and the conditions (high symptoms and low symptoms groups) independently coded a stratified randomly sampled subset of the transcripts (25%). The independent coder was a doctoral candidate in clinical psychology with previous experience using Braun and Clarke's method of thematic analysis (2006). For guidance, the coder was provided with five journal articles designed to provide a representative literature review relevant to the current study, as well as a portion of the abstract of the current study to provide her with variables of interest. See Appendix N for a list of articles provided. The coder was provided with 5 randomly selected transcripts from each of the high and low symptoms groups. To determine fit with the original codes, each of the ten transcripts was reviewed and original codes that contributed to the development of major themes were selected. In all, 108 codes that contributed to themes were selected from the 10 transcripts and the independent coder's work was checked against these 108 codes. Codes were determined to "match" if the independent coder highlighted the same section of text and generated a similar code. After coding had been completed, the independent coder also checked the thematic map generated by the author.

CHAPTER III

RESULTS

Study 1

Frequencies.

89.4% of participants reported at least one potentially morally injurious experience (PMIE), and the average score on the Moral Injury Questionnaire-Military version (MIQ-M) was 10.83 (*SD* = 10.59). The sample was highly positively skewed, however, as the median score was 7 and the mode was 0. The most commonly reported experiences were *Things I saw/experienced left me feeling betrayed or let-down by military/political leaders* (72.7%), *I had to make decisions at times when I didn't know the right thing to do* (60.5%), and *Seeing so much death has changed me* (46.7%). Each item on the MIQ-M was endorsed by at least 70 participants, indicating that the MIQ-M assessed meaningful and relatively common events that occur to deployed service members. See Table 7 for a more detailed description of participant responses to the MIQ-M.

46.7% of participants reported experiencing some shame when asked to think about their military experience, as measured by the State Shame and Guilt Scale (SSGS; *M* = 7.28, *SD* = 3.68). Guilt was much more frequently experienced, with 65.1% of participants experiencing at least some guilt while thinking about military experiences, as measured by the SSGS (*M* = 8.63, *SD* = 4.44). 74.3% of participants endorsed any symptom associated with depression on the PHQ-9 (*M* = 4.93, *SD* = 5.60); however, it is important to note that a score of 10 is the typical cutoff to suggest Major Depressive Disorder (Kroenke et al., 2001) and that 31.7% of participants had scores of 10 or higher. 20.4% of participants endorsed any suicidal ideation on the Beck Scale for Suicidal Ideation (BSS; *M* = 1.71, *SD* = 4.40).

Group differences.

Race.

In order to correct for the increased possibility of Type I error due to multiple comparisons, family-wise error rate was calculated by determining alpha divided by the number of comparisons, or 0.05/7, meaning that a group difference would be considered significant if $p<0.007$. Omnibus tests revealed no significant differences between scores on measures by race, except for the measure of PMIEs. See Table 8 for a detailed description of results. Post-hoc tests revealed that the significant omnibus test of reported PMIEs was driven by Bi-racial/Multi-racial participants, who reported significantly more PMIEs than African-American/Black/African Origin participants, *contrast* = 13.05, *SE* = 3.09, $p=.001$; European Origin/White participants, *contrast* = 13.75, *SE* = 2.72, $p<.001$; and participants who identified their race as Other, *contrast* = 12.87, *SE* = 3.35, $p=.003$. These results should be interpreted with caution, however, as there were large differences in the number of participants in each of these categories (Bi-racial/Multi-racial = 15, African-American/Black/African Origin = 44, European Origin/White = 391, Other = 26).

Gender.

As above, a family-wise error rate was calculated by determining alpha divided by the number of comparisons, or 0.05/7, meaning that a group difference would be considered significant if $p<0.007$. An omnibus test revealed significant differences in social support scores (SCS-R) and depression symptoms (PHQ-9), but no other significant differences. Results were such that women reported significantly lower levels of social connectedness than men, $F(1,499) = 21.99$, $p< .001$, and women reported significantly higher levels of depression than men, $F(1,499) = 15.60$, $p< .001$. See Table 9 for a detailed description of results.

Branch of service.

As above, a family-wise error rate was calculated by determining alpha divided by the number of comparisons, or 0.05/7, meaning that a group difference would be considered significant if $p<0.007$. Omnibus tests revealed no significant differences between scores on measures by branch of service, except for the measure of PMIEs. See Table 10 for a detailed description of results. Further examination with post-hoc tests indicated that participants who served in the Marine Corps primarily drive the significant difference in reported PMIEs. Marine Corps veterans reported significantly more PMIEs than Air Force veterans, *contrast* = 8.73, *SE* = 1.77, $p<.001$; Army veterans, *contrast* = 5.53, *SE* = 1.67, $p=.013$; and Navy veterans, *contrast* = 10.15, *SE* = 1.75, $p<.001$. In addition, Army veterans reported significantly more PMIEs than Navy veterans, *contrast* = 4.62, *SE* = 1.16, $p=.001$.

Hypothesis 1 supported: PMIEs significantly predict shame and guilt.

Experiencing PMIEs significantly predicted state shame, $b = 0.13$, $t(499) = 9.05$, $p<.001$, as well as state guilt, $b = 0.19$, $t(499) = 11.32$, $p<.001$. Both relations were such that an increase in PMIEs reported increased the amount of guilt and shame participants experienced when asked to think about their military service. PMIEs also predicted a significant proportion of variance in state shame scores, $R^2 = 0.14$, $F(1,499) = 81.84$, $p<.001$, and state guilt scores, $R^2 = 0.20$, $F(1,499) = 128.09$, $p<.001$.

Hypothesis 2 supported: PMIEs significantly predict psychological symptoms.

Experiencing PMIEs significantly predicted depression symptoms, $b = 0.24$, $t(499) = 11.62$, $p<.001$, as well as suicidal ideation, $b = 0.15$, $t(499) = 8.71$, $p<.001$. Both relations were such that an increase in PMIEs reported increased depression symptoms and suicidal ideation.

PMIEs also predicted a significant proportion of variance in depression symptoms reported, R^2 = 0.21, $F(1,499) = 135.00$, $p<.001$, and suicidal ideation, $R^2 = 0.13$, $F(1,499) = 75.94$, $p<.001$.

Hypothesis 3 supported: Shame and guilt predict psychological symptoms.

When run in a model on its own, state shame significantly predicted depression symptoms, $b = 1.07$, $t(499) = 22.01$, $p<.001$, and suicidal ideation, $b = 0.73$, $t(499) = 17.37$, $p<.001$, such that as state shame scores increased, depression symptoms and suicidal ideation did as well. State shame also predicted a significant proportion of variance in depression symptoms, $R^2 = 0.49$, $F(1,499) = 484.54$, $p<.001$, and suicidal ideation, $R^2 = 0.38$, $F(1,499) = 301.64$, $p<.001$.

When run in a separate model, state guilt also significantly predicted depression symptoms, $b = 0.71$, $t(499) = 15.20$, $p<.001$, and suicidal ideation, $b = 0.44$, $t(499) = 11.14$, $p<.001$, such that as state guilt scores increased, depression symptoms and suicidal ideation did as well. State guilt also predicted a significant proportion of variance in depression symptoms, $R^2 = 0.32$, $F(1,499) = 231.12$, $p<.001$, and suicidal ideation, $R^2 = 0.20$, $F(1,499) = 124.15$, $p<.001$.

In a combined model, state shame significantly predicted depression symptoms, $b = 0.92$, $t(498) = 13.66$, $p<.001$, and suicidal ideation, $b = 0.70$, $t(498) = 11.94$, $p=.001$. State guilt significantly predicted depression symptoms, $b = 0.18$, $t(498) = 3.21$, $p=.001$, but did not significantly predict suicidal ideation, $b = .035$, $t(498) = 0.71$, $p>.05$.

Structural equation modeling analyses.

All analyses using structural equation modeling (SEM) were done using Mplus version 7 (Muthén & Muthén, 1998-2012). Each model was initially assessed for fit using Chi-Square Test of Model Fit, Root Mean Square Error of Approximation (RMSEA) and its confidence

interval, Comparative Fit Index (CFI), and Standardized Root Mean Square Residual (SRMR). In order to determine goodness-of-fit, recommended cut-off values as proposed by Hu and Bentler (1999) were used. Specifically, a non-significant chi-square value, RMSEA near or below 0.06, RMSEA lower confidence interval (CI) bound below 0.05, RMSEA upper CI bound below 0.10, CFI near or above 0.95, and SRMR near or below 0.08. Also as recommended by Hu and Bentler, these indices were examined as a whole to determine model fit, given that each approach has particular strengths and weaknesses.

Hypothesis 4 not supported: Poor model fit indicates shame and guilt not mediators.

The model outlined to test Hypothesis 4 (as shown in Figure 5), in which state shame and guilt were tested as mediators of the relation between PMIEs and depression and suicidal ideation was determined to have poor fit, $\chi^2(1) = 263.07$, $p<0.001$; *RMSEA*=0.72, *90% CI* (0.65, 0.80); *CFI*=0.76; *SRMR*=0.15, and thus could not be interpreted for content.

Hypothesis 5 not supported: Poor model fit indicates no moderators.

The model outlined to test Hypothesis 5 (as shown in Figure 7), in which psychopathic personality traits was tested as a moderator of the relation between PMIEs and state guilt and shame was also determined to have poor fit, $\chi^2(5) = 270.70$, $p<0.001$; *RMSEA*=0.33, *90% CI* (0.29, 0.36); *CFI*=0.78; *SRMR*=0.10. Although this model improved over the one tested in Hypothesis 4, it still could not be interpreted for content given the poor fit statistics. A second model was tested at this phase, exclusively examining social connectedness as a moderator rather than psychopathic personality traits. This new model can be seen in Figure 10. The alternate model also had poor fit, $\chi^2(5) = 261.51$, $p<0.001$; *RMSEA*=0.32, *90% CI* (0.29, 0.35); *CFI*=0.81; *SRMR*=0.09, with fit statistics comparable to the initial model tested in this hypothesis.

Hypothesis 6 not supported: Poor model fit indicates no combined moderation.

The model designed to test Hypothesis 6 (as shown in Figure 9), in which both psychopathic personality traits and social connectedness were tested as moderators of the relation between PMIEs and state shame and guilt was also shown to have poor fit, $\chi^2(9) = 285.72$, $p<0.001$; *RMSEA*=0.25, *90% CI* (0.22, 0.27); *CFI*=0.80; *SRMR*=0.07.

Alternate models.

As none of the models proposed to test *a priori* hypotheses 4, 5, and 6 demonstrated enough fit to make them interpretable, alternate models were considered. Based on findings that those with depressive symptoms often endorse more feelings of guilt and shame (Kim et al., 2011), an alternate series of models were tested in which psychological symptoms, depression and suicidal ideation, acted as mediators between the relations between PMIEs and guilt and shame, essentially switching the mediators and the outcome variables. Although this model would provide less support for Litz et al.'s (2009) model, it is still grounded in the hypothesis that the experience of PMIEs increases the likelihood of developing depressive symptoms and suicidal ideation; the change is that an association between PMIEs and guilt and shame would be mediated by psychological symptoms, rather than guilt and shame being the mediators. This series of models followed the same structure as the models in Hypotheses 4, 5, and 6 whereby a simple model with exclusively mediation was tested and subsequent models included moderators in a stepwise fashion. The alternate simple mediation model (as shown in Figure 11) did not display adequate fit statistics, $\chi^2(1) = 143.67$, $p<0.001$; *RMSEA*=0.25, *90% CI* (0.22, 0.27); *CFI*=0.80; *SRMR*=0.07, although these statistics did represent an improvement over the model tested in Hypothesis 4. The alternate model with psychopathic personality traits added as a moderator (as shown in Figure 12) demonstrated relatively good fit, $\chi^2(4) = 22.28$, $p<0.001$;

RMSEA=0.10, *90% CI* (0.06, 0.14); *CFI*=0.98; *SRMR*=0.02, as most fit indices were at or near the established cut-off values. The alternate model with social connectedness as a moderator rather than psychopathic personality traits (as shown in Figure 13) also demonstrated relatively good fit, $\chi^2(4) = 38.65$, $p<0.001$; *RMSEA*=0.13, *90% CI* (0.10, 0.17); *CFI*=0.97; *SRMR*=0.03. Again, fit indices were at or near the established cutoff values. The full alternate model including all moderators (as shown in Figure 14) also showed relatively good fit, $\chi^2(8) = 50.42$, $p<0.001$; *RMSEA*=0.10, *90% CI* (0.08, 0.13); *CFI*=0.97; *SRMR*=0.03. Although each of these models had significant chi-square values, models with large sample sizes, such as the sample in this study, tend to have significant chi-square values and it is recommended that other measures should be used to assess model fit in these cases (Kline, 2011). In addition, the model tested in each of these cases indicated a large improvement over each of the baseline models (e.g., the psychopathic personality traits moderator model, $\chi^2(4) = 22.28$, $p<0.001$, vs. the baseline of that model, $\chi^2(18) = 1231.83$, $p<0.001$). Given that none of the models met all recommended cut-offs, however, interpretation of the models should be taken with caution.

Alternate model with psychopathic personality traits as sole moderator.

PMIEs positively predicted depression symptoms (B=0.150, *STDYX*=0.284, *p*=.02) but did not significantly predict suicidal ideation (B=0.116, *STDYX*=0.280, *p*>.05). Psychopathic personality traits also positively predicted depression symptoms (B=0.170, *STDYX*=0.324, *p*<.001), but did not significantly predict suicidal ideation (B=0.035, *STDYX*=0.085, *p*>.05). Psychopathic personality traits did not significantly moderate the relation between PMIEs and either depression symptoms or suicidal ideation. Depression symptoms positively predicted both state shame (B=0.336, *STDYX*=0.511, *p*<.001) and state guilt (B=0.295, *STDYX*=0.372, *p*<.001); suicidal ideation also positively predicted both state shame (B=0.257, *STDYX*=0.307, *p*<.001)

and state guilt (B=0.149, *STDYX*=0.148, *p*=0.03). Of note, PMIES also positively predicted state guilt (B=0.095, *STDYX*=0.226, p<.001) but not state shame (B=0.010, *STDYX*=0.028, *p*>.05). The results of this model are displayed graphically in Figure 15.

Based on these findings, four indirect pathways were examined using the bootstrapping procedure in MPlus. As bootstrapping does not assume the shape of the distribution of the indirect effect or large sample sizes, it is argued to be a more powerful test of mediation (Preacher & Hayes, 2008). The presence of a significant indirect effect was determined based on a sample criterion of 1000 and 95% confidence intervals. Significant indirect paths were found in all four pathways tested. The path between PMIEs and shame through depression (*CI*95%[0.01, 0.09]) and the path between PMIEs and guilt through depression (*CI*95%[0.01, 0.08]) were both significant, as were the path between psychopathic personality traits and shame through depression (*CI*95%[0.04, 0.08]) and the path between psychopathic personality traits and guilt through depression (*CI*95%[0.03, 0.07]).

Alternate model with social connectedness as sole moderator.

PMIEs positively predicted depression symptoms (B=0.351, *STDYX*=0.663, *p*<.001) and suicidal ideation (B=0.282, *STDYX*=0.679, *p*=.002). Social connectedness negatively predicted both depression symptoms (B=-0.100, *STDYX*=-0.358, *p*<.001) and suicidal ideation (B=-0.036, *STDYX*=-0.164, *p*=.012). The interaction term between social connectedness and PMIEs also negatively predicted both depression symptoms (B=-0.003, *STDYX*=-0.340, *p*=.006) and suicidal ideation (B=-0.003, *STDYX*=-0.414, *p*=.048). As with the previous model, depression symptoms positively predicted both state shame (B=0.336, *STDYX*=0.511, *p*<.001) and state guilt (B=0.295, *STDYX*=0.372, *p*<.001); suicidal ideation also positively predicted both state shame (B=0.257, *STDYX*=0.307, *p*<.001) and state guilt (B=0.149, *STDYX*=0.148, *p*=0.03). Again, PMIES also

positively predicted state guilt (B=0.095, *STDYX*=0.226, p<.001) but not state shame (B=0.010, *STDYX*=0.028, *p*>.05). The results of this model are displayed graphically in Figure 16.

Based on these findings, twelve indirect pathways were examined using the same bootstrapping procedure described above. The paths between PMIEs and shame through depression (*CI*95%[0.07, 0.18]) and through suicidal ideation (*CI*95%[0.02, 0.13]) were both significant, as was the path between PMIEs and guilt through depression (*CI*95%[0.06, 0.17]); the path between PMIEs and guilt through suicidal ideation was not significant. The paths between social connectedness and shame through depression (*CI*95%[-0.05, -0.02]) and through suicidal ideation (*CI*95%[-0.02, -0.003]) were both significant, as was the path between social connectedness and guilt through depression (*CI*95%[-0.05, -0.02]); the path between social connectedness and guilt through suicidal ideation was not significant. The path between the interaction term of PMIEs and social connectedness and shame through depression (*CI*95%[-0.002, 0.00]) was significant; the path between the interaction term of PMIEs and social connectedness and shame and through suicidal ideation was not significant. The path between the interaction term of PMIEs and social connectedness and guilt through depression (*CI*95%[-0.002, 0.00]) was significant; the path between the interaction term of PMIEs and social connectedness and shame and through suicidal ideation was not significant.

Full alternate model.

PMIEs positively predicted depression symptoms (B=0.416, *STDYX*=0.787, *p*=.001) and suicidal ideation (B=0.419, *STDYX*=1.009, *p*=.004). Social connectedness negatively predicted both depression symptoms (B=-0.074, *STDYX*=-0.264, *p*<.001) and suicidal ideation (B=-0.030, *STDYX*=-0.138, *p*=.045). Psychopathic personality traits positively predicted depression symptoms (B=0.110, *STDYX*=0.209, *p*=.001), but did not significantly predict suicidal ideation.

The interaction term between social connectedness and PMIEs negatively predicted both depression symptoms (B=-0.003, *STDYX*=-0.394, *p*=.005) and suicidal ideation (B=-0.004, *STDYX*=-0.546, *p*=.013). The interaction term between psychopathic personality traits and PMIEs did not significantly predict either depression symptoms or suicidal ideation. The inclusion of both moderators as predictors of depression and suicidal ideation was tested using specific indirect effects and will be discussed below. As with the previous models, depression symptoms positively predicted both state shame (B=0.336, *STDYX*=0.511, *p*<.001) and state guilt (B=0.295, *STDYX*=0.372, *p*<.001); suicidal ideation also positively predicted both state shame (B=0.257, *STDYX*=0.307, *p*<.001) and state guilt (B=0.149, *STDYX*=0.148, *p*=0.03). Again, PMIES also positively predicted state guilt (B=0.095, *STDYX*=0.226, p<.001) but not state shame (B=0.010, *STDYX*=0.028, *p*>.05). The results of this model are displayed graphically in Figure 17.

Based on these findings, fourteen indirect pathways were examined using the same bootstrapping procedure described above. The paths between PMIEs and shame through depression (*CI*95%[0.05, 0.23]) and through suicidal ideation (*CI*95%[0.03, 0.19]) were both significant, as was the path between PMIEs and guilt through depression (*CI*95%[0.05, 0.22]); the path between PMIEs and guilt through suicidal ideation was not significant. The path between social connectedness and shame through depression (*CI*95%[-0.05, -0.01]) was significant; the path between social connectedness and shame through suicidal ideation was not significant. The path between social connectedness and guilt through depression (*CI*95%[-0.04, -0.01]) was also significant; the path between social connectedness and guilt through suicidal ideation was not significant. The path between psychopathic personality traits and shame through depression was significant (*CI*95%[0.02, 0.06]), as was the path between psychopathic

personality traits and guilt through depression (*CI*95%[0.01, 0.06]). The path between the interaction term of PMIEs and social connectedness and shame through depression (*CI*95%[-0.002, 0.00]) was significant, as was the path through suicidal ideation (*CI*95%[-0.002, 0.00]). The path between the interaction term of PMIEs and social connectedness and guilt through depression (*CI*95%[-0.002, 0.00]) was significant; the path between the interaction term of PMIEs and social connectedness and shame and through suicidal ideation was not significant.

In order to test the effects of both moderators on the mediated relations discussed above, custom variables were created to test each relation at low, medium, and high levels of each moderator (psychopathic personality traits and social connectedness). This resulted in 36 indirect effects tests, of which two were significant. First, the path between PMIEs and shame through depression was significant when both psychopathic personality traits and social connectedness were at low levels (*CI*95%[0.01, 0.07]); second, the path between PMIEs and guilt through depression was also significant when both psychopathic personality traits and social connectedness were at low levels (*CI*95%[0.01, 0.06]).

Discussion of Study 1.

This study demonstrates the complex relation between the experience of potentially morally injurious events (PMIEs) and subsequent mental health. Clearly, the experience of PMIEs is quite common in the military but the lasting effects of these events can vary depending on a number of factors. Although this study did not provide evidence for some pieces of the theoretical model of moral injury development as proposed by Litz and colleagues (2009), the findings did provide useful information regarding mechanisms by which the development of psychological symptoms associated with moral injury may be interrupted or prevented.

The findings of this study clearly show the strong relation between the experience of PMIEs and experiencing later depression and suicidal ideation, consistent with the Litz et al. (2009) model. Previous studies have suggested links between PMIEs and negative mental health outcomes (e.g., Nash et al., 2013; Currier et al., 2015) but were limited by small sample sizes leading to small associations. The findings of the current study conclusively demonstrate the association between PMIEs and experiencing depression symptoms and suicidal ideation. The results of this study also demonstrate a broader sampling of participants, as previous studies have only sampled members of a specific branch of the military or veterans of a specific conflict. As the current study sampled veterans of all branches of the military and all service eras, and the demographics of the sample accurately represented the demographics of the veteran population, it is likely that the results of this study are generalizable to the broader population of veterans.

This study is the first to demonstrate the importance of social connectedness in the development (or lack thereof) of negative mental health outcomes after the experience of PMIEs, consistent with the model hypothesized by Litz and colleagues (2009). Although high levels of social connectedness has been linked with positive mental health outcomes across many previous studies, this study shows the importance of social connectedness specifically related to service members who experience PMIEs as shown by the strong negative moderating effect of social connectedness on the relation between PMIEs and negative mental health outcomes.

This study did not provide concrete evidence to support the role of guilt and shame in the development of psychological symptoms related to moral injury as proposed by Litz et al. (2009). A well-fitting model that followed the original hypotheses would have supported the mediating role of guilt and shame between PMIEs and psychological symptoms; given that the hypothesized model did not fit the data, no definitive statement can be made regarding this

aspect of the conceptual model. This does not mean, however, that guilt and shame are not involved in the development of psychological symptoms after a PMIE. As this study relied on self-report data from a single time point often many years after the PMIE(s) had occurred, it is possible that guilt and shame related to the PMIE(s) could have led to the development of psychological symptoms but that this wasn't effectively captured without data collection closer to the occurrence of the PMIE(s). Although the data did not support the conceptual model in this way, the relations found between psychological symptoms and guilt and shame among veterans after service add to an existing body of literature in a way that breaks from previous findings.

