Winter 1-10-2020

The Missing Moral Dimension: Perceptions of Transgressions and the Moderating Role of Moral Foundations on Psychological Distress

Hannah Reas
Seattle Pacific University

The Missing Moral Dimension: Perceptions of Transgressions and the Moderating Role of Moral Foundations on Psychological Distress

Hannah Elizabeth Reas, M.A., M.S.

A dissertation submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

In

Clinical Psychology

Seattle Pacific University

School of Psychology, Family and Community

January 10, 2020

Approved by:

Thane Erickson, Ph.D.
Professor of Clinical Psychology
Dissertation Chair

Amy Mezulis, Ph.D.
Professor of Clinical Psychology
Committee Member

Thomas Carpenter, Ph.D.
Associate Professor of Psychology
Committee Member

Reviewed by:

Amy Mezulis, Ph.D.
Chair, Department of Clinical Psychology

Keyne Law, Ph.D.
Director of Research, Department of Clinical Psychology

Katy Tangenberg, Ph.D.
Dean, School of Psychology, Family & Community

Table of Contents

List of Tables iii
List of Figures iv
Abstract v
Chapter I: Introduction and Literature Review 1
Psychological Distress 5
Common Distress Factor 5
Known Risk Factors of Psychological Distress 7
The Moral Domain 10
Defining Morality 10
Rationalist and Intuitionist Theories of Morality 11
Perceived Moral Transgressions 13
The Moderating Role of Moral Foundations 16
Conservative and Liberal Approaches to Morality 18
Current Study 19
Chapter 2: Method 26
Sample and Participant Selection 26
Sample Size, Power, and Precision 29
Measures 29
Data Analytic Plan 39
Chapter 3: Results 41
Preliminary Analyses 41
Chapter 4: Discussion 63
Major Findings 64
Clinical Implications 71
Limitations and Future Research 78
Conclusion 81
References 83

List of Tables

Table 1. *Component Matrix of the Individualizing Factor and the Binding Factor of Perceived Moral Transgressions Self-Developed Questionnaire*
Table 2. *Means and Standard Deviations, and Reliability*
Table 3. *Analysis of Major Variables and Covariates Predicting Outcomes*
Table 4. *Regressions of Psychological Distress on PMT When Testing Predictors Separately*
Table 5. *Regressions of Psychological Distress on PMT When Testing Predictors Simultaneously.*
Table 6. *Coefficients of Perceived Moral Transgressions on Psychological Distress, with Moral Foundations as a Moderator and Controlling for Risk Factors of Distress*
Table 7. *Simple Slopes of Perceived Moral Transgressions on Distress, Moderated by Corresponding Moral Foundations and Controlling for Risk Factors of Distress*
Table 8. *Parameter Estimates for Multilevel Models of Perceived Moral Transgressions Predicting Distress*
Table 9. *Parameter Estimates for Multilevel Models of Perceived Moral Transgressions Predicting Distress, Controlling for Known Risk Factors of Distress*
Table 10. *Parameter Estimates for Multilevel Models of Perceived Moral Transgressions Predicting Distress, Controlling for Baseline Distress and Known Risk Factors of Distress*
Table 11. *Simple Slopes of Perceived Moral Transgressions on Distress, Moderated by Corresponding Moral Foundations and Accounting for Baseline Distress and Risk Factors of Distress*
Table 12. *Overview of Correlational and Experimental Examination of Perceived Moral Transgressions Predicting Distress and Controlling for Known Risk Factors of Distress*

List of Figures

Figure 1. Proposed model diagram of the effect of perceptions of moral transgressions on psychological distress, controlling for known risk factors of distress.

Figure 2. Hypothesized model diagram of the effect of perceptions of moral transgressions on psychological distress, moderated by moral foundations and controlling for known risk factors of distress.

Figure 3. Proposed model diagram of the effect of perceptions of moral transgressions versus control condition on psychological distress, controlling for known risk factors of distress.

Figure 4. Hypothesized model diagram of the effect of perceptions of moral transgressions (versus control condition) on psychological distress, moderated by moral foundations, controlling for known risk factors of distress.

Figure 5. Graphical representation of the significant conditional effect of fairness/reciprocity PMT*MF on psychological distress, controlling for risk factors of distress.

Figure 6. Graphical representation of the significant conditional effect of in-group/loyalty PMT*MF on psychological distress, controlling for risk factors of distress.

Figure 7. Graphical representation of the significant conditional effect of authority/respect composite/total PMT*MF on psychological distress, controlling for risk factors of distress.

Figure 8. Graphical representation of the significant conditional effect of composite/total PMT*MF on psychological distress, controlling for risk factors of distress.

Figure 9. Graphical representation of the significant conditional effect of fairness/reciprocity PMT*MF on psychological distress, compared to a control condition and accounting for baseline distress and risk factors of distress.

Abstract

Anxiety and depression can be represented on a dimensional spectrum of negative affect, broadly termed psychological distress. Research has identified several factors that maintain negative emotion, but have neglected the possibility that individuals' interpretations of moral issues in the larger macro-system affects their level of distress. Thus, the current study investigated the role of perceptions of moral transgressions, or cognitive interpretations of stimuli ("transgressions") that violate beliefs about right and wrong, as a predictor of psychological distress. Furthermore, this study tested how perceptions of moral transgressions vary as a function of individuals' own moral intuitions, or moral foundations. Participants (N = 418) completed a one-time online survey composed of two parts – correlational and experimental phases. In the correlational phase, participants rated their perception of moral transgressions (others-toward-others) in the socio-political climate over the past two weeks. The experimental phase examined momentary distress ratings elicited after random assignment to morally valanced news articles, compared to a control condition. Each portion investigated moral transgressions predicting distress while controlling for risk factors of distress. Moral foundations in domains of harm, fairness, in-group, authority, and purity were expected to moderate (amplify) this pathway. As hypothesized, moderated regression analysis and multi-level modeling (MLM) demonstrated that perceptions of moral transgressions uniquely predicted distress, above and beyond risk factors of distress. Moreover, in line with moderation hypotheses, high moral foundations amplified some effects (e.g., fairness PMT*MF; b = .23, p = .001). These findings elucidate the importance of conceptualizing distress through a comprehensive lens which incorporates clients' moral systems and perceptions of events in the larger socio-political-cultural climate.

Keywords: distress, moral transgressions, moral foundations, sociopolitical climate

Chapter I: Introduction and Literature Review

Today, questions of morality are extremely salient in society (Haidt, 2013). Individuals are inundated with information about community and world events, policies, and sentiments that are morally valanced in nature, such as health-care reform, immigration, acts of social injustice, and conflicting beliefs about gun-control (Morgan & Shanahan, 2017). However, there is limited evidence of the psychological impact of perceiving moral events in the larger socio-political climate on emotional distress; the current study aims to elucidate this relationship.

In order to understand the impact of moral experiences on emotional well-being, it is imperative to delineate what "distress" comprises. Anxiety and depression commonly co-occur and are among the most prevalent and impairing psychiatric symptoms (Almeida et al., 2012; Kessler, Chiu, Demler, & Walters, 2005). Both contribute to negative outcomes, including elevated somatic symptoms, interpersonal difficulties, and maladaptive behaviors such as substance use, self-injury, and suicide (Beck, 2010; Brown, Chorpita, & Barlow, 1998; Newman, Llera, Erickson, Przeworski, & Castonguay, 2013). Although there are unique differences between anxiety and depressive disorders, research suggests that both share an underlying common distress factor, namely negative affectivity (Brown et al., 1998). Indeed, Brown and Barlow (2009) propose that anxiety and depression can be understood as emotional disorders represented on a dimensional spectrum of negative affect, broadly termed psychological distress in the present paper.