Significant relations between negative mental health outcomes and the experience of guilt and shame is unsurprising; many researchers have examined these relations and found both guilt and shame are more prominent in those with depression and/or suicidal ideation (Kim et al., 2011). These results are particularly interesting, however, given the strength of the relations, previous findings among military samples, and the type of shame and guilt assessed. The findings of this study are consistent with the meta-analysis conducted by Kim and colleagues (2011) in that shame and guilt are both highly associated with depressive symptoms, and that shame has a stronger relation than guilt. This is the first study to demonstrate this relation with an exclusively veteran sample. The results differ from those of a previous study focused on military veterans by Bryan, Morrow, and colleagues (2013), in which the authors found a larger association with suicidal ideation and guilt rather than shame. In contrast, I found that veterans experiencing suicidal ideation report more shame than guilt associated with military service. It is also interesting to note that my results actually support the hypotheses set forth by Bryan, Morrow, and colleagues; their own results did not.

The current findings related to guilt and shame are also important given how guilt and shame were assessed. Given that state shame and guilt were assessed specifically related to military service, the results suggest that veterans with negative mental health outcomes may attribute some of their current functioning to their military service. It is also possible that higher levels of state guilt and shame related to military service among those with negative mental health outcomes could be indicative of higher levels of guilt and shame related to all events due to current psychological symptoms, but further research would be necessary to delineate this possibility.

An unexpected result was the positive association between psychopathic personality traits and depressive symptoms. Prior research has conclusively demonstrated that those high in psychopathic personality traits typically have less depression and suicidal ideation (Lovelace & Gannon, 1999), as psychopathic personality traits by definition mean that the individual does not have self-conscious emotions in the same way that others low in psychopathic personality traits do (Cleckley, 1941; Hare, 2003). The significant association between psychopathic personality traits and depressive symptoms is likely an artifact due to low variance in psychopathic personality traits. Very few participants endorsed high levels of psychopathic personality traits and thus, the observed relation between the two variables is likely Type I error. This supposition is bolstered by the low magnitude of the relation and the lack of any other significant findings associated with psychopathic personality traits, either as a primary independent variable or a mediator.

Study 2

Group differences.

As above, to correct for the increased possibility of Type I error due to multiple comparisons, family-wise error rate was calculated by determining alpha divided by the number of comparisons, or 0.05/7, meaning that a group difference would be considered significant if $p<0.007$. Participants in Study 2 with high levels of psychological symptoms (depression and suicidal ideation; "high symptoms group") differed from the group with low levels of psychological symptoms ("low symptoms group") in many ways. First, the high symptoms group had significantly higher reported state shame, $F(1,38) = 16.02$, $p<.001$, as well as state guilt, $F(1,38) = 13.97$, $p=.001$. The high symptoms group also reported significantly higher depression symptoms, $F(1,38) = 103.16$, $p<.001$, and suicidal ideation, $F(1,38) = 21.20$, $p<.001$. The high symptoms group reported significantly lower social connectedness, $F(1,38) = 11.25$, $p=.002$. There was no significant difference between the groups in psychopathic personality traits. Importantly, there was no significant difference in the number of PMIEs experienced, indicating that both groups experienced approximately the same number of PMIEs but had drastically different outcomes in terms of both psychological symptoms as well as negative self-conscious emotions about their military service. See Table 11 for a detailed description of results. Of note, the high symptoms group had significantly more women than would be expected given the demographics of the overall sample, $\chi^2(1) = 8.56$, $p=.003$. See Tables 12, 13, and 14 for a more detailed description of the demographics of each group.

Reliability.

The codes generated by the independent coder closely matched those of the original coding and fit well with the themes generated by the author. For example, the author generated a

code of "felt betrayed by politicians" and the coder generated a code of "betrayal by political leadership" for the following piece of text: "We were ignorant and we were betrayed and we were lied to." Although the coder was blind to both the hypotheses of the study and to which condition the transcripts belonged, the coder had 80% agreement with the original coding on the codes that contributed to major themes (87/108 matched). Of the 21 codes that did not match, the independent coder did not produce a code for the portion of text highlighted by the original coder; there were no instances in which the same portion of text was interpreted in different ways. The coder also reviewed the 21 codes that did not match and confirmed that the codes accurately reflected the data. In subsequent manipulation checks, the independent coder read the original codes for a subset of transcripts (4) and agreed with the author's codes, noting that all codes fit the text of the transcript. After the coder had completed both coding and the re-reading of original codes, she was informed of the separate conditions and which of the transcripts she coded were in each condition. When presented with the thematic maps generated by the author, the independent coder re-read the 10 transcripts she coded, and felt that the thematic maps meaningfully described the differences between the transcripts.

Themes.

Several themes for each group were identified from the qualitative data. Both groups discussed both positive and negative factors that contributed to their current mental health, but there were notable differences between the groups. For the high symptoms group, participants frequently discussed negative factors related to their military service and their return from deployment, including traumatic experiences during deployment, feelings of betrayal from a variety of sources, negative emotions, sexism, and a lack of support when they returned from deployment. The high symptoms group also discussed some positive factors, including growing

as a person from military service, receiving support from family, and receiving helpful psychological treatment. Participants from the low symptoms group also discussed both positive and negative factors, but much more frequently discussed positive things, including outlining specific ways in which they experienced personal growth from military experience, receiving support from multiple sources, and finding a job easily after service. Negative factors among the low symptoms group were similar to the high symptoms group, including traumatic experiences and betrayal by multiple sources, but didn't include as many factors as the high symptoms group. For a visual representation of the themes identified for each group, please see Figure 18 for the high symptoms group and Figure 19 for the low symptoms group.

High symptoms group.

Negative factors.

As discussed above, participants in the high symptoms group discussed many negative factors associated with their military service and many more negative factors when compared to the low symptoms group. One theme that multiple participants discussed as contributing to their negative mental health outcome was sexism they experienced during the military. As discussed above, a larger number of women were in the high symptoms group than would be expected given the overall sample and many of these women discussed overt sexism, sexual harassment, and sexual assault. Even in cases that did not reach the level of sexual assault, women reported that the ongoing harassment and sexism made it more difficult to perform their jobs and enjoy their work. One woman stated:

> I do think that being a female minority, or just a double minority in the Army did play a big role in it too, because how many times do I have to prove myself, that I can do the job.

Another said:

> I always knew that if I had a serious problem and told a supervisor about it, someone would do something about it but it's kind of a culture where you shouldn't do that because you basically get blackballed…it's just a daily kind of low-level hum, there's no real big incident, it's just every day is difficult, more difficult than I think it would have to be.

Reports of sexism were very common during interviews with female veterans and many participants stated that the ongoing harassment led them to become dissatisfied with their jobs and leave the military.

Participants in the high symptoms group also frequently discussed traumatic experiences during their deployments. This is unsurprising given that the topic of the interview was stressful experiences during military service, but participants often went into trauma details without prompting. One Veteran described the pain of losing a fellow service member:

> And when that little bit of a sound came out, the enemy troops…found us and shot [redacted] who ultimately ended up dying in my arms…he was really the one person I loved, and he had just been taken from me.

Another theme among the high symptoms group was negative emotions, experienced during military service, after discharge from the military, and/or continuing currently. This theme of negative emotions had a number of subthemes based on participants' responses: guilt, powerlessness, and isolation. The high symptoms group participants discussed guilt frequently, particularly in relation to people dying or being hurt and the individuals feeling as though they should have been able to do something to prevent that happening. Most participants stated that

their feelings of guilt started immediately after the event but have continued to the present day and they still think about what they could have done differently. One participant said:

> As a regular line corpsman, it was more of a situation of just sometimes being overwhelmed, and wondering if you're doing everything you could…after the fact, you know, when it hit the fan you just did what you did but afterwards you're coming down from that adrenaline high, you wonder, "Did I do enough? Could I have done more? If I was better trained, could I have done more?"

Another discussed her experiences trying to assist after a natural disaster:

> …I just had all these images in my head of people in horrible conditions and thinking there was more that I could have done to prevent that or to help them and it was because of me that things weren't getting where they needed to go…

Participants in the high symptoms group also discussed a feeling of powerlessness often. Many stated that they would have liked to help people more or get themselves out of a bad situation but felt constrained by the chain of command and orders. One female Veteran discussed her situation after she filed a sexual harassment claim:

> They had taken away my future, they'd taken away my present, and they made every day just kind of a living hell so, for weeks…every night I would just go to bed praying that I wouldn't wake up in the morning because…I didn't see things getting better.

Although this was an incident that was particularly stressful, many participants stated that they felt unable to change their situation, which led to thoughts of suicide.

A feeling of isolation during and after military service was also discussed frequently in the high symptoms group. Many discussed feeling like they cannot relate to civilians after

returning from deployment and they intentionally isolate themselves to avoid interactions with people. One Desert Storm/Desert Shield Veteran stated:

> …nobody can understand, it's hard to describe, for a person to understand unless they've been in it. You know…I can have casual conversations and stuff like that with people, but as far as a deep friendship, I can't have it because they haven't experienced what I experienced. And the things that bother me or things that I think about, they're not gonna understand what I'm talking about.

Others discussed feeling lonely during deployments, either because they had difficulty connecting with other service members with whom they were deployed or because they experienced things for which others ostracized them, like military sexual trauma. A Veteran compared his mental anguish with physical injuries he experienced during deployment:

> …while I was deployed I was just lonely. It's pretty frustrating to be over there for a year and a half. I had some good friends but you know, I missed my family and my friends at home…that was actually harder on me than the physical injury from the grenade.

Whether participants experienced isolation during deployment or whether the isolation has been self-imposed after deployment, many participants made a connection between isolation and their current mental health difficulties.

Participants in the high symptoms group also often discussed feeling that they did not receive support from their social networks, specifically from peers, families, and friends. Some participants reported that other veterans did not accept them after they left the military, particularly in Veterans' Service Organizations like the Veterans of Foreign Wars or the American Legion, and others stated that events like sexual assault led to their fellow service members shunning them or telling them to "get over it." Many reported that they felt that their

families also did not support them when they returned from deployment. One described her family's reaction to the military sexual trauma she experienced:

> I think one of the things that was really tough for me too is that my mom's side of the family was very opposed to me joining the military and so when I came back in the midst of all this chaos, when I came back from deployment, their universal response was, "It was only a matter of time before this happened to you," like, "You deserved this. You should never have joined the military…This is your just deserts so we're leaving you to suffer through."

Veterans in the high symptoms group also felt as though their friends did not support them after their return from deployment. One Veteran stated, "…because I wanted to stay in the military…I had people I thought were close friends totally disown me." Many other participants described returning from deployment and being unable to relate to former friends because of the stresses and experiences of deployment.

The most commonly discussed theme throughout all of the high symptoms group participants was a feeling of betrayal. Participants reported feeling betrayed by a variety of sources, specifically civilians, politicians, military leaders, peers, and the military as a whole. Most of those who talked about betrayal by civilians were Vietnam veterans who experienced the wrath of a civilian populace disillusioned with the Vietnam War. One described his return home:

> I mean I walked through airports and I'd get spit on and have feces thrown at me and urine thrown at me and cursed out and it was a real "welcome home" feeling every time I came to an airport.

A medic in Vietnam described his feeling of betrayal by civilians, especially given his role in the war:

…so to come home and have people call you "baby killer," to me it just, it was like an urge to kill. You know, "How dare you?" you know? First of all, that wasn't my job. Second of all, I did the opposite…

Many participants in the high symptoms group also reported feeling betrayed by politicians. Some felt betrayed because they felt that politicians did not fully commit to winning the war in which they fought, while others felt betrayed by politicians for sending them to war at all. Other participants described feeling unprotected because of the supplies provided and felt that politicians should have done more to properly equip service members. One participant detailed a visit from a politician:

Donald Rumsfeld was flown in from a helicopter to speak to us and there was a big hoopla with security and when he got there to make his speech, he got the name of our branch wrong: he called us National Guard and we were Army…we were waiting months for armored vehicles that we were supposed to get months ago…and we were like, "Where's the armor?"…he just talked like a politician, he didn't answer anything…I was pretty disappointed about that…

Some participants in the high symptoms group stated that they felt betrayed by the military as a whole. These participants described a variety of reasons for feeling this way, including not feeling protected by the military or feeling that the military did not appropriately discipline perpetrators. A participant described her experience of the military's handling of her sexual harassment case:

…they turned it over initially to the Coast Guard Investigative Service and they of course

> just tried to shut it down because they didn't want anything to come out and then eventually, I got this really strange letter that said…"We're not going to investigate this but we're not going to tell you why."

In addition to betrayal by the military as a whole, participants also discussed feeling betrayed by specific military leaders during their service. One Veteran discussed her difficulty with being ordered by a superior to cover up wrongdoing:

> …I got tremendous pushback and the Commodore, who's the 06 in charge of all the Coast Guard folks out there, started to basically order me not to say anything, not to mention anything, not to bring up anything, not to try and fix stuff, if anything happens I have to sweep it under the rug and not tell anybody. And it got to the point where there were very unsafe conditions and I did not feel comfortable operating my ship under very unsafe conditions.

Another recalled an instance in which his leadership failed to take appropriate action to keep his team safe:

> And so we lost two or three guys because this other team, they hid and they weren't where they were supposed to be, and it got some good guys shot up…rather than go through the process of the cowardice, the chain of command covered it up…they still allowed that vehicle commander and gunner and all that to stay in their positions, and actually promoted one of them, so I had some real issues with that.

This feeling of betrayal by identified leaders often led participants to lose trust in their leadership, making them feel unsafe for the remainder of their military service.

Finally, many participants in the high symptoms group also reported feeling betrayed by their peers in the military; fellow service members who are supposed to be counted upon to

protect the individual's life as well as the lives of the rest of the unit. One Veteran stated that she watched other service members act in ways that made her question their character:

> I have a pretty strong sense of justice and ideals and, I don't know, I'd watch other people act really immoral and it was not like they normally would at home. I guess it was dealing with, a coping mechanism or something, but I was really disappointed…I kept silent when I saw people doing wrong things and I, I kinda hated myself for it.

Another Veteran described an even more extreme betrayal by his fellow soldiers because of his sexuality:

> One of them decided he was going to "kill a queer for Christ" and shot me, but because it was friendly fire and because it happened out in the field, no record was officially made of it. I had to tend to it myself and I had to take out my own bullet out and had to bandage it myself, and it did get an infection by the time I got back to Saigon but that's the only thing that was ever documented, and of course all that got left in Vietnam.

This Veteran also stated that he was later "brutally" raped by fellow soldiers that left him in the hospital recovering for more than a month. These kinds of incidents left individuals wondering if their fellow soldiers would protect them in combat and kept them in constant fear during the rest of their military service.

Positive factors.

Although themes among the high symptoms group were predominantly negative, participants in this group also reported some positive factors related to their military service and recovery process as well. Many participants reported experiencing growth as a person during their time in the military, including learning their own capacity to endure and overcome stressful situations, that hard work would lead to good things, job skills that were translatable to the

civilian world, and generally maturing as a person. A participant described how the stress of combat operations helped her better understand the importance of communication in any goal-based situation:

> It's just one of those key highlights of how important it is not to let personal feelings in the way of their jobs and trying to be objective and find the best way to communicate with people they would support, and that really helped me I think…

Another factor that many participants saw as a positive in the recovery process from the events they experienced during deployment was receiving psychological treatment for their symptoms. Although each participant in the high symptoms group was experiencing psychological symptoms at the time they participated in the study, many stated that the psychological treatment they had received either through the VA or elsewhere was vital to improving their quality of life and, in some cases, keeping them alive. A Vietnam Veteran described his experience in therapy:

> Oh my goodness, [I learned] how to cope in society, how to deal with marriages, how to deal and cope with posttraumatic stress, nightmares, flashbacks, just how to deal with society in general, how to be a human being and not an animal.

Despite the fact that many participants in the high symptoms group described a lack of support from peers, friends, and family, many others also described support from their families as a positive factor; in fact, participants in the high symptoms group identified family support most often as the most important component of reintegration after military service. Veterans identified family, particularly parents or spouses, as helping them to cope with symptoms they experienced as well as better understand how to behave as a civilian rather than an active duty service member. One stated, "If I didn't have my wife, it would have been really bad because

she's the only one that was really telling me, 'You can do it.'" Another also discussed how helpful his wife was after his return from deployment:

> She's very strong in her faith, probably a lot stronger than I am and I think that her, being able to share those experiences with her, talk about them and kinda get 'em out, get 'em out in the open, I think it helped me a lot.

Low symptoms group.

Negative factors.

As with the high symptoms group, participants in the low symptoms group discussed many negative factors related to their experiences during military service. Consistent with the high symptoms group, the low symptoms group also discussed traumatic events during military service although they were not explicitly prompted to do so. Participants most frequently reported being in firefights with the enemy, seeing fellow soldiers killed by accidents and enemy fire, and seeing corpses in the aftermath of combat. One described his experience in Afghanistan:

> …my vehicle got hit, it was an MRAP [Mine-Resistant Ambush Protected] and it got hit by…a vehicle loaded up with explosives and they tried to ram up underneath me on the side of the road while we were passing…it messed me up pretty good physically and yeah, I had to be sent back to the States and get operated on.

Another Veteran described his shock after arriving in-country:

> Well, when you've never seen a dead person in your life and you're only a young, very young person, and all of a sudden you're seeing all these dead bodies, both enemy and ours, it's quite traumatic. We were walking past these dead bodies one time, all these

dead enemy bodies were laying there and there were insects all over them. It was really quite a traumatic thing to see.

Also similar to the high symptoms group, participants in the low symptoms group also commonly reported feeling betrayed as a negative factor during their service, although there were some distinct differences in the source of betrayal. Participants in the low symptoms group often felt betrayed by the military as a whole, by identified military leaders, and by politicians, just like the high symptoms group; however, participants in the low symptoms group did not report feelings of betrayal by military peers or civilians, and they did report feeling as though they had betrayed their personal values.

The low symptoms group reported feelings of betrayal by the military as a whole related to events that were similar to the high symptoms group, including feeling that the military did not adequately protect service members, feeling as though the military put service members in danger for no reason, and not appropriately punishing wrongdoing. One Veteran described his frustration with subpar equipment:

> …some of the equipment we had over there, to tell you the truth, was basically garbage. They've, the military, after I got out, was getting better…When I was over there, we had the Humvees that only had the quarter inch of plating on it that didn't protect you from anything if you had an IED or anything like that, so you know we were definitely in harm's way if we ran into an IED or something.

Another discussed her difficulty with trusting the military to protect her after a sexual assault:

> I didn't have a whole lot of trust in what they said, you know, it made me question things, their truthfulness…for them to turn around and tell me, "It's over with, it's done, it's

taken care of, you don't have to worry about it," and they hadn't done anything, you know, there was a lot of questions of trust.

In addition to feeling betrayed by the military as a whole, participants in the low symptoms group also frequently discussed feeling betrayed by specific leaders in the military. Many of the reasons for feeling betrayed by specific leaders overlap with the reasons for feeling betrayed by the military as a whole: leadership failing to protect service members, feeling as though leaders put people in danger for no reason, and leaders not taking appropriate action to punish wrongdoing; however, the distinction between specific leaders and the military as a whole is an important one because although the military is supposed to protect its members in a general sense, specific leaders are responsible for protecting the well-being of service members on a day-to-day basis. One participant described his experience of a leader telling him not to report wrongdoing, saying, "It made me feel pretty let down because the people that was [*sic*] supposed to back me up did not back me up, and sort of made me a target." Another discussed how his opinion of a leader changed after a training accident:

> …he's at his first duty station and this Second Lieutenant, by dint of his rank, told him to do something unsafe that resulted in his death, whereas the only reason the Private did it was because he had no recourse; he's being given direct orders by a superior officer, so you know, that tends to make you feel a little bit betrayed.

Participants in the low symptoms group also reported feeling betrayed by politicians, primarily because they felt as though the political leadership should have committed more to the wars in which the participants fought. Many participants stated that they feel as though they wasted their time and effort while deployed because there was no decisive conclusion to the wars. One participant described his feelings:

> I feel really betrayed by that because one thing about democracy, they don't, that's one of the pitfalls of it is that they can make all these promises and they aren't held accountable for it so, you know, he said we weren't gonna stay there and obviously we're still there. And I feel betrayed by that because I felt that was a promise that he made and it just didn't materialize. And there are a lot of soldiers still getting hurt or wounded, it just seems…very unnecessary.

One way in which participants in the low symptoms group were markedly different from the high symptoms group is that those in the low symptoms group often discussed feeling as though they betrayed their personal values. Participants stated that things that they did or failed to prevent others from doing during their deployments continue to bother them. One Veteran described his struggle with not reporting wrongdoing by officers:

> I went with the flow because I knew that was what was expected to be done…Would I have done the same if I knew then what I know now? Absolutely not, I would have been screaming from the highest flagpole. But I let it go because I knew that if I opened my mouth and said a word, I was done.

Another described his transformation through military training:

> Well, when I went to the military, I was not what you'd call an aggressive person. I was not someone who'd get into fights or anything like that. I was not somebody that would want to kill anyone. That was, really went against my grain. But when you're in the military, all that has to change, you have to become a killer. And so it's a very traumatic experience in that way too. They change you from college students to killers.

Positive factors.

As described above, participants in the low symptoms group were more likely to discuss positive factors that either came out of military service or were helpful in the reintegration process after deployment. Three over-arching themes were identified for positive factors: finding a job easily, service members experiencing growth during military service, and receiving support from their social connections.

A large number of the participants in the low symptoms group reported that they were able to find a job easily once they left the military and that having a job helped them to reintegrate into civilian life. Some veterans reported that their employers before military service re-hired them afterward or that some companies held their positions for them during military service so they could easily go back to work when they left the military. Others stated that they received assistance in transitioning into a civilian position. One participant described his experience with a transition program:

> …[They] help you convert from military to civilian side, they help you with your resume, also tell you how to us resources out there for job searching and networking, you know, and that helped a lot for me. Plus, they also set up your retirement, what kind of benefits you want, whether you wanted to keep your insurance, your life insurance, your health insurance and that. That helps out quite a bit for that transition.

Another frequently discussed positive factor among participants in the low symptoms group was feeling as though they experienced growth as people during their military service. Many reported that they developed positive personality traits through their training and service, and others found that they gained useful knowledge and skills that could be applied to civilian life. Although participants talked about a wide range of personal benefits from military service,

they most frequently mentioned gaining confidence in themselves and their abilities, and learning better discipline. One Veteran described what helped him most in his transition out of the military and into civilian life: "Pretty much self-confidence. In other words, I came out [sic] the Marine Corps with an attitude as long as, of never give up; I can do anything as long as I work hard enough for it." Another discussed how his self-confidence gained through service helped him be successful in the civilian world: "I mean all of these are quantum leaps in careers and I always did, just assuming that I could do it, you know? I would learn whatever I needed to do but the Army really taught me that." Many participants also mentioned how the discipline instilled by military training and service helped them succeed later in life. One said, "[My military experience] taught me a little more self-control, I'm probably more disciplined than I was as a teenager because it taught me to think before I acted." Another participant talked about how his military training helped him throughout life:

> I learned discipline. If somebody said that you needed to be there at 8 o' clock, that's not a suggestion, you know? You need to be there at 7:55 and in the Army I learned that if you, somebody will recognize hard work and that you'll get ahead by just going ahead and working, and those kinds of things always stayed with me.