Given the transdiagnostic nature of these conditions, researchers have sought to understand the mechanisms that contribute to psychological distress. To date, a wealth of research attests to factors that play a role in the development and pathogenesis of anxiety and depression, including cognitions related to perceived low control and reduced self-efficacy

(Gross & Levenson, 1997; Lynch, Robins, Morse, & Krause, 2001), affective models of trait neuroticism (Barlow, Sauer-Zavala, Carl, Bullis, & Ellard, 2014), behavioral avoidance strategies (Barlow, 2000), and low social support (Barlow, 1988). Although there is empirical support for the cognitive, affective, behavioral and interpersonal domains of anxiety and depression, there is limited research on the *moral domain,* including how individuals' *moral perceptions* might uniquely contribute to psychological distress (Skitka, 2010). That is, research is necessary to explore individuals' interpretations of moral issues, how they relate to their moral assumptions (i.e., moral foundations; Haidt & Graham, 2007), and their influence on psychological distress.

Currently, issues of morality are increasingly prevalent in our culture, implying that the perceived social environment may directly impact our moral judgments and response styles (Graham et al., 2009; Haidt, 2013). Indeed, Bronfenbrenner's (1977, 1995) bioecological model of development emphasized the strong influences of the cultural and societal environments (macro-system) on family, community, and individual systems. Although Bronfenbrenner proposed that the macro-system operated as a separate, distal entity, research suggests the macro-level climate contributes substantially to individual well-being (Markus & Kityama, 2009; Vélez-Agosto, Soto-Crespo, Vizcarrondo-Oppenheimer, Vega-Molina, & García Coll, 2017). For example, many citizens view the socio-political climate in the United States as polarized, with over half of Americans reporting social divisiveness as a significant source of stress (American Psychological Association [APA], 2017). In this respect, macro-level stressors can have broad implications for psychological distress, especially when the stressors violate one's morals (Lench et al., 2018).

Moreover, research indicates that perceptions of moral transgressions, defined in this study as cognitive interpretations of stimuli ("transgressions") between people that violate one's beliefs about right and wrong, may play a role in predicting psychological stress—specifically, depression, anxiety, and post-traumatic stress severity (Litz et al., 2009). However, most studies have historically focused on the psychological effects of combat-related moral transgressions in military populations, necessitating research on this phenomenon in civilians. That is, questions remain about individuals' perceptions of moral transgressions in their day-to-day lives, especially those that emanate from the socio-political climate.

The relationship between macro-level stressors and individual psychological distress further depends on differences in individuals' moral intuitions and beliefs about standards of right and wrong (Haidt, 2001; Schwartz, Sagiv, & Boehnke, 2000). Research indicates that moral judgments are automatic, intuitive responses embedded in socio-cultural systems; moral reasoning, in turn, is a post-hoc process utilized to rationalize one's "gut" reaction (i.e., moral intuition; Haidt, 2001). Toward this aim, social psychologists (Haidt & Graham, 2007; Haidt & Joseph, 2004) sought to investigate these differences in moral judgments, which lead to the development of moral foundations theory (MFT). MFT asserts the existence of five moral foundations on which individuals make moral judgments and which vary across cultures (Graham et al., 2011). These include (1) harm/care (e.g., hurting others and human suffering is wrong, whereas helping others is right), (2) fairness/reciprocity (e.g., respect for individual rights), (3) in-group/loyalty (e.g., patriotism, affiliation), (4) authority/respect (e.g., maintaining traditions), and (5) purity/sanctity (e.g., avoiding engagement in indecent or disgusting acts). It may be that individuals become most distressed by perceived moral transgressions when they violate their most salient moral foundations. Therefore, the present study seeks to understand the

moderating effects of moral foundations on the relationship between perceptions of moral transgressions on psychological distress; specific hypotheses will be subsequently explored.

To date, there is only one study that has examined perceptions of moral issues on subjective well-being (SWB) in the current macro-system. Specifically, Lench et al. (2018) found exposure to socio-political media content that was inconsistent with individuals' morals predicted lasting changes in subjective well-being (measured via general happiness and life satisfaction) up to six months after the 2016 Presidential election. Results also revealed a significant conditional effect of moral foundations and media exposure on SWB, such that participants who endorsed foundations of harm/care and fairness/reciprocity (i.e., those that identified as liberal, "Clinton supporters") demonstrated a stronger relationship between election coverage and declining SWB than individuals identifying as conservative "Trump supporters," who were found to place equal value on the five foundations (Lench et al., 2018).

Although this longitudinal study elucidated the salience of moral foundations and media exposure on well-being, it did not control for other risk factors of psychological distress that may have explained or contributed to their results; it remains unknown whether perceived transgressions explain *unique* variance in psychological distress. Additionally, this study focused heavily on political affiliation (Trump vs. Clinton supporters), necessitating research that does not prime individuals based on their political sentiments. Given the possible salience of the social climate on individuals' well-being, research is warranted to disentangle morally-valanced perceptions of transgressions [in society] from known mechanisms of anxiety and depression such as trait neuroticism, low perceived control, avoidance behaviors, and poor social support.

The purpose of the current investigation is to better understand how perceptions of moral transgressions interact with individual values (i.e., moral foundations) to predict distress

symptoms in the current socio-political climate. That is, the present study aims to test whether moral transgressions will predict distress above and beyond well-established cognitive, affective, behavioral, and interpersonal factors, which would point to a novel possible contributor to mental health symptoms. The literature review that follows provides further background on distress, well-known psychological factors contributing to distress, moral transgressions, and moral foundations, before describing the study hypotheses and design.

Psychological Distress

Common Distress Factor

Depression and anxiety impact millions of individuals per year, causing distress and interference in a wide range of psychological, occupational, and social settings (Brown, Campbell, Lehman, Grisham, & Mancill, 2001; Newman et al., 2013). Major depressive disorder (MDD) is considered a disorder of dysregulated negative emotion (Brown et al., 2013; Forbes & Dahl, 2005), and is characterized by dysphoric affect and/or depressed mood, lack of interest or pleasure in previously enjoyed activities, changes in eating patterns, sleep disturbance, concentration difficulties, psychomotor abnormalities (i.e., slowed movement or agitation), excessive fatigue, heightened guilt, and recurrent thoughts of death or suicide. Five of these nine symptoms must be present for at least two weeks to constitute a major depressive episode (American Psychiatric Association [APA], 2013). The Substance Abuse and Mental Health Administration (SAMHSA; 2017) approximates that 16.2 million adults, or 6.7% of the entire U.S. population, experienced at least one major depressive episode in the last year. To that end, the lifetime prevalence of any mood disorder, including unipolar and bipolar psychiatric conditions, is estimated to be 21.4% (Kessler et al., 2005). Additionally, depression symptoms exist as a dimensional syndrome outside of formal diagnosis and are characterized by a core of

negative affect shared in common with other mental health conditions such as anxiety, obsessive-compulsive disorders, traumatic stress, somatization, and eating disorders (APA, 2013; Brown & Barlow, 2009).

Similar to depression, anxiety disorders are typified by negative affect and poor emotion regulation (Brown et al., 1998). Approximately 19.1% of adults experience an anxiety disorder over a 12-month period, with a lifetime prevalence of 33.7% (i.e., over 110 million people; Bandelow & Michaelis, 2015). The most common anxiety disorders diagnosed in adult populations include generalized anxiety disorder (GAD), social anxiety disorder (SAD), panic disorder (PD), agoraphobia, and specific phobias. Anxiety symptoms can include apprehension, worry, and unpleasant physiological arousal; they often lead to disruptive behaviors (e.g., behavioral and cognitive avoidance, self-medicating strategies, social isolation, among other maladaptive responses; APA, 2013).

Elucidating the nature and etiology of depression and anxiety requires acknowledging their shared features. Indeed, anxiety and depressive disorders have both been associated with high rates of chronic and severe impairment, elevated suicide risk, and lower quality of life, as well as similar treatment interventions and outcomes (Bronisch & Wittchen, 1994; Brown, Schulberg, Madonia, & Shear, 1996). Extant research has consistently demonstrated high comorbidity between anxiety and depressive disorders (Bandelow & Michaelis, 2015; Brown et al., 2001; Clark & Watson, 1991; Kessler et al., 2005). In a study of over 1,000 outpatient individuals diagnosed with anxiety and/or mood disorders, results revealed that 55% of individuals with a primary anxiety or depressive disorder also met criteria for one or more additional anxiety or mood conditions. This rate increased to 76% when lifetime prevalence of any psychiatric disorder was considered (Brown et al., 2001). According to the National

Comorbidity Survey Replication (Kessler et al., 2005), the correlation between 12-month prevalence of GAD and MDD was exceptionally high (r = .62). This research suggests the likelihood of a broader syndrome or vulnerability underlying these disorders.