The most frequently mentioned positive factor in adjusting to the transition from military to civilian life was receiving social support. Participants in the low symptoms group discussed social support often when talking about their return after deployment, and from multiple sources. Veterans in the low symptoms group reported receiving support from their military peers, friends, family, and their communities as a whole. Participants stated that receiving support from their military peers helped normalize their experiences and made them feel accepted within their unit. These offers of support from peers often occurred near the time of the stressful event,

which may have been more powerful and restorative. A Veteran described feeling supported by other members of her team immediately after she was sexually assaulted:

> I thought that was kinda nice to see that the guys were trying to help me out in that aspect and, you know, since the command wasn't doing what they needed, these guys took it upon themselves to try to help me out and they went up there and told him, "She's ours, you can't touch her"…And I was like, "Wow"…they were upset that nothing had been done and they wanted to make sure that this guy understood, "You can't do that to her, she's ours."

Another participant stated that he and his friends would talk about stressful situations while drinking:

> …you know, men are told that they're not supposed to cry, they're not supposed to have feelings. I'm like, "I don't know, I was in the Marine Corps and you know how many people get Dear John letters in the military? And end up crying in their beer over it?" No one thought any less of them. We had a guy get a Dear John letter, 4 or 5 of us would take him out…and it was like, "Talk about it, get it off your chest," and we'd commiserate with the person…"

Some participants in the low symptoms group also reported receiving support from their community, which comprised different groups for different individuals. One Veteran discussed how important it was to be recognized for his service by a taxi driver after being subjected to abuse by other civilians after his return from Vietnam:

> Anyway, one thing that really, really got to me, and still gets to me to this day, and really, I get choked up. He said, "Thank you, son. Thank you for serving for us." And I couldn't say a word, I was so choked up.

Other participants stated that church was a supportive community for them after military service, including being able to discuss traumatic experiences with a pastor or other religious leader.

Among the low symptoms group, a majority of participants stated that they received social support from friends and family after their military service. This support did not necessarily include discussing traumatic or stressful experiences during deployment, and many participants reported that just having friends and family with whom they could interact on a daily basis was all they needed to decompress from the stresses of deployment. One Veteran discussed the importance of his social support after being treated poorly as a Vietnam Veteran:

> I'm pretty fortunate I had, when I came back home, I had a very big support unit, between my family, I belonged to a social athletic club, I belonged to three different ball teams and, they uh, (pause) we weren't treated real well coming back from Vietnam.

Another participant talked about the impact that his family had on him after deployment:

> I had my family, which was a godsend for me because I think that's what helped me convert back easier to civilian life because my kids would say, "Dad, you're being too square, you're being military, knock it off."

When asked about what was most helpful in transitioning to civilian life after military service, participants from the low symptoms group mentioned support from family and friends most often.

Discussion of Study 2.

The qualitative data collected during Study 2 provided richness to the results that would not have been possible to uncover through the self-report measures in Study 1. The differences found between the reports of those in the high symptom and low symptom groups allowed for a more thorough understanding of the factors driving the results of Study 1. First, the importance

of feeling betrayed by others in the development of negative mental health outcomes was striking. Although both groups frequently reported betrayal by the military as a whole, by military leaders, and by politicians, the high symptoms group reported betrayal by military peers and civilians, which was not frequently mentioned by the low symptoms group. This could suggest that while feeling betrayed by leadership or politics is somewhat expected during service, feeling betrayed by peers or civilians who may be expected to support the service member is more painful and can lead to a lack of trust in social networks, thus leading to a greater potential for negative mental health outcomes. Although it may be expected that the high symptoms group had an overrepresentation of Vietnam veterans, given the political climate to which Vietnam veterans returned and the higher possibility of feeling betrayed by civilians, the groups were relatively well-matched by age.

In the low symptom group, veterans often reported feeling as though they had betrayed their personal values, which was not reported frequently by the high symptom group. This could indicate a recognition by veterans in this group that actions during military service were not indicative of who they are as people and were instead a product of the situation. The ability to recognize the contributions of both personal decision-making as well as those of the situation to result in an undesirable outcome is typically associated with good mental health, as this would indicate flexible cognitive schemas about self, others, and the world. In contrast, those with stable, negative schemas about self, others, and the world often endorse negative mental health outcomes, including depression; thus, those in the high symptoms group may interpret their PMIEs as being out of their control and a result of a terrible situation that they were powerless to prevent. This lack of agency felt among the high symptoms group has likely led to further

negative beliefs about themselves given that they were unable to stop or prevent the PMIEs from occurring, as well as solidifying negative beliefs about others and the world.

Another way in which the qualitative data provided additional information to Study 1 was the frequent report of sexism among the high symptoms group. Female veterans were more likely to be in the high symptoms group and all female veterans interviewed during Study 2 reported sexism at some level during their military service, whether this was sexist comments, sexual harassment, or sexual assault and/or rape in the most severe cases. It is interesting to note that the single female Veteran interviewed in the low symptoms group experienced a sexual assault from an individual outside of the United States Military, rather than sexism from a peer or coworker; this Veteran actually reported feeling supported by her military peers after the assault. This difference in mental health outcomes could be related to the feeling of betrayal by trusted others discussed above.

The results of Study 2 also contributed to the findings of Study 1 through the discussion of psychological treatment. Those in the high symptoms group of Study 2 often discussed their positive experiences with receiving psychological treatment through the VA or elsewhere; the low symptoms group mentioned psychological treatment very infrequently. This suggests that the low symptoms group may not have needed psychological treatment after returning from deployment, possibly because the individuals in this group were able to effectively rely on their social support to provide corrective information regarding the individual's worth and responsibility for events that occurred during deployment. Those in the high symptoms group appear to have felt that they required psychological treatment, possibly because of a lack of social support, and that although the individuals in this group believe that psychological

treatment has been helpful, it has not fully compensated for a lack of social support given that they are still experiencing high levels of psychological symptoms.

CHAPTER IV

GENERAL DISCUSSION

Taken together, the results of both studies demonstrate the important role that social support plays in recovery from potentially morally injurious experiences (PMIEs) during deployment. Study 1 clearly indicates that those with higher levels of social support experience less psychological symptoms, regardless of the intensity or frequency of PMIEs during deployment, and Study 2 demonstrates the types of social support helpful in promoting recovery. These findings have clear implications for service members' recovery and return to civilian life post-deployment. As much as the medical model proffered by the VA and the US Armed Forces can reduce symptoms after they have developed, the psychological treatments available are not a sufficient substitute for reparative experiences with service members' communities. Social support from family may be expected, but reparative experiences with friends, community members, and other service members may be required in order for healthy recovery. As Shay stated:

> Any blow in life will have longer-lasting and more serious consequences if there is no opportunity to communalize it. This means some mix of formal social ceremony and informal telling of the story with feeling *to socially connected others* who do not let the survivor go through it alone (1994, p. 39).

Without the ability to connect with others and receive empathy, returning service members risk continued isolation and subsequent mental health issues.

Achieving this goal of increased communalization, however, is complex. As it currently stands, many returning service members are quickly discharged from their units, spreading members of the unit across the country and isolating them. These individuals are then further

isolated as few civilians can relate to their experiences, given the dwindling percentage of the American public that has served in the Armed Forces. Many branches of service have attempted to combat this quick release back into communities by using exit surveys to identify individuals at risk of or currently experiencing mental health problems; however, these surveys are quite explicit in asking about mental health symptoms and service members are incentivized in multiple ways to select answers that indicate they are not experiencing problems, including hurting potential advancement if they intend to stay in the military and causing service members to be held in the military longer before being able to return to their families (Hoge et al., 2004). Thus, a number of viable options may serve to reduce the stigma of discussing military experiences while also promoting the communalization of these experiences.

First, the US Armed Forces could slow down the discharge process and keep units together longer after return from deployment. Although this would likely be unpopular among service members anxious to return home to loved ones, it could provide space to discuss experiences when the danger of deployment is no longer present. In addition, weekly groups designed to discuss experiences in a non-judgmental way during this time could be beneficial. Ideally, a service member or veteran who experienced a similar deployment (in terms of location, MOS, etc.) and has used social supports to recover would lead these groups. Although service members may still be reluctant to discuss their experiences, having these groups be mandatory and with members of their unit may lead to reduced stigmatization.

Second, both the US Armed Forces and the VA can do a better job of preparing community members for the return of Veterans from deployment. Practices vary among different military divisions and VAs across the country, but currently there is limited community outreach available to veterans' social supports other than family members. Educational sessions

about some of the features of the current wars as well as what service members may have experienced could be useful in helping to set community members' expectations. In addition, facilitators at these educational sessions could provide basic empathic listening skills so that community members feel prepared to talk to returning service members and veterans. Outreach sessions could be held through community organizations including churches, recreation clubs, and community centers in order to reach as many social supports for service members and veterans as possible.

Third, treatment offered within the VA should do more to incorporate social supports and the veterans' communities. As it currently stands, the VA follows a medical model whereby patients experience difficulties and present to their local VA to receive care. Treatment is aimed at symptom reduction and when symptoms have been sufficiently reduced, the patient (veteran) is sent off into their environment, expected to be fine given that he/she is no longer experiencing distress as defined by psychological symptoms. This model does an excellent job of handling officially designated psychological disorders, but is woefully inadequate in preparing veterans to reintegrate into their communities and be a functioning member of that community. Providers within the VA can provide more outreach to communities as described above, but they can also do more with the veterans' immediate social support network, provided that the veteran consents to this. VA providers can also do more hands-on training for functioning within society, including social skills training and explicit practice of how to handle anxiety-inducing interactions with community members (e.g., "Did you shoot anyone?" "How many people did you kill?"). This expansion of services would require additional funding in order to take the burden off of already overworked providers but the funding would serve as preventative care, reducing the cost of seeing some veterans repeatedly after symptoms reemerge.

Another crucial finding of these studies is the impact of sexual assault and harassment on service members. In Study 2, there were seven female participants in the high symptoms group as compared to one female participant in the low symptoms group. Among all female participants, *every single participant* reported some form of sexual assault or sexual harassment during her time in service. As discussed above, the one female participant in the low symptoms group experienced a sexual assault by an allied service member and then her fellow US service members supported her. Each of the female participants in the high symptoms group was assaulted or harassed by a fellow US service member, a betrayal by those who were supposed to protect her. Several male participants in the high symptoms group also discussed sexual assault by fellow service members. Other than the lone female participant in the low symptoms group, no other participants in the low symptoms group discussed sexual assault or harassment. The association between military sexual trauma (as defined by the VA to include both assault and harassment) and negative mental health outcomes is shocking and upsetting (e.g., Kang, Dalager, Mahan, & Ishii, 2005; Yaeger, Himmelfarb, Cammack, & Mintz, 2006), and this study clearly indicates the need for the US Armed Forces to prevent military sexual trauma from occurring to the best of their ability and to prosecute those who commit military sexual trauma. In the experience of many participants in Study 2, the initial assault or harassment constituted a moral injury and the subsequent military retaliation or cover-up re-traumatized the victim with an additional betrayal, removing social support and increasing her/his chances for later mental health issues. Although this topic has been a focus of research in recent years and was not the stated aim of the current study, the results of this study further demonstrate the need to put an end to and support victims of military sexual trauma.

Limitations and Future Directions

A number of limitations in these studies restrict the definitiveness of the results and subsequent conclusions. First, as the data in Study 1 were collected through self-report measures, frequently after participants had been out of the military for several years, causality for negative mental health outcomes and self-conscious emotions cannot be determined. Although it is clear that those who experienced more PMIEs are more likely to have current depression symptoms and/or suicidal ideation, and that those with more social support are less likely to experience current depression and/or suicidal ideation, no causal link can be determined. Future research should examine these factors using a longitudinal design, ideally beginning during military service and following service members as they return from deployment and attempt to reintegrate into the civilian world once they have left service. This type of design would likely allow for better understanding of the development of negative mental health outcomes after experiencing PMIEs, as well as further elucidate the role of self-conscious emotions in the development of these outcomes.

Another limitation to this study is the sampling methods used in relation to the generalizability of findings to all veterans. As potential participants were contacted via email and participated using an online survey, it is likely that veterans in the lowest socioeconomic status were underrepresented including institutionalized and homeless veterans, some of whom may have the poorest psychological outcomes based on findings that psychological trauma leads to increased illness and mortality (Centers for Disease Control Vietnam Experience Study, 1988; Kulka et al., 1990). These sampling limitations may mean that veterans with the worst psychological outcomes may not have been included in the current study. Future research should

attempt to broaden sampling methods to better reach all veterans and thus provide more generalizable results.

The importance of the study's findings also could have been improved with a more explicit measure of the internal conflict that participants experienced in relation to their PMIEs. As internal conflict was a key factor in Litz and colleagues' (2009) model (L model), this study could have provided further support for the L model with a measure of internal conflict. Study 1's design assumed that the presence of guilt and shame related to military service (and thus PMIEs) would indicate the experience of internal conflict, but as guilt and shame were not found to be mediators in this model, the extent to which participants experienced internal conflict related to PMIEs is unclear. Future research could include direct questions during qualitative data collection about the extent to which participants experienced internal conflict about PMIEs, both immediately after the event(s) and as they have aged, which may provide a more thorough understanding of the developmental trajectory of moral injury development.

Another limitation of the current study is the extent to which the models used in Study 1 met established model fit criteria. Although each of the alternate models discussed met many requisite fit criteria, the associated statistics were frequently at the cutoff of acceptable fit, thereby suggesting some doubt in these results. Replication of these findings would be beneficial to establish further confidence in these findings and confirm the relations found.

The use of a single researcher (the author) to conduct interviews and analyze the data for Study 2 also presents a limitation to the findings, as the researcher was not blind to the hypotheses of the study. Although a script was used during the interview in order to ensure that all participants were asked the same questions, follow-up questions could unconsciously have been asked in a manner that led participants to discuss certain topics. Given that independently

generated codes of a subset of the transcripts in Study 2 matched the original codes generated by the author, there is good evidence to suggest that the final themes found in Study 2 are an accurate representation of the data; however, this does not preclude the possibility of unintentional leading by the interviewer. Research assistants who are blind to study hypotheses should conduct data collection in any subsequent research using similar methods.

Despite the limitations described above, this study indicates important lines of future research as well as potential interventions. First, the beneficial effect of social support on mental health outcomes after military service cannot be overstated. As many of those in the high symptoms group felt betrayed by peers both in the military and civilian world, finding a support network appears to be vital to positive mental health outcomes. Intervention research might examine the usefulness of support groups during military service for those who have experienced some kind of interpersonal betrayal. These groups may help victims of betrayal to find others in whom they can trust as well as discuss their current difficulties.

Further work should also be done to more thoroughly examine the model of moral injury proposed by Litz and colleagues (2009). Although recent work has been published outlining a potential treatment protocol for symptoms related to moral injury, a clearly defined symptom constellation for moral injury has not been identified, nor has foundational research been done to clearly establish the development of the proposed symptoms after a potentially morally injurious event. Without this research, potential interventions may not effectively address underlying etiology of psychological distress.

In regards to the contributions of this study on Litz and colleagues' (2009) model (L model), these findings do not suggest major changes to the model as the model assumes development over time and the current study did not track participants longitudinally (as

discussed above). Therefore, the finding that shame and guilt did not mediate the relationship between PMIEs and psychological symptoms does not suggest that the L model was incorrect; rather, the current findings indicate that there is a clear link between PMIEs and psychological symptoms, and that guilt and shame also play a role. To clearly determine the time course of these emotions and symptoms, a longitudinal study is necessary.

Although the results of the current study did not indicate a major change to the L model, they did suggest that the model should place more emphasis on several factors. First, this study clearly demonstrated the importance of social support in the development of moral injury, suggesting the need for a more nuanced inclusion of social support in the L model. In the current L model, "forgiving supports" is a protective factor against the development of moral injury; however, social support can often drastically change after a service member's return from deployment and thus pre-morbid social support may not necessarily be a good predictor of later psychological difficulties. Instead, findings from these studies indicate that post-deployment social support may have an impact on multiple factors in the L model, including attributional style; shame, guilt, and anxiety; withdrawal; and failure to forgive/self-condemnation, as well as moderating the relationships between each of these factors. Future research should identify the differential impact of social support on each of these factors, ideally using a longitudinal design aimed at identifying critical periods in which social support can have the biggest preventative impact.

In addition to examining when social support has the largest impact, future research should also examine what types of social support are most beneficial for returning service members. Results from this study demonstrate that having social support from a broad variety of sources is important, but future work should identify what kind of social support has the largest

impact. For example, is time spent around valued others enough to interrupt the development of moral injury? Or is it necessary to discuss deployment experiences and/or trauma? Both Litz and colleagues (2009) and Dr. Jonathan Shay (1994) discuss the importance of listening to veterans in a non-judgmental and open-minded manner, but this is based on anecdotal evidence and thus more research is necessary. Identifying critical sources of social support would also be beneficial for future interventions. For instance, if social interactions with community members might be more reparative than experiences with friends, this finding would encourage the development of a community-based intervention. Delineation of the most useful components of social support would allow for much more targeted and effective prevention and intervention efforts.

The current findings also indicate that betrayal should be more explicitly included in the L model, as the sources of betrayal were crucial in delineating between the low symptoms and high symptoms groups. Although betrayal is hinted at through the "Stable, Internal, Global Attributions" factor, it is not fully accounted for in this model. Stable, internal, and global attributions fit very well for self-betrayal in the L model (e.g., "I have killed a child, therefore I am unworthy of life") but would not effectively explain perpetration by others. For example, if a service member feels as though her unit has turned against her after she reports experiencing a sexual assault, she may feel as though she can no longer trust her unit. This feeling of betrayal does not fit into either internal or global attributions, as she has lost trust in others and this feeling is specific to her unit, representing stable, external, and specific attributions. These may eventually evolve into stable, internal, global attributions (e.g., "They ostracized me because I am bad" or "The Army doesn't care about me because I'm not a good Soldier"), but the feeling of betrayal is necessary for these to develop. Thus, the current studies suggest that "Feeling

Betrayed" should act as a moderator between "Dissonance/Conflict" and "Stable, Internal, Global Attributions" in the L model. This would reflect the important role that a sense of betrayal plays in the development of symptoms related to moral injury, and more accurately describe the relationship between initial dissonance/conflict and later attributions. Future work should continue to examine the role of betrayal in moral injury and determine if the proposed location in the developmental model is accurate.

Conclusion

As this study and many others have made clear, military service can have a wide-ranging impact on service members' lives. Many potentially morally injurious events that a service member experiences related to combat are difficult to reduce; the nature of combat itself causes traumatic events to occur and for individuals to play some role in these traumatic events occurring. Potentially morally injurious events outside of combat, however, may be reduced through a change of military culture, particularly in regards to sexual assault and harassment, and to a model of peer support after stressful events rather than silence or ostracism. What can be changed and improved for all service members is the support provided after deployment to individuals who experience these events, thereby interrupting the development of negative outcomes. As providers and researchers, we have a responsibility to ensure that the men and women who serve in the armed forces are given the best possible chance to continue their lives without negative health effects from their service. The recognition of potential moral injury and intervention to prevent its development is crucial to achieving this mission.

APPENDIX A

STUDY 1 CONSENT DOCUMENT

In this independent research, our research group at the University of Oregon hopes to gain a better understanding of the experiences that some service members have after a stressful event during military service. Your opinions are extremely valuable to our work and we thank you for your time and effort.

This research is completely independent and is not affiliated with the military in any way. In addition, your responses will not be connected to your name unless you agree to do so, so please be as honest as possible when completing the survey.

The survey should take no more than 30 minutes to complete. If you do not want to answer certain questions, you may leave those items blank and continue to complete the remainder of the survey. In addition, your participation in this research is completely voluntary, and you may stop at any time for any reason by closing this browser. There are no anticipated risks to completing this survey other than discussing potentially stressful events, which may be upsetting for some people.

Please note, compensation from participation in Human Subjects Research studies is taxable income. If your compensation totals $600 or more in a calendar year, the University of Oregon is required to report the income to the IRS. The University of Oregon requires its departments to track participant compensation and may contact you to complete a Form W-9 for tax reporting purposes. Because of the federal and University tracking requirements, your name will be associated with participation in research. Department and University administrators will have access to this information, but will not have access to research data.

If you have any questions about your participation in this survey, please contact Bill Schumacher at wms@uoregon.edu. If you have any questions regarding your rights as a research participant, please contact the University of Oregon's Research Compliance Services office at ResearchCompliance@uoregon.edu.

Please indicate that you agree to participate in this survey by clicking the button below:

I Agree to Participate

APPENDIX B

DEMOGRAPHIC INFORMATION

1. What is your age?
2. What is your gender?
3. With which ethnicity do you most identify?
    - -African-American/Black/African Origin
    - -Asian-American/Asian Origin/Pacific Islander
    - -Latino-a/Hispanic
    - -American Indian/Alaska Native
    - -European Origin/White
    - -Bi-racial/Multi-racial
    - -Other
4. What is your marital/partner status (Select all that apply)?
    - -Married
    - -Separated
    - -Divorced
    - -Widow/Widower
    - -Never Married
    - -Have a Partner
    - -Single
5. How much formal education have you completed?
    - -Did not complete High School
    - -High School Degree
    - -Some College
    - -2-year College Degree
    - -4-year College Degree
    - -Some Graduate School
    - -Graduate Degree
6. In what year did you join the U.S. military?
7. Are you currently in the U.S. military?
    - -Yes
    - -No
8. (If no to Question 7) In what year did you leave the U.S. military?
9. With what service branch did you serve (or currently serve)? If you served in multiple branches, please list all of them.
10. What is the highest rank you obtained during your service?
11. What were your primary responsibilities when you held the rank indicated above?
12. Have you been deployed?
    - -Yes
    - -No
13. (If yes to Question 12) In what year did your last deployment end?
14. In what countries have you served? Please list all countries.

APPENDIX C

MORAL INJURY QUESTIONNAIRE-MILITARY VERSION

Directions: Serving in the military can entail exposure to many stressful life events. Considering your possible war-zone deployment(s) and military service in general, please indicate how often you experienced the following types of events. Please read each statement carefully and note that for these statements, a response of 1 indicates that you ‘‘never” experienced the item and a response of 4 indicates that the item occurred ‘‘often’’ for you.

	Never	**Seldom**	**Sometimes**	**Often**
(1) Things I saw/experienced left me feeling betrayed or let-down by military/political leaders	1	2	3	4
(2) I did things that betrayed my personal values	1	2	3	4
(3) There were times that I saw/engaged in revenge/retribution for things that happened	1	2	3	4
(4) I had an encounter(s) with the enemy that made him/her seem more ‘human’ and made my job more difficult	1	2	3	4
(5) I saw/was involved in violations of rules of engagement	1	2	3	4
(6) I saw/was involved in the death(s) of an innocent	1	2	3	4
(7) I feel guilt over failing to save the life of someone	1	2	3	4
(8) I had to make decisions at times when I didn’t know the right thing to do	1	2	3	4
(9) I feel guilt for surviving when others didn’t	1	2	3	4
(10) I saw/was involved in violence that was out of proportion to the event	1	2	3	4
(11) I saw/was involved in the death(s) of children	1	2	3	4
(12) I experienced tragic war-zone events that were chaotic and beyond my control	1	2	3	4
(13) I sometimes treated civilians more harshly than was necessary	1	2	3	4
(14) I felt betrayed or let-down by trusted civilians	1	2	3	4
(15) I saw/was involved in a ‘friendly-fire’ incident	1	2	3	4
(16) I destroyed civilian property unnecessarily	1	2	3	4
(17) Seeing so much death has changed me	1	2	3	4
(18) I made mistakes in the war zone that led to injury or death	1	2	3	4
(19) I came to realize that I enjoyed violence	1	2	3	4

APPENDIX D

STATE SHAME AND GUILT SCALE

The following are some statements which may or may not describe how you are feeling **right now**. Please rate each statement using the 5-point scale below. Remember to rate each statement based on how you are feeling **right at this moment**.

	Not feeling this way at all	Feeling this way somewhat	Feeling this way very strongly
1. I feel good about myself.	1 ------- 2 ------- 3 ------- 4 ------- 5		
2. I want to sink into the floor and disappear.	1 ------- 2 ------- 3 ------- 4 ------- 5		
3. I feel remorse, regret.	1 ------- 2 ------- 3 ------- 4 ------- 5		
4. I feel worthwhile, valuable.	1 ------- 2 ------- 3 ------- 4 ------- 5		
5. I feel small.	1 ------- 2 ------- 3 ------- 4 ------- 5		
6. I feel tension about something I have done.	1 ------- 2 ------- 3 ------- 4 ------- 5		
7. I feel capable, useful.	1 ------- 2 ------- 3 ------- 4 ------- 5		
8. I feel like I am a bad person.	1 ------- 2 ------- 3 ------- 4 ------- 5		
9. I cannot stop thinking about something bad I have done.	1 ------- 2 ------- 3 ------- 4 ------- 5		
10. I feel proud.	1 ------- 2 ------- 3 ------- 4 ------- 5		
11. I feel humiliated, disgraced.	1 ------- 2 ------- 3 ------- 4 ------- 5		
12. I feel like apologizing, confessing.	1 ------- 2 ------- 3 ------- 4 ------- 5		
13. I feel pleased about something I have done.	1 ------- 2 ------- 3 ------- 4 ------- 5		
14. I feel worthless, powerless.	1 ------- 2 ------- 3 ------- 4 ------- 5		
15. I feel bad about something I have done.	1 ------- 2 ------- 3 ------- 4 ------- 5		

APPENDIX E

LEVENSON SELF-REPORT PSYCHOPATHY SCALE

Instructions: Please choose a number that indicates how much you agree or disagree with the following statements.

	Disagree Strongly	**Disagree Somewhat**	**Agree Somewhat**	**Agree Strongly**
(1) I feel bad if my words or actions cause someone else to feel emotional pain.	1	2	3	4
(2) For me, what's right is whatever I can get away with.	1	2	3	4
(3) Most of my problems are due to the fact that other people just don't understand me.	1	2	3	4
(4) Love is overrated.	1	2	3	4
(5) In today's world, I feel justified in doing anything I can get away with to succeed.	1	2	3	4
(6) I let others worry about higher values; my main concern is with the bottom line.	1	2	3	4
(7) My main purpose in life is getting as many goodies as I can.	1	2	3	4
(8) I quickly lose interest in tasks I start.	1	2	3	4
(9) I don't plan anything very far in advance.	1	2	3	4
(10) Even if I were trying very hard to sell something, I wouldn't lie about it.	1	2	3	4
(11) People who are stupid enough to get ripped off usually deserve it.	1	2	3	4
(12) Success is based on survival of the fittest; I am not concerned about the losers	1	2	3	4
(13) I often admire a really clever scam	1	2	3	4
(14) Before I do anything, I carefully consider the possible consequences	1	2	3	4
(15) I find myself in the same kinds of trouble, time after time	1	2	3	4
(16) I am often bored.	1	2	3	4
(17) I make a point of trying not to hurt others in pursuit of my goals.	1	2	3	4
(18) I find that I am able to pursue one goal for a long time.	1	2	3	4
(19) I have been in a lot of shouting matches with other people.	1	2	3	4
(20) Cheating is not justified because it is unfair to others.	1	2	3	4
(21) I tell other people what they want to hear so that they will do what I want them to do.	1	2	3	4

(22) I enjoy manipulating other people's feelings.	1	2	3	4
(23) Making a lot of money is my most important goal.	1	2	3	4
(24) Looking out for myself is my top priority.	1	2	3	4
(25) When I get frustrated, I often "let off steam" by blowing my top.	1	2	3	4
(26) I would be upset if my success came at someone else's expense.	1	2	3	4

APPENDIX F

BECK SCALE FOR SUICIDAL IDEATION

Instructions: Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

1. Wish to live
    0 – I have a moderate to strong wish to live.
    1 – I have a weak wish to live.
    2 – I have no wish to live.

2. Wish to die
    0 – I have no wish to die.
    1 – I have a weak wish to die.
    2 – I have a moderate to strong wish to die.

3. Reasons for living/dying
    0 – My reasons for living outweigh my reasons for dying.
    1 – My reasons for living or dying are about equal.
    2 – My reasons for dying outweigh my reasons for living.

4. Desire to make active suicide attempt
    0 – I have no desire to kill myself.
    1 – I have a weak desire to kill myself.
    2 – I have a moderate to strong desire to kill myself.

5. Passive suicidal desire
    0 – I would try to save my life if I found myself in a life-threatening situation.
    1 – I would take a chance on life or death if I found myself in a life-threatening situation.
    2 – I would not take the steps necessary to avoid death if I found myself in a life-threatening situation

6. Duration of suicide ideation/wish
    0 – I have brief periods of thinking about killing myself which pass quickly.
    1 – I have periods of thinking about killing myself which last for moderate amounts of time.
    2 – I have long periods of thinking about killing myself.

7. Frequency of suicide ideation
    0 – I rarely or only occasionally think about killing myself.
    1 – I have frequent thoughts about killing myself.
    2 – I continuously think about killing myself.

8. Attitude toward ideation/wish
    0 – I do not accept the idea of killing myself.
    1 – I neither accept nor reject the idea of killing myself.
    2 – I accept the idea of killing myself.

9. Control over suicidal action/acting-out wish
    0 – I can keep myself from committing suicide.
    1 – I am unsure that I can keep myself from committing suicide.
    2 – I cannot keep myself from committing suicide.

10. Deterrents to active attempt
    0 – I would not kill myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc.
    1 – I am somewhat concerned about killing myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc.
    2 – I am not or only a little concerned about killing myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc.

11. Reason for contemplated attempt
    0 – My reasons for wanting to commit suicide are primarily aimed at influencing other people, such as getting even with people, making people pay attention to me, etc.
    1 – My reasons for wanting to commit suicide are not only aimed at influencing other people, but also represent a way of solving my problems.
    2 – My reasons for wanting to commit suicide are primarily based upon escaping from my problems.

12. Method: Specificity or planning of contemplated attempt
    0 – I have no specific plan about how to kill myself.
    1 – I have considered ways of killing myself, but have not worked out the details.
    2 – I have a specific plan for killing myself.

13. Method: Availability or opportunity for contemplated attempt
    0 – I do not have access to a method or an opportunity to kill myself.
    1 – The method that I would use for committing suicide takes time, and I really do not have a good opportunity to use this method.
    2 – I have access or anticipate having access to the method that I would choose for killing myself and also have opportunity to use it.

14. Sense of "capability" to carry out attempt
    0 – I do not have the courage or the ability to commit suicide.
    1 – I am unsure that I have the courage or the ability to commit suicide.
    2 – I have the courage and the ability to commit suicide.

15. Expectancy/anticipation of actual attempt
    0 – I do not expect to make a suicide attempt.
    1 – I am unsure that I shall make a suicide attempt.
    2 – I am sure that I shall make a suicide attempt.

16. Actual preparation for contemplated attempt
    0 – I have made no preparations for committing suicide.
    1 – I have made some preparations for committing suicide.
    2 – I have almost finished or completed my preparations for committing suicide

17. Suicide note
    0 – I have not written a suicide note.
    1 – I have thought about writing a suicide note or have started to write one, but have not completed it.
    2 – I have completed a suicide note.

18. Final acts in anticipation of death
    0 – I have made no arrangements for what will happen after I have committed suicide.
    1 – I have thought about making some arrangements for what will happen after I have committed suicide.
    2 – I have made definite arrangements for what will happen after I have committed suicide.

19. Deception or concealment of contemplated suicide
    0 – I have not hidden my desire to kill myself from people.
    1 – I have held back telling people about wanting to kill myself.
    2 – I have attempted to hide, conceal, or lie about wanting to commit suicide.

20. Previous attempts
    0 – I have never attempted suicide.
    1 – I have attempted suicide once.
    2 – I have attempted suicide two or more times.

21. Wish to die during past attempts
    0 – My wish to die during the last suicide attempt was low.
    1 – My wish to die during the last suicide attempt was moderate.
    2 – My wish to die during the last suicide attempt was high.

APPENDIX G

PATIENT HEALTH QUESTIONNAIRE-9

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

FOR OFFICE CODING 0 + _____ + _____ + _____

=Total Score: _____

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	**Somewhat difficult**	**Very difficult**	**Extremely difficult**
☐	☐	☐	☐

APPENDIX H

SOCIAL CONNECTEDNESS SCALE-REVISED

SOCIAL CONNECTEDNESS SCALE-REVISED

Directions: Following are a number of statements that reflect various ways in which we view ourselves. Rate the degree to which you agree or disagree with each statement using the following scale (1 = Strongly Disagree and 6 = Strongly Agree). There is no right or wrong answer. Do not spend too much time with any one statement and do not leave any unanswered.

Strongly Disagree	Disagree	Mildly Disagree	Mildly Agree	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**	**6**

		Strongly Disagree					Strongly Agree
1.	I feel comfortable in the presence of strangers.....	1	2	3	4	5	6
2.	I am in tune with the world.....	1	2	3	4	5	6
*3.	Even among my friends, there is no sense of brother/sisterhood.....	1	2	3	4	5	6
4.	I fit in well in new situations.....	1	2	3	4	5	6
5.	I feel close to people.....	1	2	3	4	5	6
*6.	I feel disconnected from the world around me.....	1	2	3	4	5	6
*7.	Even around people I know, I don't feel that I really belong.....	1	2	3	4	5	6
8.	I see people as friendly and approachable.....	1	2	3	4	5	6
*9.	I feel like an outsider.....	1	2	3	4	5	6
10.	I feel understood by the people I know.....	1	2	3	4	5	6
*11.	I feel distant from people.....	1	2	3	4	5	6
12.	I am able to relate to my peers.....	1	2	3	4	5	6
*13.	I have little sense of togetherness with my peers.....	1	2	3	4	5	6
14.	I find myself actively involved in people's lives.....	1	2	3	4	5	6
*15.	I catch myself losing a sense of connectedness with society.....	1	2	3	4	5	6
16.	I am able to connect with other people.....	1	2	3	4	5	6
*17.	I see myself as a loner.....	1	2	3	4	5	6
*18.	I don't feel related to most people.....	1	2	3	4	5	6
19.	My friends feel like family.....	1	2	3	4	5	6
*20.	I don't feel I participate with anyone or any group...	1	2	3	4	5	6
		Strongly Disagree					Strongly Agree

* reverse score

Social connectedness scale-revised has two scoring options. The original scale consists of 8 items and the revised item consists of 20 items.

a) original = reverse score items 3,6,7,11,13,15,18,20 and sum 8 items.

b) revised scale = reverse score items 3,6,7,9,11,13,15,17,18,20 and sum all 20 items.

APPENDIX I

STUDY 1 DEBRIEFING FORM

Background of the Study: Today's study examined the relation between experiencing certain events during deployment and later mental health among service members and Veterans. Although previous research has established that experiencing certain types of events can lead to negative mental health outcomes, little is known about factors that might affect this relation.

Purpose of the Study: We are hoping to better understand how some factors may protect individuals from negative mental health outcomes and how some factors may increase the chances of these negative outcomes. With a better understanding of these factors, we hope to provide information that will improve interventions to reduce the chances that future service members will experience negative mental health outcomes due to deployment.

Your Part: Your responses to this survey are extremely important to our research. Your responses will be combined with other service members' and Veterans' responses to help answer our research questions.

Feedback and Further Information: If you have additional questions or comments regarding this survey, please email the lead researcher, Bill Schumacher, at wms@uoregon.edu. If you have any questions concerning your rights as a research participant, please contact Research Compliance Services, 5237 University of Oregon, Eugene, OR 97403, 541-346-2510, or email ResearchCompliance@uoregon.edu.

Thank you again for your time and effort in completing this survey. Your responses are appreciated and will hopefully be used to help other service members in the future.

People who experience stressful events often find it beneficial to talk about these experiences. If you think that you might benefit from discussing your feelings or experiences, please consider contacting one of the following resources:

1. Veterans Crisis Line (VA-affiliated) **1-800-273-8255, then press 1**

2. Vet2Vet **1-877-838-2838**

3. The National Veterans Foundation **1-888-777-4443**

4. Military Helpline **1-888-457-4838**

The following websites may provide more information regarding help for mental health issues and where you can find a provider:

1. Veterans Affairs Mental Health Help http://www.mentalhealth.va.gov/gethelp.asp

2. National Alliance on Mental Illness Veterans Resource Center http://tinyurl.com/m3pgle9

3. Mental Health Help for Service Members and Their Families
http://www.mentalhealth.gov/get-help/veterans/

APPENDIX J

STUDY 2 RECRUITMENT QUESTION

If you are interested in participating in a 30 minute phone interview for $20, please include your first name, email address, and telephone number (e.g., John, john@mail.com, 888-888-8888) in the following box. This follow-up interview is completely optional and will not affect your participation in the current survey. If you provide your contact information, please understand that this information will be connected to the answers you have provided during the survey. This information will be kept secure in a password-protected and encrypted document that will only be stored on a study computer. If you provide your contact information, a researcher will contact you and a new study description will be provided explaining the follow-up study. You will have the option to participate or not participate in the follow-up study at that time. If you choose to participate, your contact information will be disconnected from your responses to this study as soon as the interview has concluded. If you choose not to participate, your contact information will be immediately erased from the system.

APPENDIX K

STUDY 2 CONSENT DOCUMENT

University of Oregon Department of Psychology
Informed Consent for Participation as a Subject in Military Experiences Interview
Investigator: William M. Schumacher, M.S.
Adult Consent Form

Introduction

- You are being asked to be in a research study of your experiences as a member of the United States Armed Forces and how those experiences have affected you.
- You were selected as a possible participant because you indicated in an online survey that you had certain stressful experiences as a service member and they affected you in some way.
- We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study:

- The purpose of this study is to gain a better understanding of how your stressful experiences as a service member affect your life today and factors that have made it easier or more difficult to recover from the stressful experiences.
- The total number of subjects in this study is expected to be 40 Veterans or active duty service members.

Description of the Study Procedures:

- If you agree to be in this study, we would ask you to do the following things: briefly describe the stressful experiences you had as a service member, describe how those events have affected your life if at all, describe factors that made it easier or more difficult to recover from those events, discuss any other experiences or memories from your time in the service that are important to you.
- This interview is expected to take approximately 30 minutes. You may take a break or stop the interview at any time for any reason.

Risks/Discomforts of Being in the Study:

- There are no reasonable foreseeable (or expected) risks. Although discussing stressful experiences can be upsetting to remember, research suggests that talking to someone about difficult memories can actually be beneficial in the long-term. This study may include risks that are unknown at this time.

Benefits of Being in the Study:

- The purpose of the study is to learn more about how stressful events affect some people but not others.
- Although you will not receive any benefit other than monetary compensation, your responses will be used with others' responses to help other service members recover from stressful experiences so your participation will provide benefit to them.

Compensation:

- You will receive a $20 check via the U.S. Postal Service within two weeks of your participation in this study.
- Please note, compensation from participation in Human Subjects Research studies may be considered taxable income. Compensation amounts are tracked across all studies in which you participate. If compensation totals $600 or more in a calendar year, the University is required to report the income to the IRS. University departments are required to track participant compensation and may contact you to complete a W9 form for tax reporting purposes. Because of this, your name will be associated with participation in a research study. Department and university administrators will have access to this information, but will not have access to research data.

Costs:

- There is no cost to you to participate in this research study.

Confidentiality:

- The records of this study will be kept private. In any sort of report we may publish, we will not include any information that will make it possible to identify a participant. Research records will be kept in an encrypted file in a password-protected computer.
- All electronic information will be coded and secured using a password-protected file. Audio recordings of this interview will also be kept in an encrypted folder on a password-protected computer and any identifying information will be removed from the recording. Only researchers involved with the current project will have access to these recordings.
- Access to the participation records will be limited to the researchers; however, please note that regulatory agencies, and the Institutional Review Board and internal University of Oregon auditors may review the research records.

Voluntary Participation/Withdrawal:

- Your participation is voluntary. If you choose not to participate, it will not affect your current or future relations with the University of Oregon.
- You are free to withdraw at any time, for whatever reason.
- There is no penalty or loss of benefits for not taking part or for stopping your participation.

Contacts and Questions:

- The researcher conducting this study is William M. Schumacher, M.S. For questions or more information concerning this research you may contact him at wms@uoregon.edu.
- If you believe you may have suffered a research related injury, contact the researcher listed above who will give you further instructions.
- If you have any questions about your rights as a research subject, you may contact: Research Compliance Services, University of Oregon at (541) 346-2510 or ResearchCompliance@uoregon.edu

Copy of Consent Form:

Please print or save this form for your records and future reference.

Statement of Consent:

I have read the contents of this consent form and have been encouraged to ask questions. I give my consent to participate in this study.

Please type your full name (e.g., John A. Smith) below to indicate that you have read the above information and the statement above is correct.

Please type the date below in MM/DD/YYYY format.

Please list an email address below at which you can be reached to schedule an interview.

Please list a telephone number below at which you can be reached to conduct the interview.

Please click the button in the bottom right of this page to submit your consent information.

APPENDIX L

STUDY 2 VERBAL CONSENT SCRIPT

Hello, my name is Bill Schumacher. I am a graduate student at the University of Oregon and I am researching the experiences that some service members have after a stressful event during military service. I hope that the results of this study will improve care for service members and Veterans after deployment. As indicated in the consent document you signed electronically, I'd like to ask you a few questions about your service and your life after deployment. This is completely voluntary and you may say no if you do not want this information used in the study. If you agree and we start talking and you decide you no longer want to participate, we can stop at any time. I will not identify you or use any information that would make it possible for anyone to identify you in any presentations or written reports about this study. If it is okay with you, I might want to use direct quotes from you, but these would only be cited as from a person interviewed, rather than using your name or any identifying information about you. I would like to record this interview so that I may listen to it again later, but my lab and I will be the only ones with access to this recording. We would like to transcribe these recordings for later data analysis but any identifying information about you will be removed. There is no expected risk to you for helping me with this study, other than discussing your experiences, which may be upsetting for some people. You will be compensated $20 for this interview, which should take approximately 30 to 45 minutes. Would you be willing to talk with me?

APPENDIX M

SEMI-STRUCTURED INTERVIEW QUESTIONS

Thank you again for your participation in this interview.

-Please describe your time in the military.

-You indicated in your survey responses that you experienced a stressful event during your time in the military. Could you tell me a little more about that?

-(If necessary, reference items from Moral Injury Questionnaire – Military version)

-How did that event make you feel at the time?

-How has that event affected your life?

-Do you feel like you recovered quickly from that event or do you feel as though it is still affecting you currently?

-Talk a little bit about your transition from military to civilian life

-Have you talked about your experiences with anyone?

-Are you a religious or spiritual person?

-Do you feel as though you have a close group of friends?

-(If no) Why is that?

-Do you feel as though you are close with your family?

-(If no) Why is that?

-How do you think you are functioning currently?

-Please identify one thing that helped you most after your experiences.

-When you think back on your experiences while you were in the military, what stands out most to you?

-Is there anything else you'd like to tell me regarding your experiences?

Thank you for your time. If you have any other questions about your participation, or have other information you would like to share, please feel free to contact Bill Schumacher at wms@uoregon.edu.

APPENDIX N

REPRESENTATIVE ARTICLES PROVIDED TO INDEPENDENT CODER

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

- Bryan, C. J., Morrow, C. E., Etienne, N., & Ray-Sannerud, B. (2013). Guilt, shame, and suicidal ideation in a military outpatient clinical sample. *Depression and Anxiety*, *30*(1), 55-60.

- Drescher, K. D., Foy, D. W., Kelly, C., Leshner, A., Schutz, K., & Litz, B. (2011). An exploration of the viability and usefulness of the construct of moral injury in war veterans. *Traumatology*, *17*(1), 8-13. doi: 10.1177/1534765610395615

- Goldberg, L. R., & Freyd, J. J. (2006). Self-reports of potentially traumatic experiences in an adult community sample: Gender differences and test-retest stabilities of the items in a Brief Betrayal-Trauma Survey. *Journal of Trauma & Dissociation, 7*, 39-63.

- Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. *Clinical Psychology Review*, *29*(8), 695-706.