In addition to comorbidity of *DSM-5* (APA, 2013) diagnostic categories, factor analyses of dimensional anxiety and depression symptoms reveal their common variance. In a community epidemiology sample utilizing clinical interviews and self-report measures of various mental health conditions, Kessler et al. (2005) found a two-factor solution including an internalizing factor comprised of all anxiety disorders and major depression, as well as an externalizing factor including impulse control and substance use disorders. Furthermore, the correlation between 12-month prevalence of MDD and any anxiety disorder (GAD, panic disorder, agoraphobia, social anxiety disorder, separation anxiety disorder, specific phobia) ranged from .37 to .62 (Kessler et al., 2005). Similarly, in structural equation models of clinician-rated symptoms in a clinical sample, Brown and colleagues (1998) found support for a common distress or negative affect factor on which anxiety disorders (GAD, PD, OCD, and SAD) and depression loaded. This suggests that distress is a transdiagnostic symptom. These findings provide evidence for shared core emotional features of anxiety and depression (i.e., unifying factor of negative affect; Barlow, Allen, & Choate, 2004), necessitating a dimensional approach to understanding these internalizing disorders (Andrews, 1990; Brown & Barlow, 2009).

Known Risk Factors of Psychological Distress

Anxiety and depressive symptoms not only share a common core of distress, but also shared mechanisms thought to underscore these conditions. These factors encompass biological, psychological, and specific learning experiences that contribute to the development or maintenance of disorders of negative affect (Barlow, 2002; Clark & Watson, 1991). First,

temperament and personality traits such as neuroticism have genetic and neurobiological origins (Hettema, Neale, & Kendler, 2001). Neuroticism reflects chronic vulnerability to negative emotions (e.g., irritability, anger, sadness, anxiety; Costa & McCrae, 1992) and represents a major risk factor for anxiety and depressive disorders. Genetic heritability accounts for 40 to 60% of the variance in trait expression (Bouchard & Loehlin, 2001; Kendler, Prescott, Myers, & Neale, 2003). Neurobiological mechanisms further provide evidence for the maladaptive effects of neuroticism on anxiety and depression, as extant research demonstrates heightened autonomic arousal (e.g., amygdala reactivity, activation of the hypothalamic pituitary adrenal axis) and poor inhibitory control in individuals with neurotic traits (Brown & Barlow, 2009; Keightley et al., 2003; Stein, Simmons, Feinstein, & Paulus, 2007; Westlye, Bjornebekk, Grydeland, Fjell, & Walhovd, 2011). As posited earlier, in order for symptoms of anxiety or depression to develop, genetics and neurobiological systems must interact with other cognitive, behavioral, and environmental risk factors. Thus, I turn my discussion to these specific considerations.

Second, cognitive perceptions of uncontrollability are thought to drive distress in both anxiety and depressive disorders. That is, when individuals believe they cannot predict and control outcomes of events, the future, or potential threats, they experience a sense of helplessness that perpetuates anxiety or depression (Barlow, 2000). This lack of cognitive control (Rotter, 1966) over circumstances leads to increased psychological distress (Barlow, 2002). For instance, a meta-analysis of over 8,200 individuals revealed that perceptions of unpredictable and uncontrollable events predicted elevated and less variable levels of daily secretion of cortisol, a biomarker for depressive and anxiety disorders (Miller, Chen, & Zhou, 2007). Furthermore, endorsing a low internal locus of control (i.e., believing one has little agency over their life) is

associated with development of disorders of negative affect, specifically anxiety (GAD, SAD, PD) and depression (Gallager, Bentley, & Barlow, 2014; Wong & Anitescu, 2017).