APPENDIX O

FIGURES AND TABLES

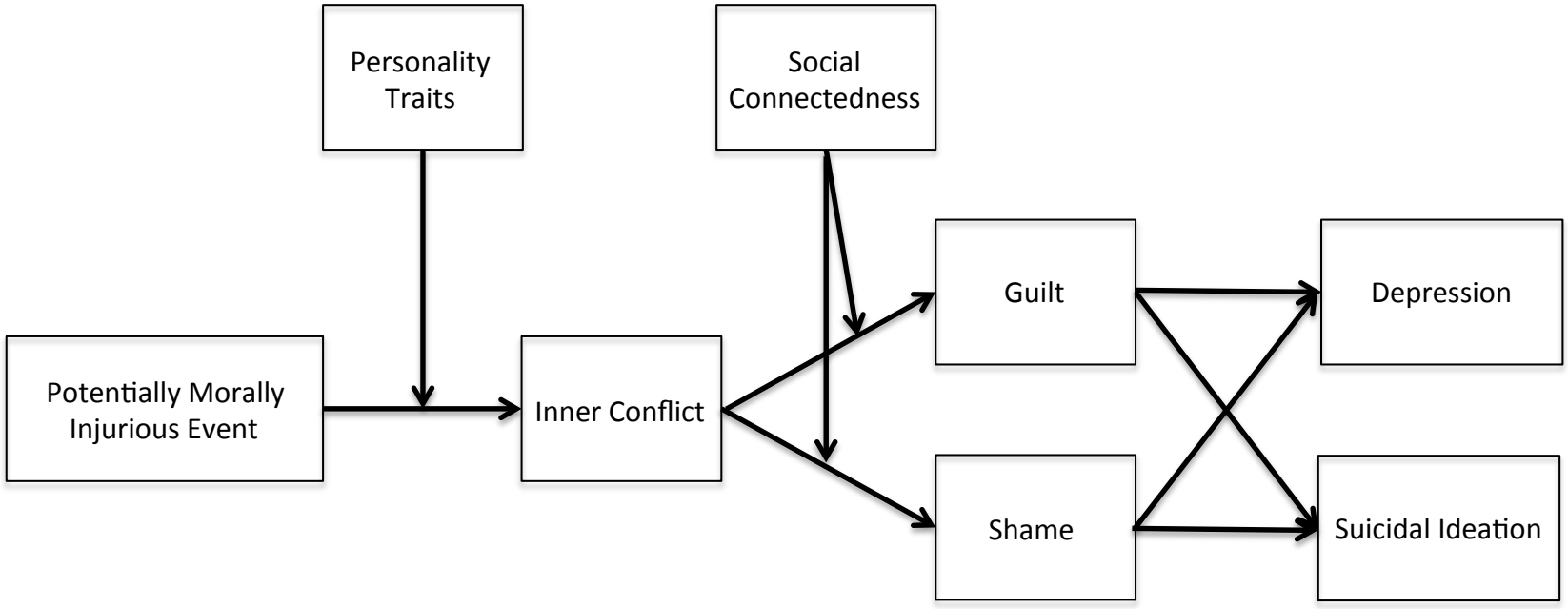

Figure 1. Conceptual model for the development of negative psychological outcomes related to moral injury with potential moderating variables acting upon the developmental pathway.

Table 1. Demographic Information

Ethnicity	N	%/501	VetPop2014 - %
African-American /Black/African Origin	44	8.8	12.6
American Indian/Alaska Native	2	0.4	0.8
Asian-American /Asian Origin/Pacific Islander	7	1.4	1.4
European Origin/White	391	78.0	76.7
Latino-a/Hispanic	16	3.2	7.1
Bi-racial/Multi-racial	15	3.0	2.0
Other	26	5.2	1.4

Gender	N	%/501	VetPop2014 - %
Male	450	89.8	90.4
Female	51	10.2	9.6

Age	N	%/501	VetPop2014 - %
<20	2	0.4	0.03
20-29	23	4.6	4.6
30-39	56	11.2	10.1
40-49	34	6.8	12.5
50-59	58	11.6	17.2
60-69	190	37.8	22.1
70-79	120	24.0	19.5
>80	18	3.6	13.6

Table 2. Education and Marital Status

Education	N	%/501
Some high school	62	12.4
High school	120	24.0
Some college	91	18.2
2-year college degree	111	22.2
4-year college degree	35	7.0
Some graduate school	81	16.2
Graduate degree	1	0.2

Marital Status	N	%/501
Married	329	65.7
Separated	2	0.4
Divorced	70	14.0
Widow/Widower	30	6.0
Have a partner	21	4.2
Single	49	9.8

Table 3. Branch of Service Information

Branch of Service	N	%/501	VetPop2014 - %
Air Force	120	24.0	16.2
Army	198	39.5	45.8
Coast Guard	5	1.0	1.0
Marine Corps	46	9.2	12.0
Navy	128	25.5	20.3
Unknown	4	0.8	--

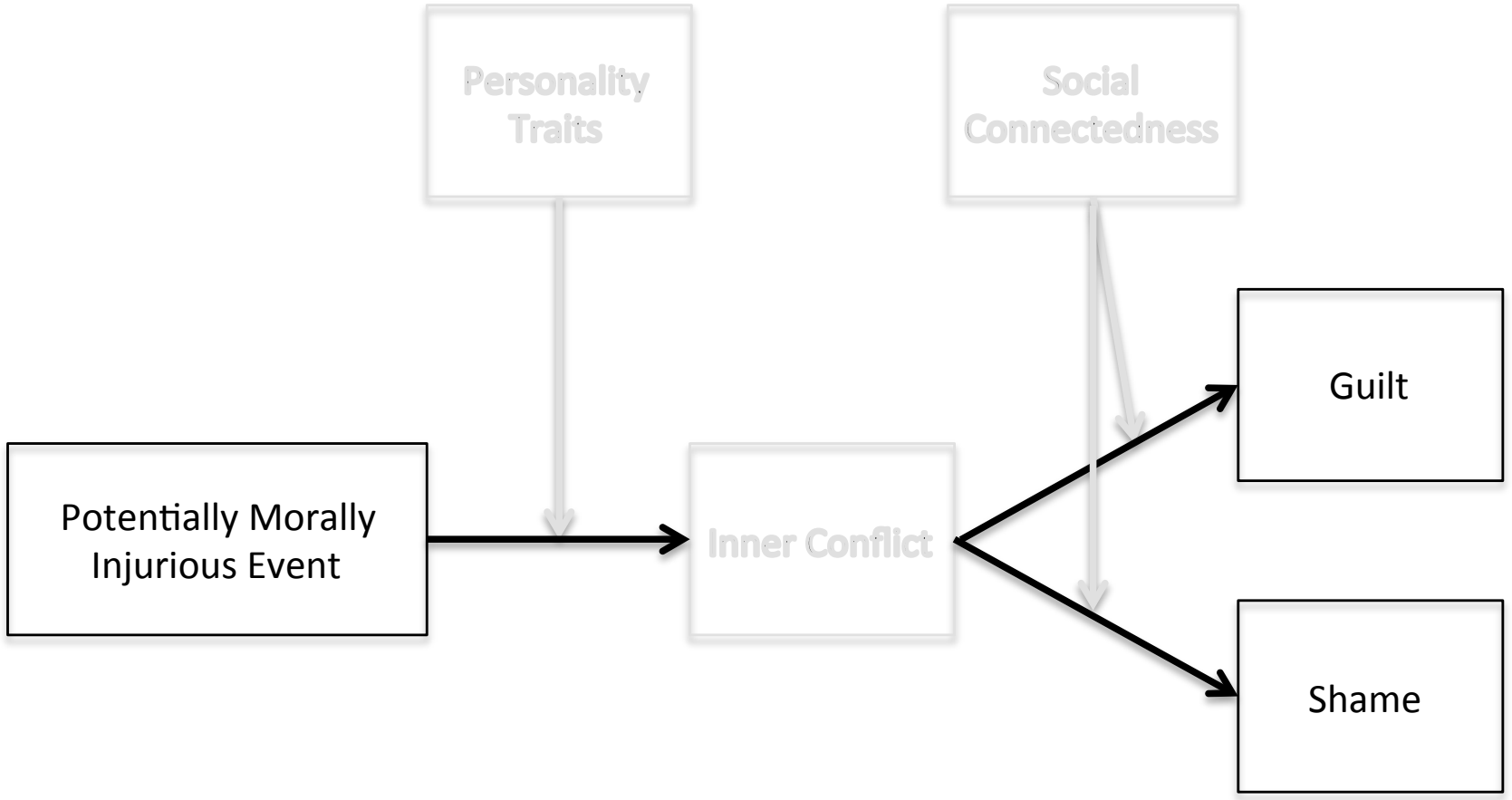

Figure 2. Part of conceptual model tested by Hypothesis 1. Parts measured are in black and parts not measured are in gray.

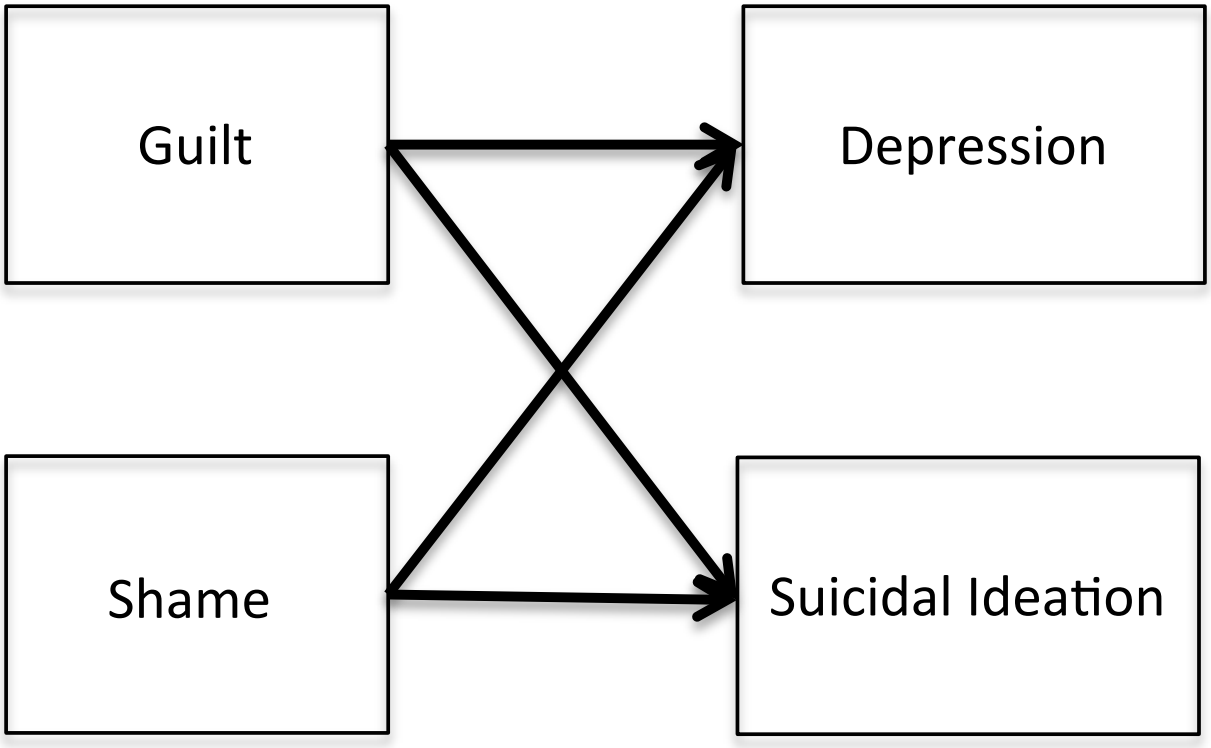

Figure 3. Part of conceptual model tested by Hypothesis 3.

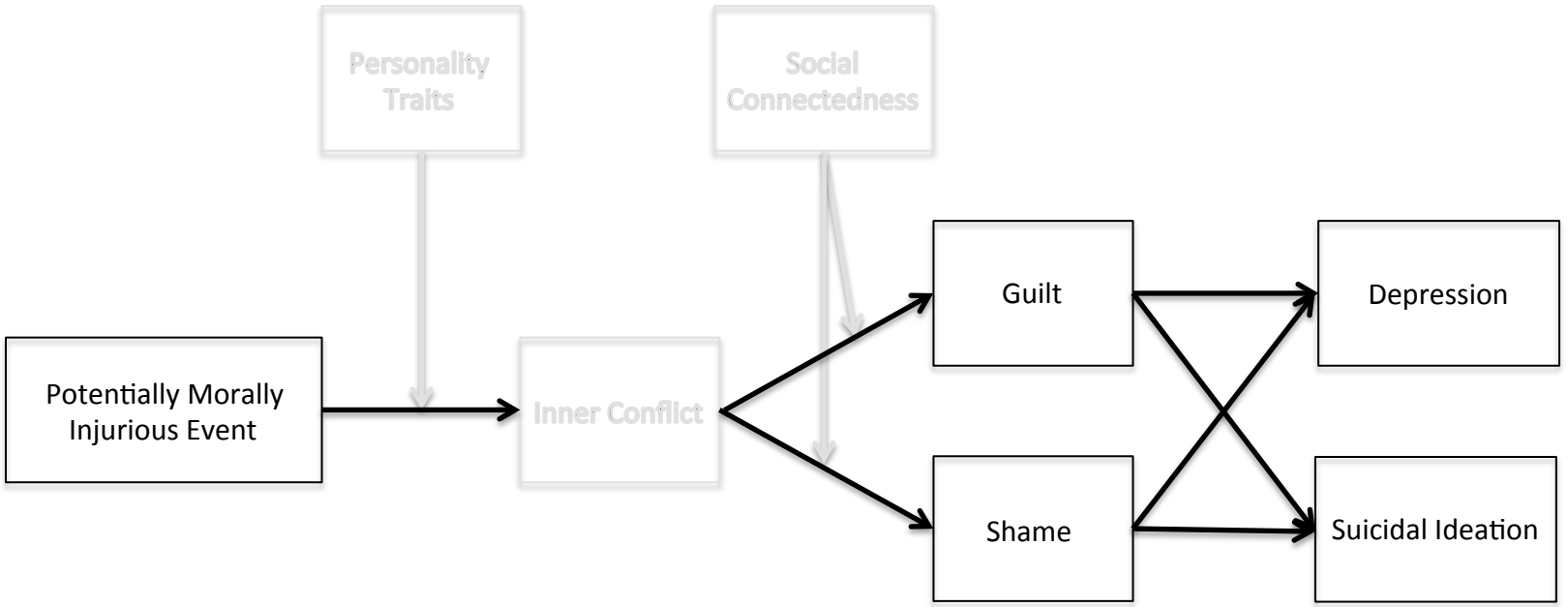

Figure 4. Conceptual model tested in Hypothesis 4. Parts measured are in black and parts not measured are in gray.

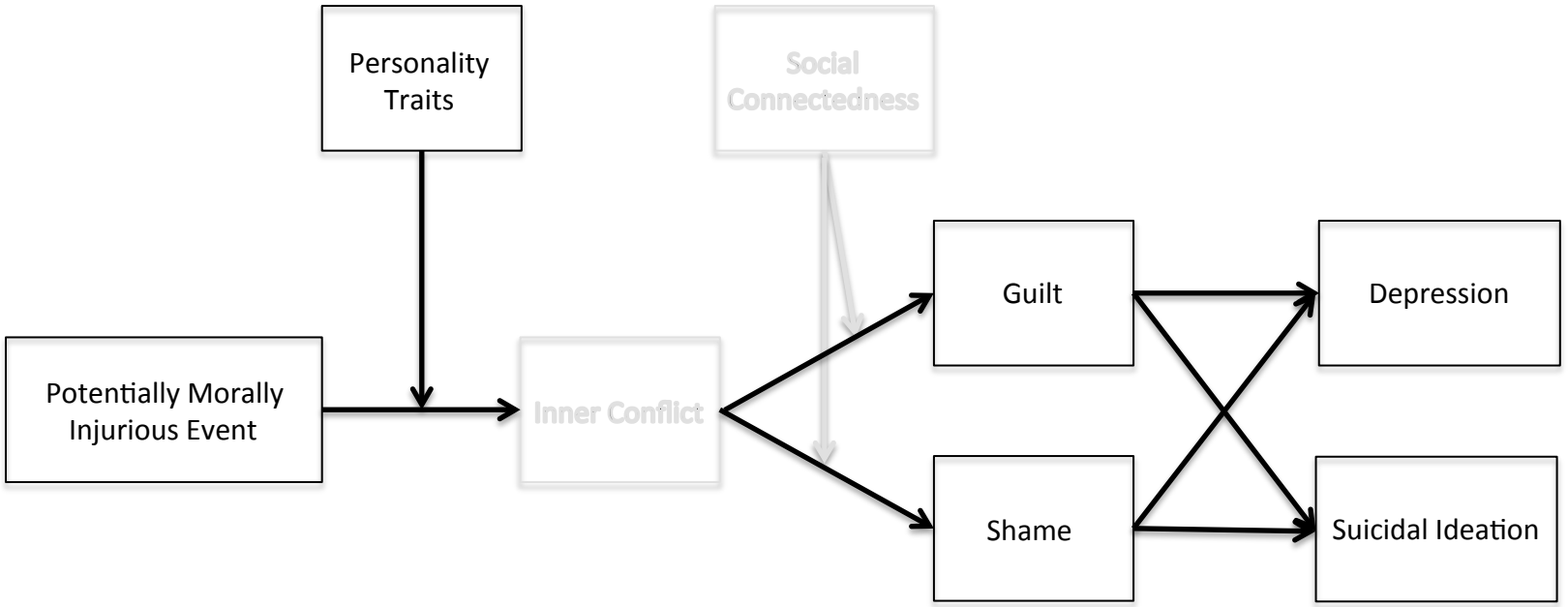

Figure 5. Conceptual model tested in Hypothesis 5. Parts measured are in black and parts not measured are in gray.

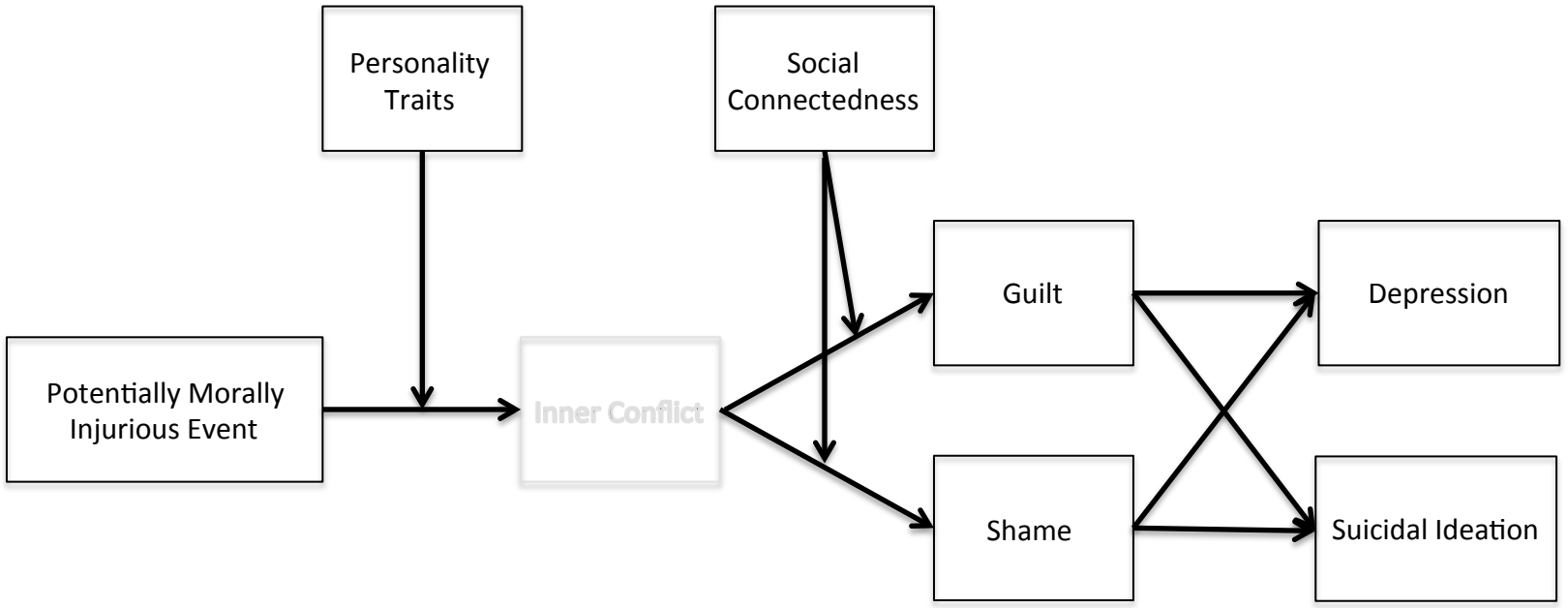

Figure 6. Conceptual model tested in Hypothesis 6. Note that the level of inner conflict one experiences is not explicitly tested in this study but is assumed based on the contributions of other variables.

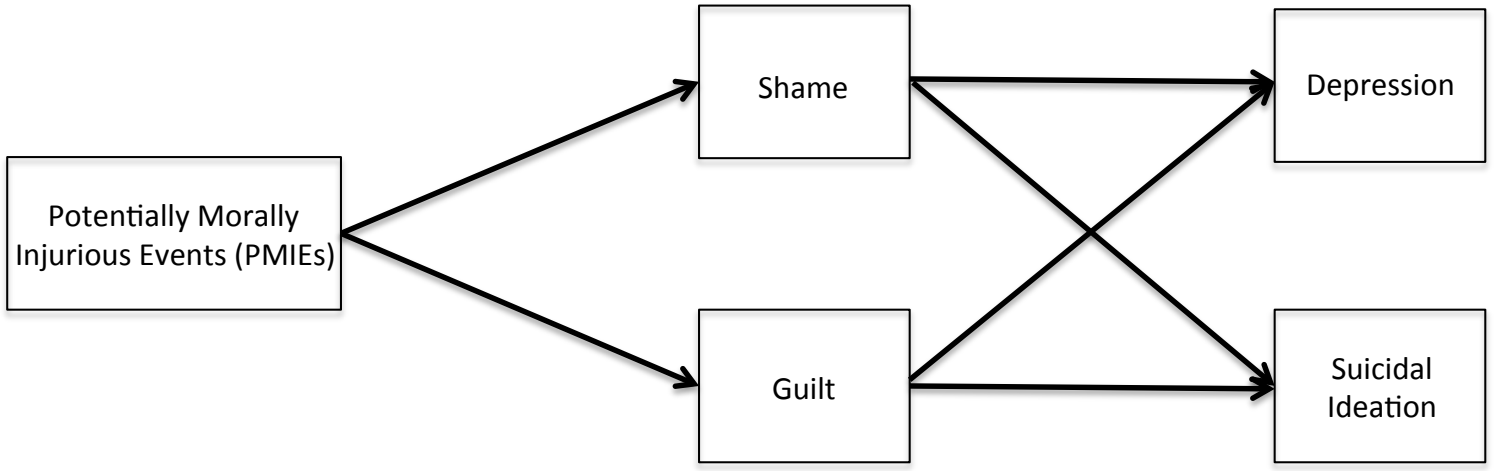

Figure 7. SEM model to test hypothesized relations in Hypothesis 4. Note that relations between PMIEs and Depression symptoms and Suicidal Ideation were also tested but not indicated in this model as they were hypothesized to be non-significant because of the mediating role of state shame and guilt.

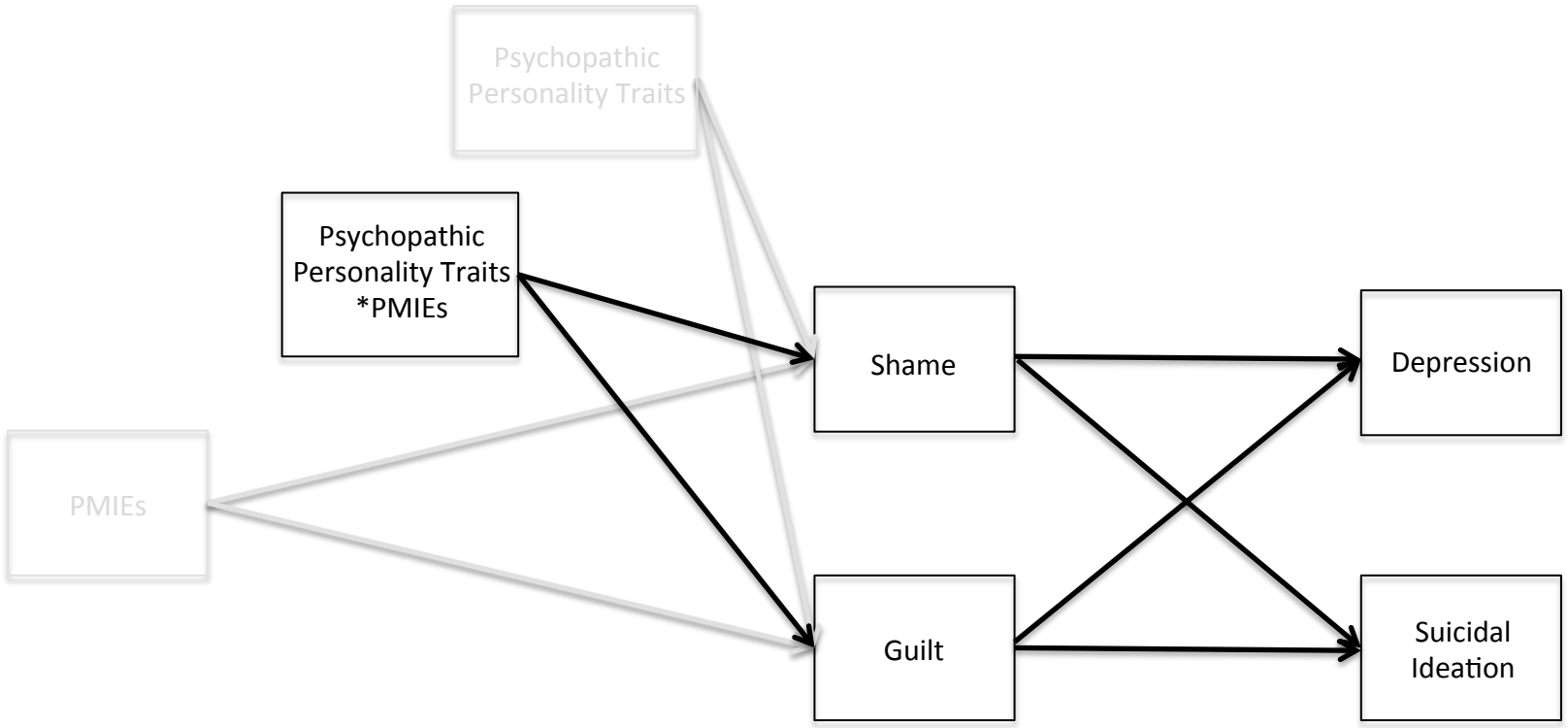

Figure 8. SEM model to test Hypothesis 5. The parts relevant to Hypothesis 5 are presented in black and the remainder of the full model for Hypothesis 5 is presented in gray. Note that unmediated relations were also tested but not indicated in this model as they were hypothesized to be non-significant because of the mediating role of state shame and guilt.

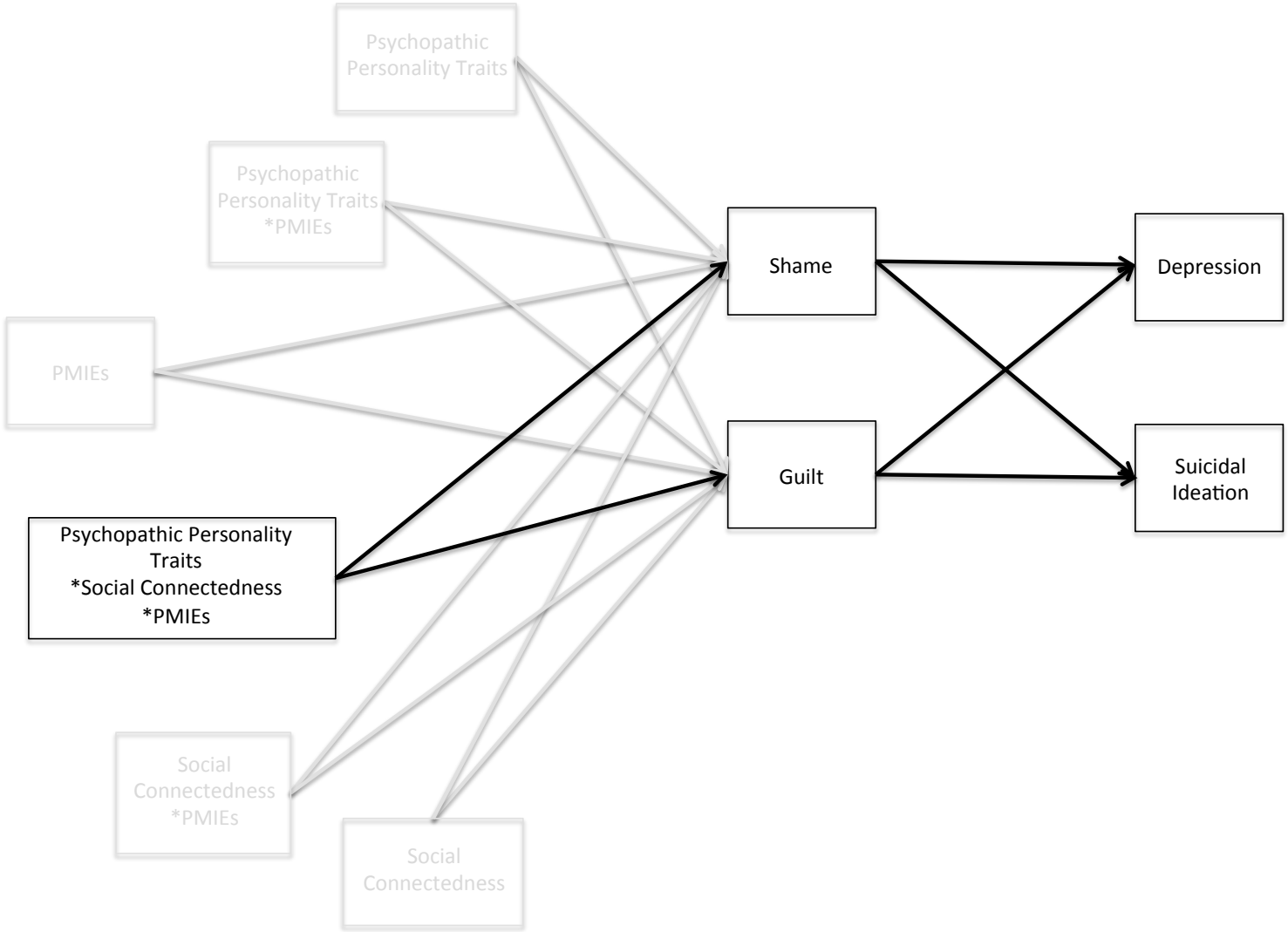

Figure 9. SEM model to test Hypothesis 6. The parts relevant to Hypothesis 6 are presented in black and the remainder of the full model for Hypothesis 6 is presented in gray. Note that unmediated relations were also tested but not indicated in this model as they were hypothesized to be non-significant because of the mediating role of state shame and guilt.

Table 4. Study 2 Demographic Information

Ethnicity	N	%/40	Study 1 %/501
African-American/Black/African Origin	3	7.5	8.8
American Indian/Alaska Native	0	0.0	0.4
Asian-American /Asian Origin/Pacific Islander	1	2.5	1.4
European Origin/White	30	75.0	78.0
Latino-a/Hispanic	1	2.5	3.2
Bi-racial/Multi-racial	3	7.5	3.0
Other	2	5.0	5.2

Gender	N	%/40	Study 1 %/501
Male	33	82.5	89.8
Female	7	17.5	10.2

Age	N	%/40	Study 1 %/501
<20	0	0.0	0.4
20-29	0	0.0	4.6
30-39	5	12.5	11.2
40-49	1	2.5	6.8
50-59	7	17.5	11.6
60-69	15	37.5	37.8
70-79	10	25.0	24.0
>80	2	5.0	3.6

Table 5. Study 2 Education and Marital Status

Education	N	%/40	Study 1 %/501
Some high school	3	7.5	12.4
High school	10	25.0	24.0
Some college	7	17.5	18.2
2-year college degree	9	22.5	22.2
4-year college degree	5	12.5	7.0
Some graduate school	6	15.0	16.2
Graduate degree	0	0.0	0.2

Marital Status	N	%/40	Study 1 %/501
Married	24	60.0	65.7
Separated	1	2.5	0.4
Divorced	8	20.0	14.0
Widow/Widower	4	10.0	6.0
Have a partner	1	2.5	4.2
Single	2	5.0	9.8

Table 6. Study 2 Branch of Service Information

Branch of Service	N	%/40	Study 1 %/501
Air Force	7	17.5	24.0
Army	15	37.5	39.5
Coast Guard	2	2.5	1.0
Marine Corps	6	7.5	9.2
Navy	10	25.0	25.5
Unknown	0	0.0	0.8

Table 7. Moral Injury Questionnaire-Military Version Responses

MIQ-M Item	N	%/501
Things I saw/experienced left me feeling betrayed or let-down by military/political leaders	364	72.7
I had to make decisions at times when I didn't know the right thing to do	303	60.5
Seeing so much death has changed me	234	46.7
I experienced tragic war-zone events that were chaotic and beyond my control	232	46.3
I felt betrayed or let-down by trusted civilians	231	46.1
I did things that betrayed my personal values	224	44.7
I feel guilt for surviving when others didn't	210	41.9
I had an encounter(s) with the enemy that made him/her seem more 'human' and made my job more difficult	206	41.1
There were times that I saw/engaged in revenge/retribution for things that happened	184	36.7
I saw/was involved in violence that was out of proportion to the event	179	35.7
I sometimes treated civilians more harshly than was necessary	134	26.7
I feel guilt over failing to save the life of someone	129	25.7
I saw/was involved in the death(s) of an innocent	114	22.8
I saw/was involved in violations of rules of engagement	110	22.0
I saw/was involved in the death(s) of children	93	18.6
I saw/was involved in a 'friendly-fire' incident	82	16.4
I destroyed civilian property unnecessarily	79	15.8
I made mistakes in the war zone that led to injury or death	76	15.2
I came to realize that I enjoyed violence	72	14.4

Table 8. Differences by Race in Measures

Scale	Race	*M*	*SD*	F^1
MIQ-M				
	African-American/Black/African Origin	10.81	12.57	5.49**
	Asian-American/Asian Origin/Pacific Islander	11.57	11.16	
	Latino-a/Hispanic	16.75	13.33	
	American Indian/Alaska Native	1.00	1.41	
	European Origin/White	10.12	9.77	
	Bi-racial/Multi-racial	23.87	14.22	
	Other	11.00	9.75	
SSGS-Shame				
	African-American/Black/African Origin	7.86	4.54	2.00
	Asian-American/Asian Origin/Pacific Islander	8.57	3.91	
	Latino-a/Hispanic	8.75	5.39	
	American Indian/Alaska Native	5.00	0.00	
	European Origin/White	7.04	3.41	
	Bi-racial/Multi-racial	9.27	4.13	
	Other	7.81	4.23	
SSGS-Guilt				
	African-American/Black/African Origin	8.96	4.67	2.75
	Asian-American/Asian Origin/Pacific Islander	8.71	3.59	
	Latino-a/Hispanic	11.75	6.62	
	American Indian/Alaska Native	5.00	0.00	
	European Origin/White	8.34	4.22	
	Bi-racial/Multi-racial	10.93	5.36	
	Other	9.50	4.55	
LSRP				
	African-American/Black/African Origin	29.41	11.36	2.11
	Asian-American/Asian Origin/Pacific Islander	28.43	13.39	
	Latino-a/Hispanic	31.00	8.06	
	American Indian/Alaska Native	18.00	2.83	
	European Origin/White	25.38	10.53	
	Bi-racial/Multi-racial	29.13	13.23	
	Other	24.62	9.79	

Table 8 Continued.

Scale	Race	*M*	*SD*	F^1
SCS-R				
	African-American/Black/African Origin	64.80	21.31	1.63
	Asian-American/Asian Origin/Pacific Islander	58.57	28.81	
	Latino-a/Hispanic	56.93	16.85	
	American Indian/Alaska Native	86.00	2.83	
	European Origin/White	64.72	19.51	
	Bi-racial/Multi-racial	53.33	24.88	
	Other	64.96	21.76	
PHQ-9				
	African-American/Black/African Origin	5.48	6.93	2.53
	Asian-American/Asian Origin/Pacific Islander	6.00	5.57	
	Latino-a/Hispanic	7.31	6.12	
	American Indian/Alaska Native	1.00	1.41	
	European Origin/White	4.55	5.20	
	Bi-racial/Multi-racial	8.93	7.71	
	Other	5.96	6.49	
BSS				
	African-American/Black/African Origin	1.93	4.70	1.51
	Asian-American/Asian Origin/Pacific Islander	1.57	2.57	
	Latino-a/Hispanic	2.81	4.96	
	American Indian/Alaska Native	0.00	0.00	
	European Origin/White	1.50	4.15	
	Bi-racial/Multi-racial	4.53	8.10	
	Other	2.35	4.52	

(*N*) = African-American/Black/African Origin (44), Asian-American/Asian Origin/Pacific Islander (7), Latino-a/Hispanic (16), American Indian/Alaska Native (2), European Origin/White (391), Bi-racial/Multi-racial (15)

[1]Test of between group differences, F (6, 494), family-wise alpha corrected to $p < .007$

**$p < .001$

Table 9. Differences by Gender in Measures

Scale	Gender	*M*	*SD*	F^1
MIQ-M				
	Female	12.06	11.47	.761
	Male	10.69	10.50	
SSGS-Shame				
	Female	8.53	4.26	6.56
	Male	7.14	3.59	
SSGS-Guilt				
	Female	9.61	4.85	2.76
	Male	8.52	4.39	
LSRP				
	Female	29.29	12.13	5.44
	Male	25.63	10.46	
SCS-R				
	Female	51.90	22.80	21.99**
	Male	65.53	19.29	
PHQ-9				
	Female	7.82	5.54	15.60**
	Male	4.60	5.52	
BSS				
	Female	2.92	5.53	4.35
	Male	1.57	4.24	

(*N*) = Female (51), Male (450)

[1]Test of between group differences, F (1, 499), family-wise alpha corrected to $p < .007$

**$p < .001$

Table 10. Differences by Branch of Service in Measures

Scale	Branch of Service	*M*	*SD*	F^1
MIQ-M				
	Air Force	9.03	10.22	8.83**
	Army	12.23	10.79	
	Coast Guard	10.80	8.17	
	Marine Corps	17.76	11.57	
	Navy	7.61	8.30	
	Unknown	19.25	19.48	
SSGS-Shame				
	Air Force	6.92	3.39	0.68
	Army	7.45	3.79	
	Coast Guard	5.20	0.45	
	Marine Corps	7.52	4.08	
	Navy	7.34	3.73	
	Unknown	7.75	2.99	
SSGS-Guilt				
	Air Force	8.05	3.79	1.24
	Army	9.01	4.66	
	Coast Guard	6.40	1.14	
	Marine Corps	9.02	4.91	
	Navy	8.47	4.56	
	Unknown	10.75	2.63	
LSRP				
	Air Force	24.95	9.34	1.61
	Army	25.93	9.92	
	Coast Guard	19.00	6.74	
	Marine Corps	25.61	11.45	
	Navy	27.22	12.56	
	Unknown	35.25	10.63	

Table 10 Continued.

Scale	Branch of Service	*M*	*SD*	F^1
SCS-R				
	Air Force	64.68	20.32	0.21
	Army	63.48	19.45	
	Coast Guard	63.80	14.89	
	Marine Corps	64.59	21.35	
	Navy	64.78	20.98	
	Unknown	56.50	9.75	
PHQ-9				
	Air Force	4.05	5.00	1.57
	Army	5.04	5.55	
	Coast Guard	1.80	1.92	
	Marine Corps	6.17	6.65	
	Navy	5.19	5.78	
	Unknown	7.25	7.14	
BSS				
	Air Force	1.01	3.31	2.02
	Army	2.27	5.02	
	Coast Guard	3.60	7.50	
	Marine Corps	1.22	3.53	
	Navy	1.49	4.14	
	Unknown	4.75	9.50	

(*N*) = Air Force (120), Army (198), Coast Guard (5), Marine Corps (46), Navy (128), Unknown (4)

[1]Test of between group differences, F (5, 495), family-wise alpha corrected to $p < .007$

**$p < .001$

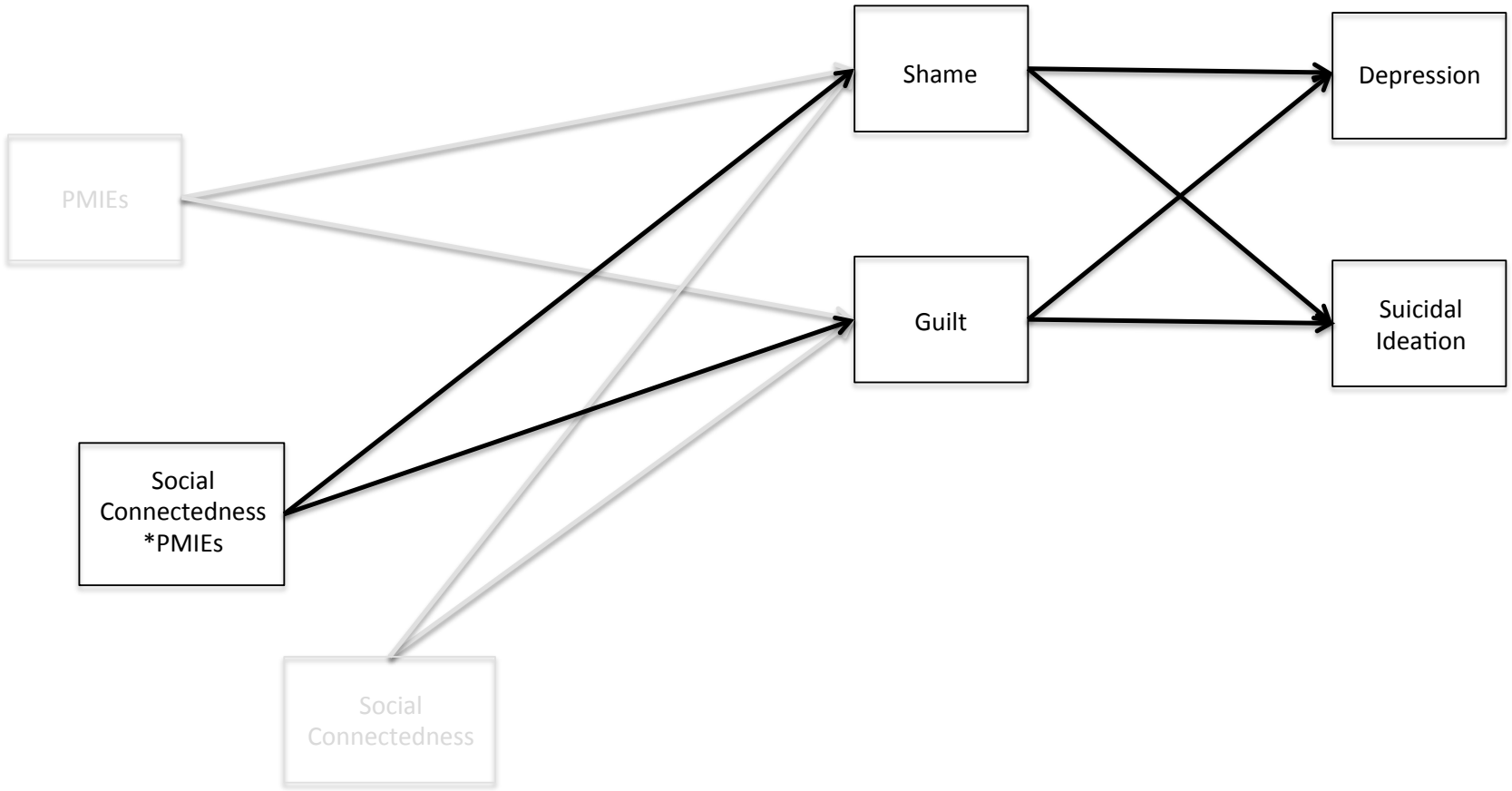

Figure 10. SEM model to test the alternate model to Hypothesis 5. The parts relevant to this alternate model are presented in black and the remainder of the full model is presented in gray. Note that unmediated relations were also tested but not indicated in this model as they were hypothesized to be non-significant because of the mediating role of state shame and guilt.

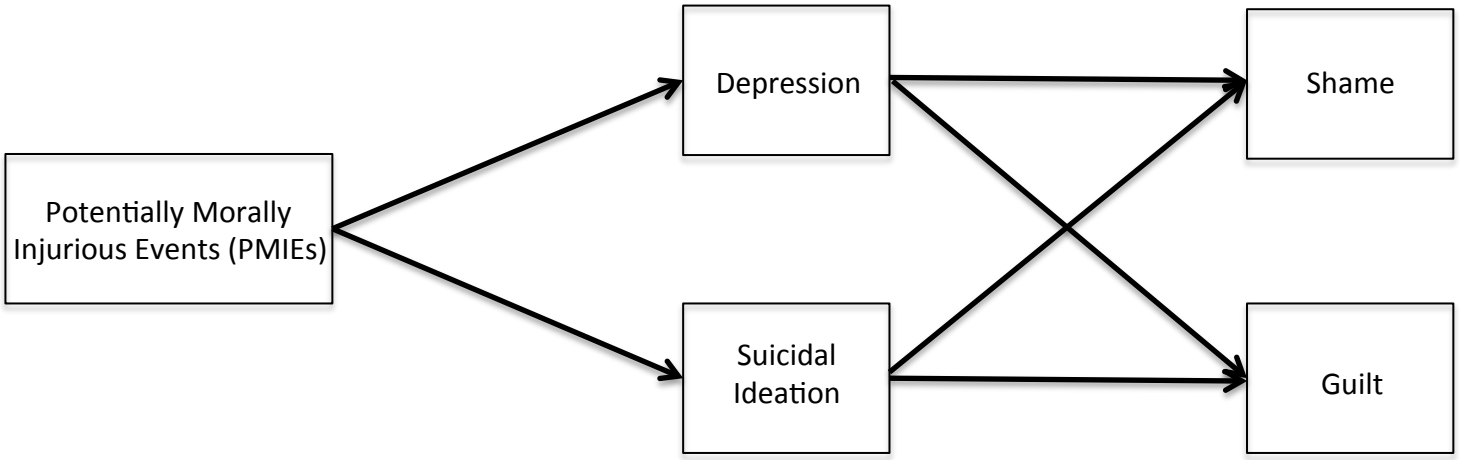

Figure 11. SEM model to test the alternate simple mediation model in which psychological symptoms are switched with state self-conscious emotions. Note that unmediated relations were also tested but not indicated in this model as they were hypothesized to be non-significant because of the mediating role of psychological symptoms.