Third, in response to perceived low control and accompanying negative affect, many individuals utilize maladaptive strategies to cope with their distress, specifically avoidance (Barlow, 2000). For example, if an individual is worried about presenting in front of a group, he or she may escape this anxiety-inducing situation by not attending work. This temporarily decreases the negative affect, negatively reinforcing avoidance and ultimately contributing to distress over time because the individual never learns she/he/they can handle the challenge. A myriad of strategies serves the function of short-term escape of distress, including behavioral, interoceptive, situational, cognitive and affective forms of avoidance (see Brown & Barlow, 2009 for review). These maladaptive strategies can ultimately contribute to poor social relationships and interpersonal functioning (Brown, 2000; Beck, 2010).

Lastly, abundant research suggests interpersonal problems are a core feature of anxiety and depression, as they are usually characterized by dysfunctional beliefs about social threats and fear of rejection (Heerey & Kring, 2007), poor perceived quality of social supports (Hefner & Eisenberg, 2009), and maladaptive social behaviors (e.g., interpersonal conflict, problematic interpersonal goals; Erickson et al., 2017; Starr & Davila, 2008). Specifically, low perceptions of available social support may represent a transdiagnostic factor that perpetuates both anxiety and depression (Wang, Cai, Quin, & Pang, 2014). Indeed, limited family and peer social support has been linked to depression and anxiety (Lewinsohn, Gotlin, & Seeley, 1997), and relationship satisfaction tends to be poor for individuals with these psychiatric disorders (Whisman, Sheldon, & Goering, 2000).

In summary, there is substantial evidence that anxiety and depression symptoms reflect a shared dimension of emotional distress, and that factors such as trait neuroticism, low perceived control, avoidance, and interpersonal difficulties (e.g., low social support) reflect shared risk factors. However, despite these well-known factors, there is a dearth of research on the relevance to the moral domain to psychological distress. Namely, I am interested in the unique contributions to emotion by the moral domain, and whether people's perceptions of moral transgressions in the world predict distress above and beyond the common risk factors previously explored.

The Moral Domain

Defining Morality

In the nineteenth century, Friedrich Nietzsche asserted that "there is no such thing as moral phenomena, but only a *moral interpretation* of phenomena" (Nietzche, 1886, p. 108). This evocative quote hints at the notion of individual differences in moral beliefs on individuals' perceptions and responses to events. That is, when people are confronted with situations that they perceive as violations to their moral standards, varying cognitive and emotional responses may be activated. Pronounced differences of opinion on moral issues are, for instance, demonstrated through the dichotomous and often conflictual moral imperatives espoused by conservatives and their liberal counterparts (Graham, Haidt, & Nosek, 2009). The field of moral psychology attempts to understand these competing moral concerns among individuals, groups, and societies, their impact on emotions, and how they affect decision-making (Graham et al., 2009; Skitka, 2010).

The moral domain has been studied for centuries, from the philosophers of ancient Greece to Immanuel Kant during the Enlightenment period, to the political and social scientists

of today (Graham et al., 2011). Morality, defined broadly as core beliefs about right versus wrong (i.e., rules or codes of conduct), has predominantly focused on protecting individuals and reduction of harm (Graham et al., 2009; Gray, Schein, & Ward, 2014). A well-cited definition of morality, posited by Turiel (1983, p. 3), encompasses "prescriptive judgments of justice, rights, and welfare pertaining to how people ought to relate to each other." Further, the moral domain is conceptualized as distinct from personal and conventional norms of conduct. This predominant view asserts that people act and respond differently to situations based on their personal preferences (e.g., interests such as hairstyle), cultural standards (e.g., driving on the opposite side of the road in Europe, following rules or laws), and moral imperatives (e.g., reduce harm toward others; Turiel, 1983). Whereas individuals' preferences and cultural norms can be variable and situation-specific, they often interpret their moral beliefs as universal, temporally stable, rigid, and impervious to contradictory evidence (Skitka, Bauman, & Sargis, 2005). Therefore, perceived transgressions against one's morality are likely to cause distress. Next, prior to considering how moral transgressions relate to distress, I provide a brief overview of *rationalist* versus more recent *intuitionist* theories of moral judgments, which emphasize cognitive versus emotional processes, respectively.