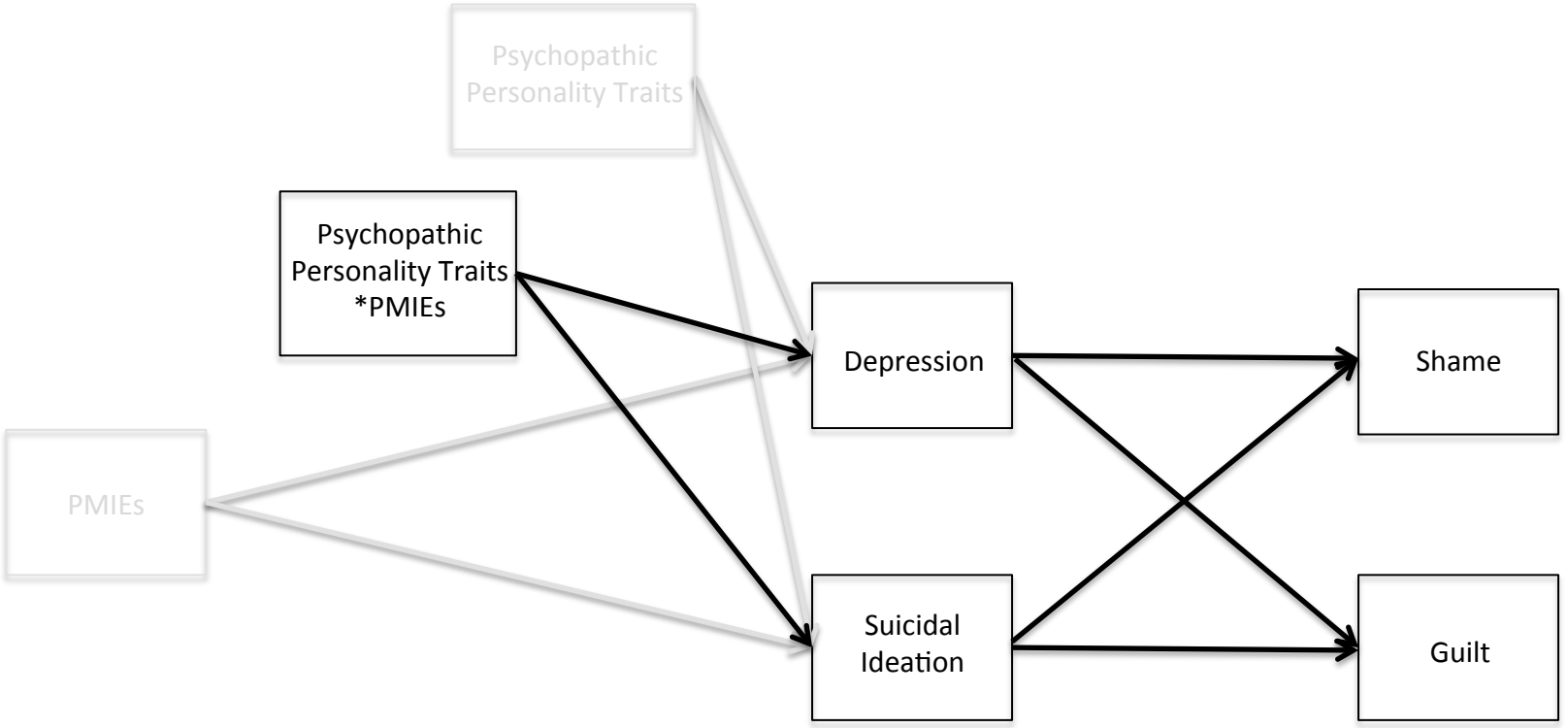

Figure 12. SEM model to test the alternate model in which psychological symptoms are switched with state self-conscious emotions and including psychopathic personality traits as a moderator. The parts relevant to this alternate model are presented in black and the remainder of the full model is presented in gray. Note that unmediated relations were also tested but not indicated in this model as they were hypothesized to be non-significant because of the mediating role of psychological symptoms.

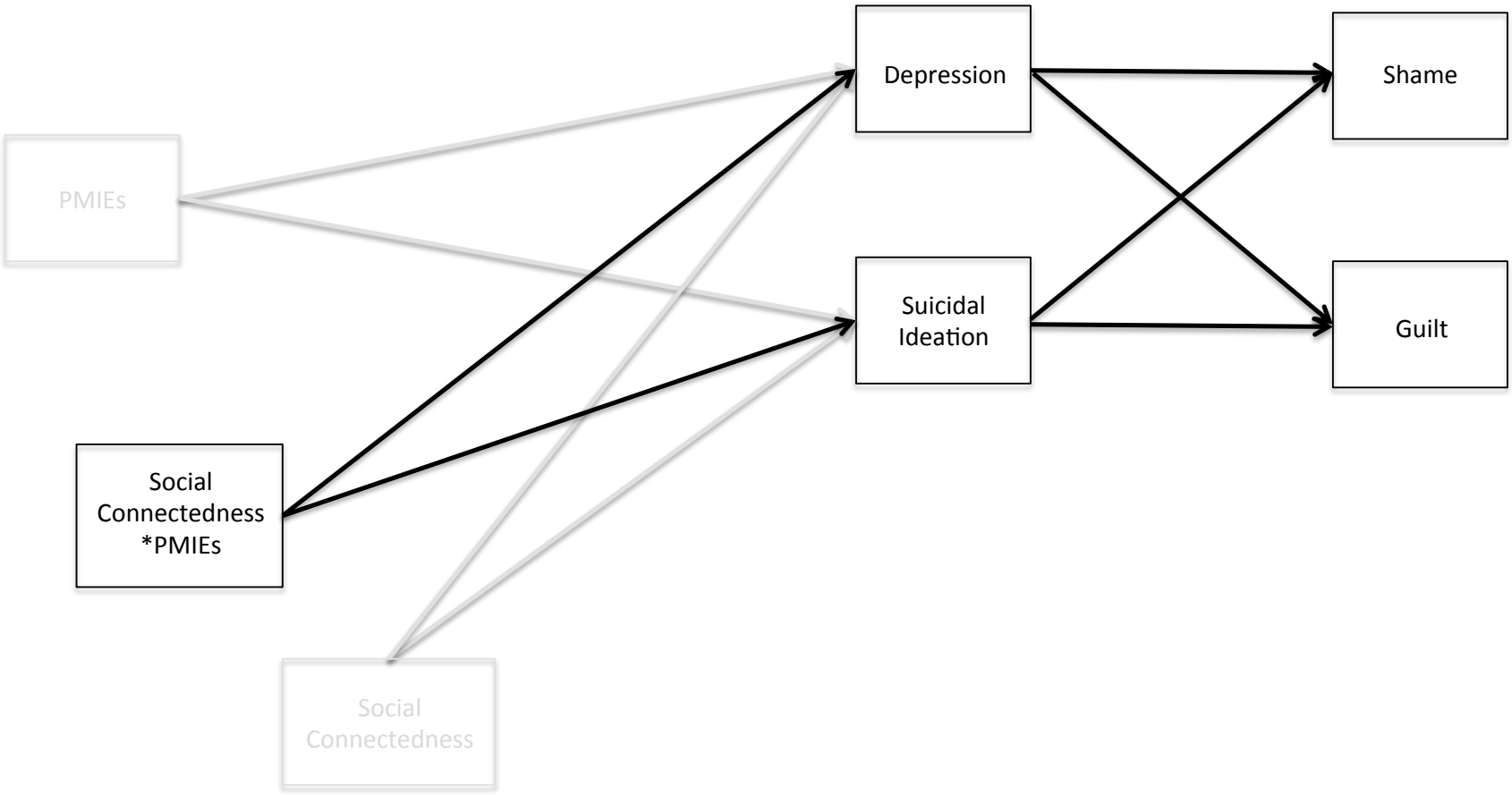

Figure 13. SEM model to test the alternate model in which psychological symptoms are switched with state self-conscious emotions and including social connectedness as a moderator. The parts relevant to this alternate model are presented in black and the remainder of the full model is presented in gray. Note that unmediated relations were also tested but not indicated in this model as they were hypothesized to be non-significant because of the mediating role of psychological symptoms.

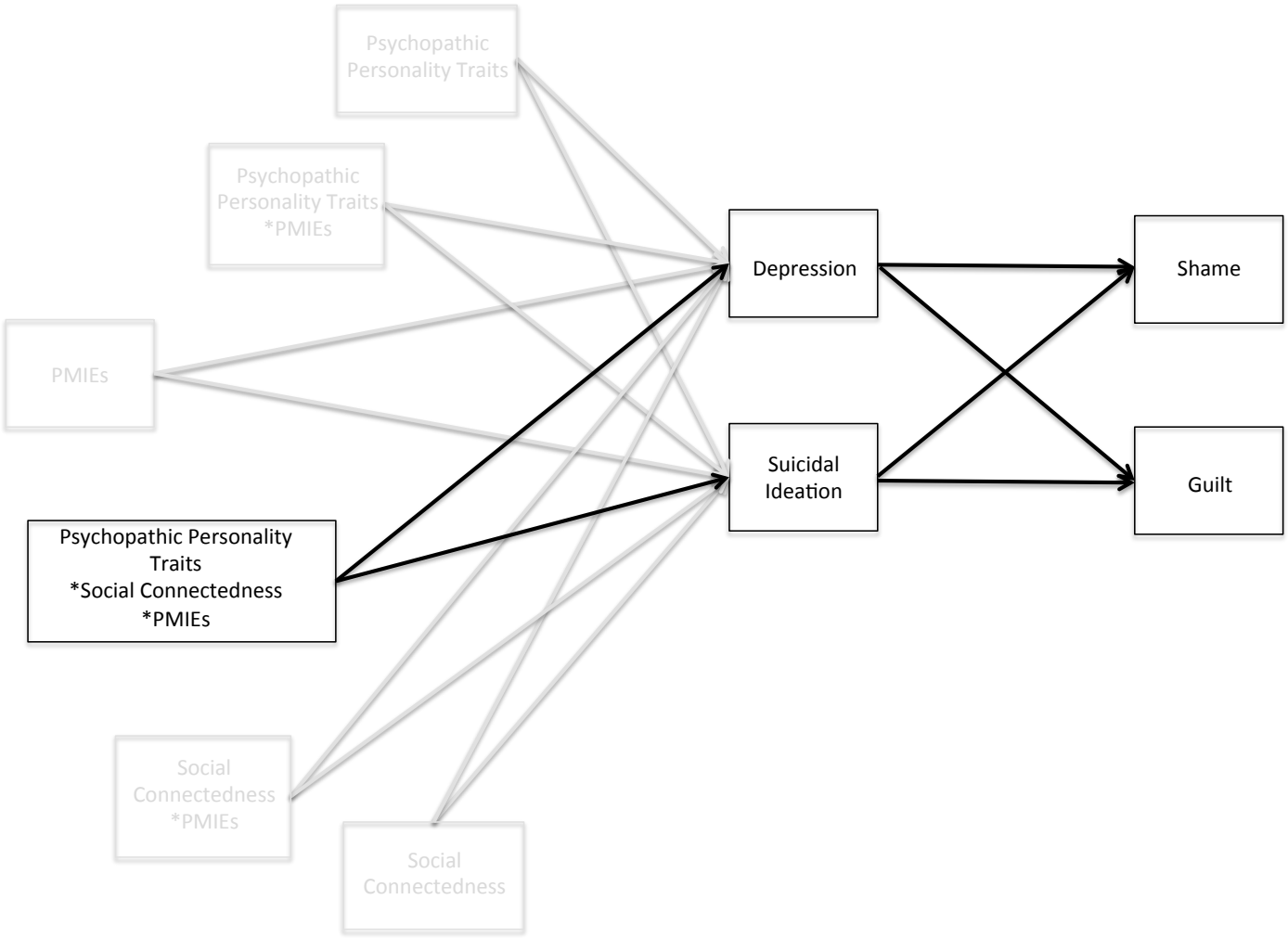

Figure 14. SEM model to test the full alternate model in which psychological symptoms are switched with state self-conscious emotions and all moderators are included. The parts relevant to this alternate model are presented in black and the remainder of the full model is presented in gray. Note that unmediated relations were also tested but not indicated in this model as they were hypothesized to be non-significant because of the mediating role of psychological symptoms.

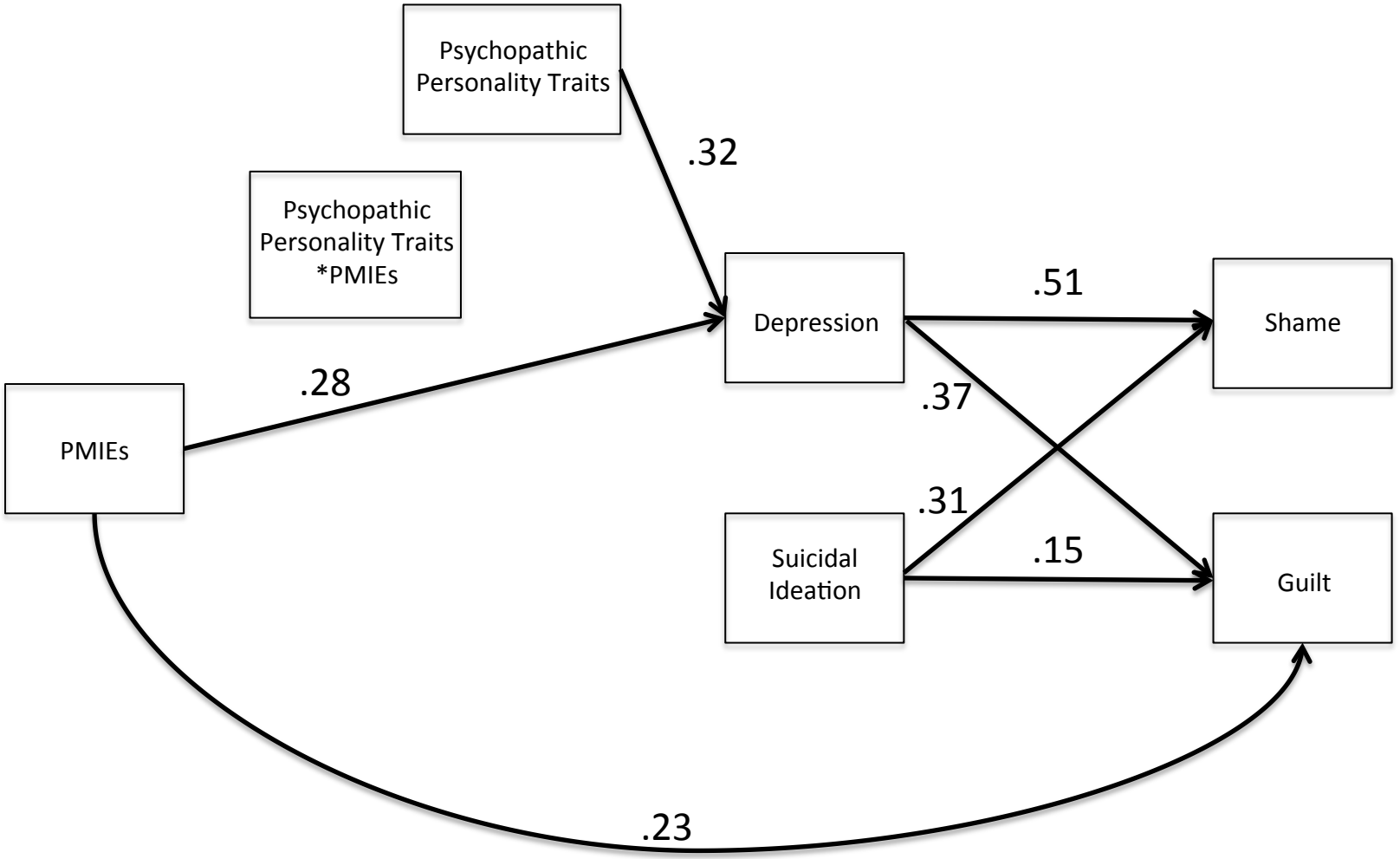

Figure 15. Alternate model retained based on model fit with psychopathic personality traits as a moderator. All factor loadings listed are standardized and statistically significant. Non-significant relations tested are not pictured.

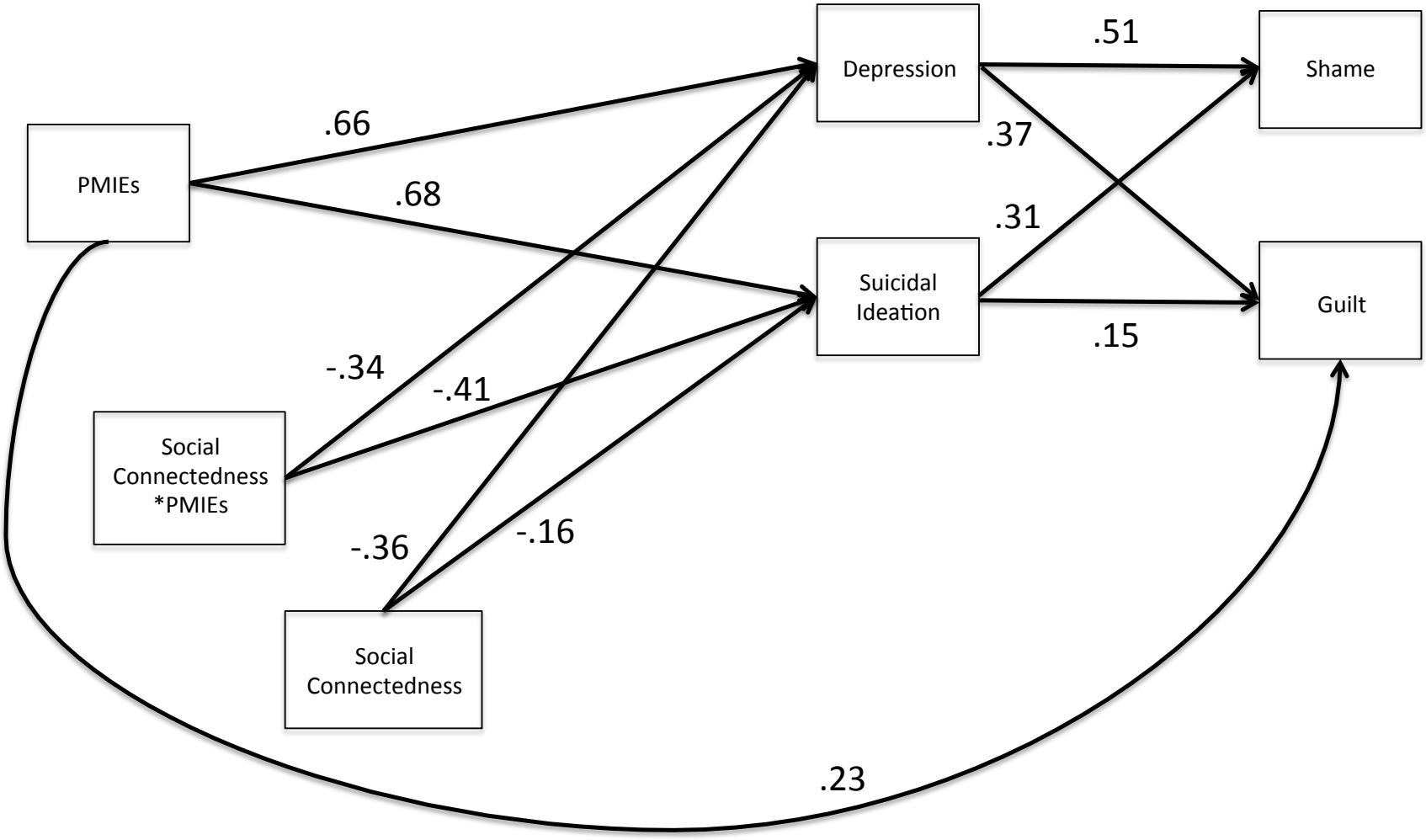

Figure 16. Alternate model retained based on model fit with social connectedness as a moderator. All factor loadings listed are standardized and statistically significant.

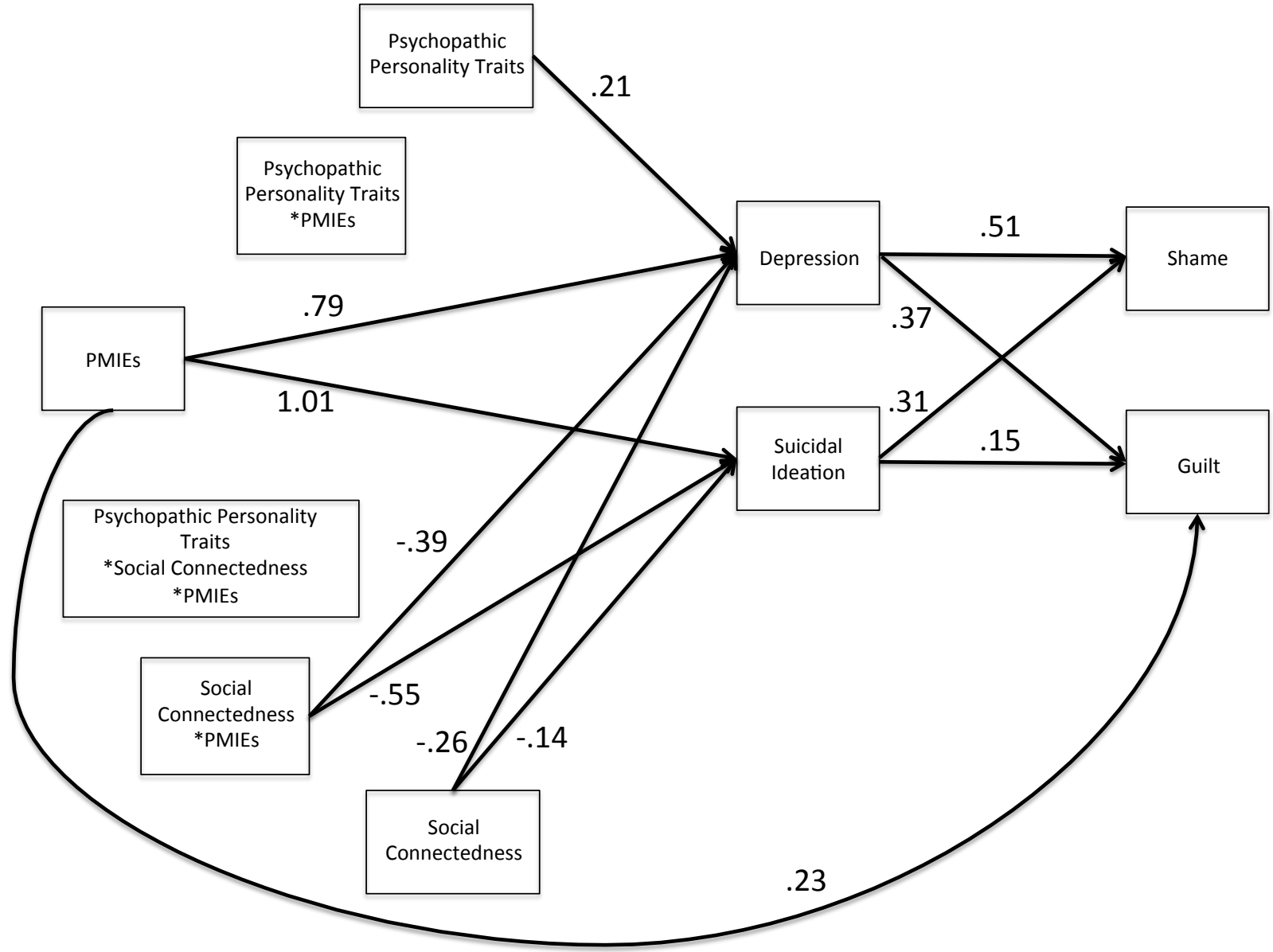

Figure 17. Full alternate model retained based on model fit. All factor loadings listed are standardized and statistically significant.