Rationalist and Intuitionist Theories of Morality

Lawrence Kohlberg's (1969, 1971) model of morality development has exerted great influence on theories of moral decision making. He proposed that children develop morals through cognitive reasoning and social learning, and that these beliefs become integrated and more mature over time. Through this process, children and adolescents progress through six stages of moral development, ranging from pre-conventional reasoning (e.g., emphasis on reward and punishment, obedience) to post-conventional internalization of moral beliefs (e.g., oriented

toward human rights, values, and individual freedom). This model, in addition to Gilligan's (1982) assertion that care forms the bases for morality, are similar to Turiel's (1983) sentiments, asserting that justice, individual rights, and human welfare are the most principled moral concerns. Further, they develop through rational, deliberate, top-down reasoning that supposedly leads to an informed moral sentiment (Bauman & Skitka, 2009).

However, criticism to this approach stems from observations that people are able to intuitively recognize a moral issue when they encounter one, without complex, prior moral reasoning (Gray et al., 2014; Haidt, Koller, & Dias, 1993). Moreover, they often experience a strong gut-level sense of conviction or "moral intuition" about right and wrong, without ability to rationally articulate the basis for their judgment—a process termed moral dumbfounding (Haidt, Bjorklund, & Murphy, 2000). For instance, Haidt et al. (2000) studied this construct by presenting participants with a harmless, yet morally relevant scenario involving two adult siblings who engage in consensual, protected sexual intercourse. They found that participants often responded strongly to this vignette, condemning it as immoral while unable to provide convincing reasons for their judgment. This lack of rational deduction underscores intuitive theories of morality, as they emphasize automatic, implicit emotional reactions (e.g., disgust, anger, shame, empathy) to moral stimuli without complex reasoning (Gray et al., 2014; Haidt, McCauley, & Rozin, 1997; Haidt, 2001, 2012). Moral dumbfounding theorists assert that limbic regions tied to emotion become activated in response to morally valanced situations, which may explain why people react viscerally before they can verbally reason (Haidt, 2001). In summary, these models portray the moral domain as important for understanding human experience, and also suggest relevance to emotional processes. However, they fail to address the impact of

morality on psychological health, whereas recent research on moral transgressions more directly examines such links.

Perceived Moral Transgressions

When individuals perceive *moral transgressions*—violations of their deeply held moral beliefs—they exhibit unique cognitive, affective, and behavioral responses (Frankfurt & Frazier, 2016; Litz et al., 2009). Recent research on *moral injury* provides an example of how perceptions of moral transgressions might predict unique variance in distress, emphasizing the incongruence and dissonance that arises from having one's fundamental moral beliefs and assumptions violated. Litz and colleagues (2009) described moral injury as "perpetuating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations" (p. 700), typically within the context of combat trauma.

Combat experiences may force military service members to face unimaginable moral and ethical conflicts, which may have lasting effects on physiological and psychological functioning (Maguen & Litz, 2012). Within the past several decades, research on psychological correlates of combat exposure has predominately focused on the development and etiology of post-traumatic stress disorder (PTSD). However, combat trauma can also evoke intense shame and guilt-based disturbances as soldiers are exposed to acts of extreme violence and destruction (Drescher et al., 2011; Litz et al., 2009). These wartime transgressions may violate deeply engrained beliefs and lead to the development of moral injury. Moral injury extends beyond the constellation of PTSD symptoms, and includes the dimensions of internal moral conflict, increased guilt and shame, demoralization, self-handicapping, and elevated incidents of self-injury, exclusively studied within military populations.