Table 11. Study 2 Group Differences in Measures

Scale	Group	*M*	*SD*	*F*[1]
MIQ-M				
(Moral Injury)	Low Symptoms	13.20	5.73	6.96
	High Symptoms	21.55	12.94	
SSGS-Shame				
	Low Symptoms	6.30	2.56	16.02**
	High Symptoms	11.35	5.03	
SSGS-Guilt				
	Low Symptoms	7.20	3.04	13.97*
	High Symptoms	12.50	5.57	
LSRP				
(Psychopathy)	Low Symptoms	23.15	9.68	5.63
	High Symptoms	30.25	9.24	
SCS-R				
(Social	Low Symptoms	66.75	19.95	11.25*
Connectedness)	High Symptoms	45.15	20.77	
PHQ-9				
(Depression)	Low Symptoms	2.00	1.86	103.16**
	High Symptoms	14.45	5.16	
BSS				
(Suicidal	Low Symptoms	0.00	0.00	21.20**
Ideation)	High Symptoms	8.25	8.01	

(*N*) = Low Symptoms (20), High Symptoms (20)

[1]Test of between group differences, F (1, 38), family-wise alpha corrected to p <.007

*p<.007

**p<.001

Table 12. Study 2 Demographic Information by Group

Ethnicity	N Low Symptoms	N High Symptoms	Study 1 %/501
African-American/Black/African Origin	0	3	8.8
American Indian/Alaska Native	0	0	0.4
Asian-American /Asian Origin/Pacific Islander	0	1	1.4
European Origin/White	18	12	78.0
Latino-a/Hispanic	1	0	3.2
Bi-racial/Multi-racial	0	3	3.0
Other	1	1	5.2

Gender	N Low Symptoms	N High Symptoms	Study 1 %/501
Male	19	13	89.8
Female	1	7	10.2

Age	N Low Symptoms	N High Symptoms	Study 1 %/501
<20	0	0	0.4
20-29	0	0	4.6
30-39	0	5	11.2
40-49	1	0	6.8
50-59	4	3	11.6
60-69	7	8	37.8
70-79	6	4	24.0
>80	2	0	3.6

Table 13. Study 2 Education and Marital Status by Group

Education	N Low Symptoms	N High Symptoms	Study 1 %/501
Some high school	2	1	12.4
High school	2	8	24.0
Some college	3	4	18.2
2-year college degree	6	3	22.2
4-year college degree	4	1	7.0
Some graduate school	3	3	16.2
Graduate degree	0	0.0	0.2

Marital Status	N Low Symptoms	N High Symptoms	Study 1 %/501
Married	14	10	65.7
Separated	0	1	0.4
Divorced	2	5	14.0
Widow/Widower	3	1	6.0
Have a partner	0	2	4.2
Single	1	1	9.8

Table 14. Study 2 Branch of Service Information by Group

Branch of Service	N Low Symptoms	N High Symptoms	Study 1 %/501
Air Force	5	2	24.0
Army	6	9	39.5
Coast Guard	1	1	1.0
Marine Corps	4	2	9.2
Navy	4	6	25.5
Unknown	0	0.0	0.8

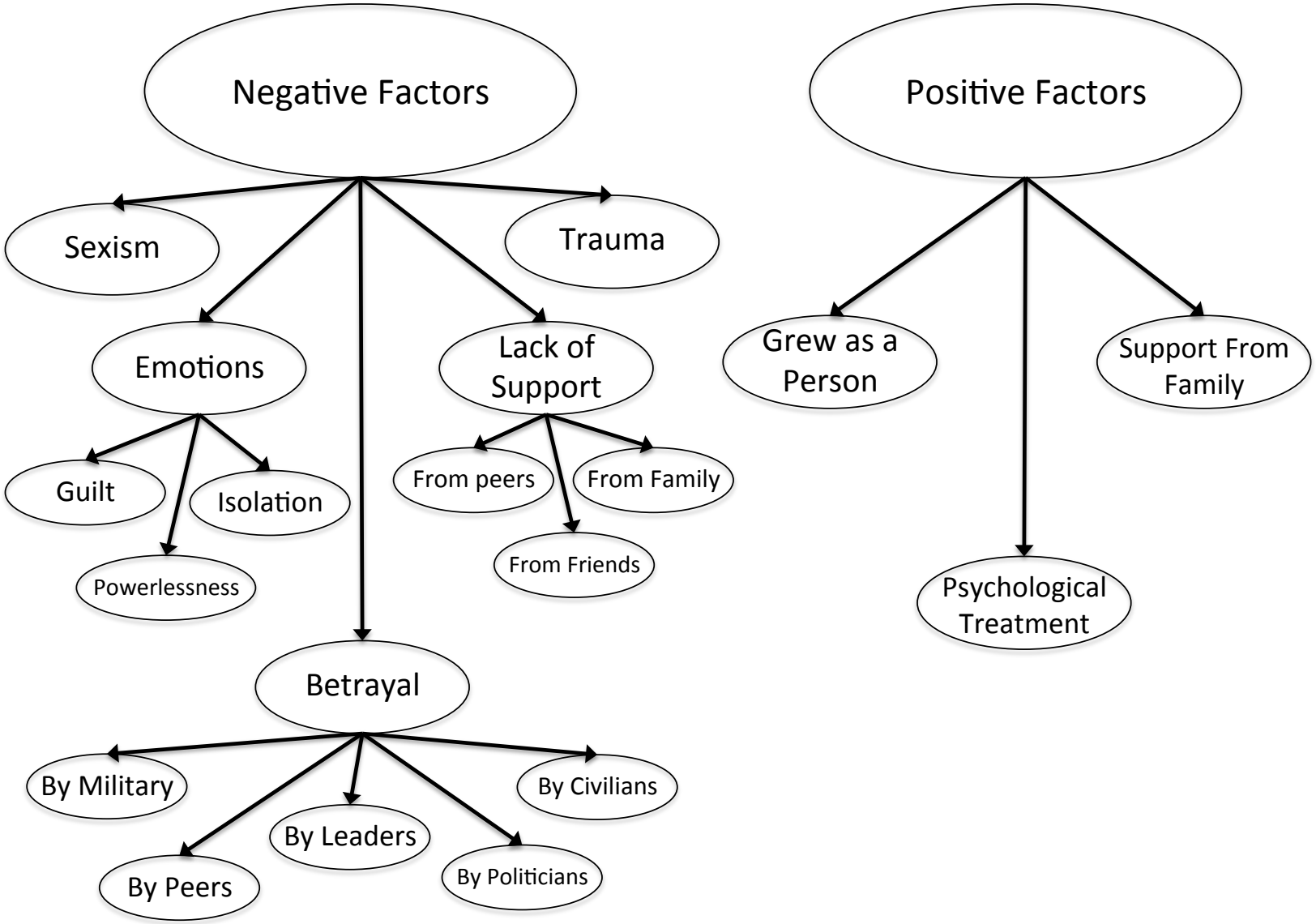

Figure 18. Thematic map for high symptoms group.

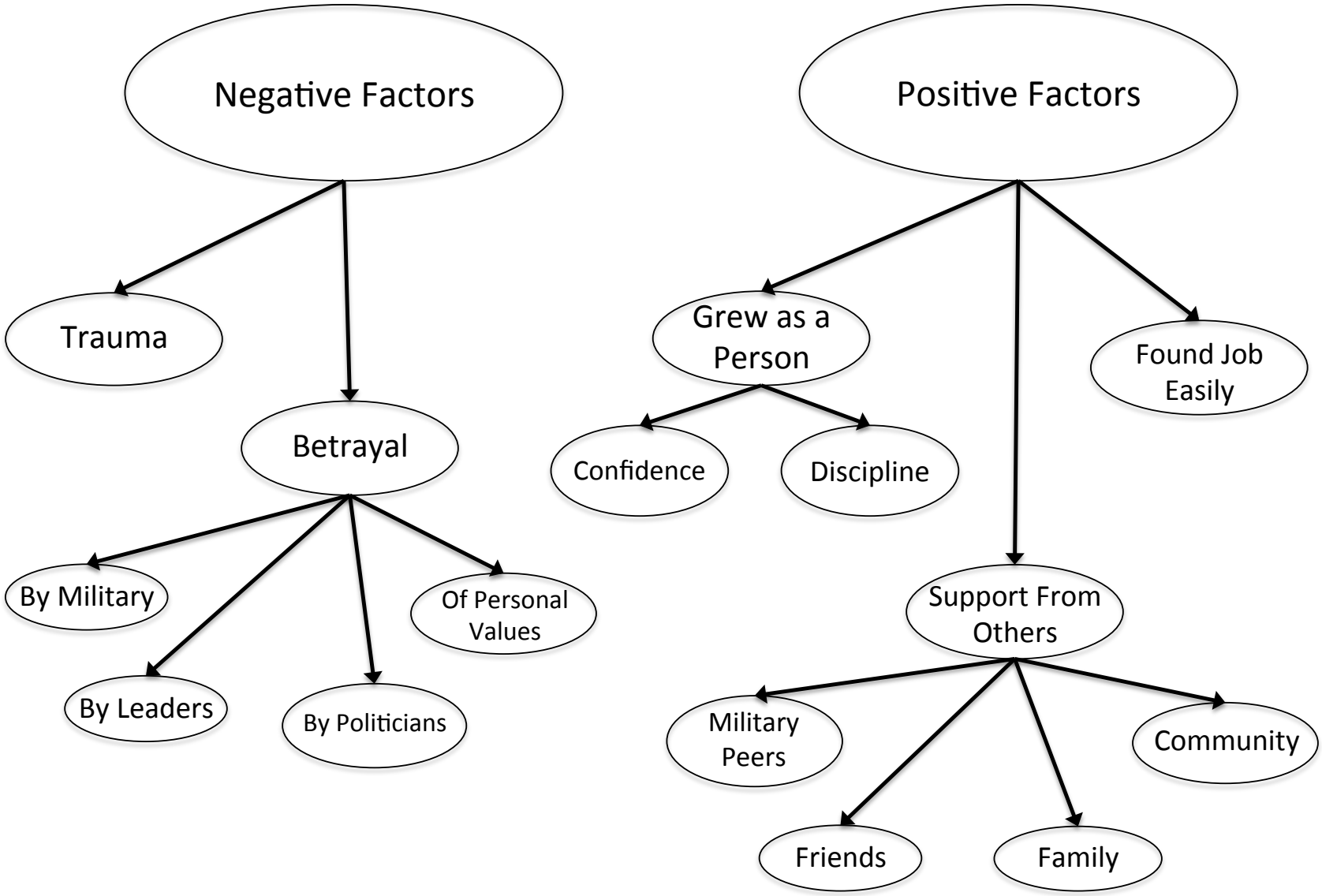

Figure 19. Thematic map for low symptoms group.

REFERENCES CITED

Aharoni, E., Sinnott-Armstrong, W., & Kiehl, K. A. (2012). Can psychopathic offenders discern moral wrongs? A new look at the moral/conventional distinction. *Journal of Abnormal Psychology*, *121*(2), 484.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Washington, D.C.: Author.

Andrews, B., Brewin, C. R., Rose, S., & Kirk, M. (2000). Predicting PTSD symptoms in victims of violent crime: the role of shame, anger, and childhood abuse. *Journal of Abnormal Psychology*, *109*(1), 69-73.

Ashby, J. S., Rice, K. G., & Martin, J. L. (2006). Perfectionism, shame, and depressive symptoms. *Journal of Counseling & Development*, *84*(2), 148-156.

Bachman, J. G., Segal, D. R., Freedman-Doan, P., & O'Malley, P. M. (2000). Who chooses military service? Correlates of propensity and enlistment in the US Armed Forces. *Military Psychology*, *12*(1), 1-30.

Beck, A. T., & Steer, R. A. (1991). *Manual for the Beck Scale for Suicide Ideation*. San Antonio, TX: Psychological Corporation.

Beck, A. T., Steer, R. A., & Ranieri, W. F. (1988). Scale for Suicide Ideation: psychometric properties of a self-report version. *Journal of Clinical Psychology*, *44*(4), 499-505.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

Brown, B. (2006). Shame resilience theory: A grounded theory study on women and shame. *Families in Society: The Journal of Contemporary Social Services*, *87*(1), 43-52.

Bryan, C. J., Morrow, C. E., Etienne, N., & Ray-Sannerud, B. (2013). Guilt, shame, and suicidal ideation in a military outpatient clinical sample. *Depression and Anxiety*, *30*(1), 55-60.

Bryan, C. J., Ray-Sannerud, B., Morrow, C. E., & Etienne, N. (2013). Guilt is more strongly associated with suicidal ideation among military personnel with direct combat exposure. *Journal of Affective Disorders, 148*(1), 37-41.

Centers for Disease Control Vietnam Experience Study. (1988). Health status of Vietnam veterans: 1. Psychosocial characteristics. *Journal of the American Medical Association*, *259*, 2701-2707.

Cima, M., Tonnaer, F., & Hauser, M. D. (2010). Psychopaths know right from wrong but don't care. *Social Cognitive and Affective Neuroscience*, *5*(1), 59-67.

Cleckley, H. (1941) *The mask of sanity.* St. Louis, MO: Mosby.

Currier, J. M., Holland, J. M., Drescher, K., & Foy, D. (2015). Initial psychometric evaluation of the Moral Injury Questionnaire—Military Version. *Clinical Psychology & Psychotherapy, 22,* 54-63. doi: 10.1002/cpp.1866

Drescher, K. D., Foy, D. W., Kelly, C., Leshner, A., Schutz, K., & Litz, B. (2011). An exploration of the viability and usefulness of the construct of moral injury in war veterans. *Traumatology*, *17*(1), 8-13. doi: 10.1177/1534765610395615

Dutra, L., Callahan, K., Forman, E., Mendelsohn, M., & Herman, J. (2008). Core schemas and suicidality in a chronically traumatized population. *The Journal of Nervous and Mental Disease*, *196*(1), 71-74.

Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38*(4), 319–345.

Falkenbach, D., Poythress, N., Falki, M., & Manchak, S. (2007). Reliability and validity of two self-report measures of psychopathy. *Assessment*, *14*(4), 341-350.

Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin, 99,* 20-35.

Freyd, J. J. (1996). Betrayal trauma: The logic of forgetting childhood abuse. Cambridge, MA: Harvard University Press.

Freyd, J. J. (2001). Memory and Dimensions of Trauma: Terror May be "All-Too-Well Remembered" and Betrayal Buried. In J. R. Conte (Ed.), *Critical Issues in Child Sexual Abuse: Historical, Legal, and Psychological Perspectives* (pp. 139–173). Thousand Oaks, CA: Sage.

Frijda, N. H., Kuipers, P., & ter Schure, E. (1989). Relations among emotion, appraisal, and emotional action readiness. *Journal of Personality and Social Psychology*, *57*(2), 212.

Gilbert, P. (1998). What is shame? Some core issues and controversies. In P. Gilbert & B. Andrews (Eds.), *Shame: Interpersonal Behavior, Psychopathology, and Culture* (pp. 3–38). New York, NY: Oxford University Press.

Gilbert, P. (2000). The relation of shame, social anxiety and depression: The role of the evaluation of social rank. *Clinical Psychology & Psychotherapy*, *7*(3), 174-189.

Goldberg, L. R., & Freyd, J. J. (2006). Self-reports of potentially traumatic experiences in an adult community sample: Gender differences and test-retest stabilities of the items in a Brief Betrayal-Trauma Survey. *Journal of Trauma & Dissociation, 7*, 39-63.

Gray, M. J., Schorr, Y., Nash, W., Lebowitz, L., Amidon, A., Lansing, A., ... & Litz, B. T. (2012). Adaptive disclosure: An open trial of a novel exposure-based intervention for service members with combat-related psychological stress injuries. *Behavior Therapy*, *43*(2), 407-415.

Gruenewald, T. L., Dickerson, S. S., & Kemeny, M. E. (2007). A social function for self-conscious emotions: The social self-preservation theory. In J. L. Tracy, R. W. Robins, & J. P. Tangney (Eds.), *The self- conscious emotions: Theory and research* (pp. 68–87). New York: Guilford Press.

Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of Affective Sciences* (pp. 852-870). Oxford: Oxford University Press.

Hall, J. R., & Benning, S. D. (2006). The "successful" psychopath. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 459-478). New York: Guilford Press.

Hare, R. D. (2003). *Manual for the Psychopathy Checklist-Revised* (2nd ed.). Toronto, Canada: Multi-Health Systems.

Hendin, H. & Haas, A.P. (1991). Suicide and guilt as manifestations of PTSD in Vietnam combat veterans. *American Journal of Psychiatry, 148* (5), 586–591.

Hoge, C. W. (2010). *Once a warrior, always a warrior.* Guilford, CT: Globe Pequot Press.

Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine, 351*(1), 13-22.

Hu, L. T. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55.

Kang, H., Dalager, N., Mahan, C., & Ishii, E. (2005). The role of sexual assault on the risk of PTSD among Gulf War veterans. *Annals of Epidemiology, 15*, 191–195.

Kelley, L. P., Weathers, F. W., Mason, E. A., & Pruneau, G. M. (2012). Association of life threat and betrayal with posttraumatic stress disorder symptom severity. *Journal of Traumatic Stress*, *25*(4), 408-415.

Kim, S., Thibodeau, R., & Jorgensen, R. S. (2011). Shame, guilt, and depressive symptoms: a meta-analytic review. *Psychological bulletin*, *137*(1), 68.

Klest, B., Freyd, J. J., & Foynes, M. M. (2013). Trauma exposure and posttraumatic symptoms in Hawaii: Gender, ethnicity, and social context. *Psychological Trauma: Theory, Research, Practice, and Policy*, *5*(5), 409-416.

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling* (3rd ed.). New York, NY: The Guilford Press.

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606-613.

Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., & Weiss, D. S. (1990). *Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study*. Brunner/Mazel.

Lehrer, K. (1997). *Self-trust: A study of reason, knowledge, and autonomy.* New York: Oxford University Press.

Lee, R. M., Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: Testing a mediator model. *Journal of Counseling Psychology*, *48*(3), 310-318.

Leeming, D., & Boyle, M. (2013). Managing shame: An interpersonal perspective. *British Journal of Social Psychology*, *52*(1), 140-160.

Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology*, *68*(1), 151-158.

Lewis, M. (1995). *Shame*: *The exposed self.* New York: The Free Press.

Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. *Clinical Psychology Review*, *29*(8), 695-706.

Lovelace, L. & Gannon, L. (1999). Psychopathy and depression: mutually exclusive constructs? *Journal of Behavior Therapy and Experimental Psychiatry, 30*, 169-176.

Marschall, D., Sanftner, J., & Tangney, J. P. (1994). The State Shame and Guilt Scale. George Mason University, Fairfax, VA.

Martin, A., Rief, W., Klaiberg, A., & Braehler, E. (2006). Validity of the Brief Patient Health Questionnaire Mood Scale in the general population. *General Hospital Psychiatry, 28*, 71-77.

Muthén, L. K. and Muthén, B. O. (1998-2012). *Mplus user's guide. seventh edition*. Los Angeles, CA: Muthén & Muthén

Nash, W. P., Marino Carper, T. L., Mills, M. A., Au, T., Goldsmith, A., & Litz, B. T. (2013). Psychometric evaluation of the moral injury events scale. *Military Medicine*, *178*(6), 646-652.

National Center for Veterans Analysis and Statistics, Department of Veterans Affairs (2015). *Veteran population projection model – VetPop2014*. Retrieved from http://www.va.gov/vetdata/veteran_population.asp

Platt, M. G. (2014). *Feelings of shame and dissociation in survivors of high and low betrayal traumas* (Doctoral dissertation). Retrieved from https://scholarsbank.uoregon.edu

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods, 40*(3), 879-891.

Quiles, Z. N., & Bybee, J. (1997). Chronic and predispositional guilt: Relations to mental health, prosocial behavior, and religiosity. *Journal of Personality Assessment*, *69*(1), 104-126.

Shay, J. (1994). *Achilles in Vietnam: Combat trauma and the undoing of character.* New York: Scribner.

Shay, J. (2003). *Odysseus in America: Combat trauma and the trials of homecoming.* New York: Scribner.

Shay, J. (2010, November). Moral leadership prevents moral injury. In S. B. MacFarland & R. Ulin (Chairs), *Fort Leavenworth Ethics Symposium.* Symposium conducted at Fort Leavenworth, Kansas.

Shay, J. (2012). Moral injury. *Intertexts*, *16*(1), 57-66.

Street, A. E., Gibson, L. E., & Holohan, D. R. (2005). Impact of childhood traumatic events, trauma-related guilt, and avoidant coping strategies on PTSD symptoms in female survivors of domestic violence. *Journal of Traumatic Stress*, *18*(3), 245-252.

Tangney, J. P. (1996). Conceptual and methodological issues in the assessment of shame and guilt. *Behaviour Research and Therapy, 34*(9), 741-754.

Tangney, J. P., & Dearing, R. L. (2002). *Shame and guilt*. Guilford Press.

Tangney, J. P., Dearing, R. L., Wagner, P. E., & Gramzow, R. (2000). The Test of Self-Conscious Affect - 3 (TOSCA-3). George Mason University, Fairfax, VA.

Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology*, *58*, 345-372. doi: 10.1146/annurev.psych.56.091103.070145

Van Vliet, K. J. (2009). The role of attributions in the process of overcoming shame: A qualitative analysis. *Psychology and Psychotherapy: Theory, Research and Practice*, *82*(2), 137-152.

Williams, K. L., & Galliher, R. V. (2006). Predicting depression and self-esteem from social connectedness, support, and competence. *Journal of Social and Clinical Psychology*, *25*(8), 855-874.

Williamson, I., Sandage, S. J., & Lee, R. M. (2007). How social connectedness affects guilt and shame: Mediation by hope and differentiation of self. *Personality and Individual Differences*, *43*(8), 2159-2170.

Yaeger, D., Himmelfarb, N., Cammack, A., & Mintz, J. (2006). DSM-IV diagnosed posttraumatic stress disorder in women veterans with and without military sexual trauma. *Journal of General Internal Medicine, 21*, 65–69.