The phenomenon of moral injury was originally examined through coding and identification of central themes in military service members' narratives. The primary dimensions of moral injury included betrayal by others or self, exposure to disproportionate violence (e.g., acts of revenge) or killing of civilians, and within-rank violence (e.g., "friendly-fire" incident, military sexual trauma; Drescher et al., 2011). In addition to qualitative analyses, self-report measures of moral injury (Currier, Holland, Drescher, & Foy, 2015a; Nash et al., 2013) have delineated perceived violations across several domains, including (1) transgressions committed by self to others, (2) transgressions by others [toward self], and (3) observed transgressions between people (other-to-other). For example, observing military members harming non-combatants (e.g., violent acts, sexual assault) or betraying their unit reportedly elicited moral injury and elevated distress. Furthermore, transgressions by self or others (e.g., comrades killing civilians) was strongly correlated with post-traumatic stress, pessimism, and hopelessness (Bryan et al., 2016). Of note, several studies have shown that moral injury is associated with worse physical health outcomes and higher depression, anxiety, and suicidal ideation, even when controlling for PTSD symptom severity (Bryan, Bryan, Morrow, Etienne, & Ray-Sannerud, 2014; Nash et al., 2010; Nash et al., 2013; Yan, 2016). In addition, Hoffman and colleagues studied appraisals of morally injurious experiences in a sample of refugees and found that perceptions of moral violations (by self and toward others) predicted higher anger and depression (Hoffman, Liddell, Bryant, & Nickerson, 2018).

The literature on moral injury clearly exemplifies the connection between morality and clinical phenomena (Litz et al., 2009). However, it is perplexing that there is limited research on moral transgressions, and subsequent psychological distress, in civilian populations. Although there are moral issues in society that are not as obviously harm-based as those depicted in war

(Graham et al., 2011; Gray et al., 2014), this does not negate their relevance and impact on psychological well-being. For instance, individuals may still be sensitive to perceived violations of less extreme harm (e.g., distress upon exposure to news articles about social rudeness, political turmoil, wage gaps related to gender). Indeed, Schwartz et al. (2000) assert that individuals experience two types of worry as a function of their values, including micro and macro-level worries. Micro-worries are self-oriented (Schwartz, 1992) whereas macro-worries are external to the individual and include concerns about society and the larger world (e.g., issues related to the economy, health, social justice). Macro-level distress is usually based on other-focused interests and concern for human welfare (Schwartz et al., 2000); this distress is further derived from exposure to changing social, political, and cultural environments.

Major national and world events (i.e., the macro-system) can have an impact on psychological functioning (Lucas, Clark, Georgellis, & Diener, 2004). Lench and colleagues (2018) found support for macro-level stressors affecting civilians' quality of life, as they examined predictors of subjective-well-being over time in response to the 2016 Presidential election between Donald Trump and Hillary Clinton. They found that morally-valenced political values, in conjunction with media exposure that was inconsistent with these beliefs, predicted lasting negative effects (up to six months post-election) in subjective well-being (SWB). However, their study was limited to SWB as assessed by indicators of life satisfaction and general happiness, rather than clinical screening assessments of psychological distress (Lench et al., 2018). Moreover, with the exception of this study, there is a dearth of research on individuals' perceptions of moral issues in the current socio-political climate, specifically in the United States. This necessitates research that examines people's perceptions of events in the larger macro-system that induce morally relevant distress (e.g., policies that restrict human rights

or actions that disrespect authority). As I am interested in transgressions related to the macro-system (i.e., socio-political climate), this study will focus exclusively on the predictive nature of moral transgressions between people (others-to-others) on psychological distress, accounting for trauma exposure history. Specifically, I expect that perceptions of moral transgressions will positively predict psychological distress above and beyond known risk factors. In other words, the more someone perceives something as a moral transgression, the higher their level of psychological distress.

Furthermore, research is warranted to better understand how these perceptions of moral transgressions vary as a function of individuals' own moral intuitions; people may be more distressed when perceived transgressions violate the moral standards they hold most dear. As briefly illustrated next, *moral foundations theory* provides a framework (i.e., value-laden bases on which individuals judge an issue as moral or not) consisting of five distinct foundations that may be relevant to understanding how beliefs interact with moral transgressions to predict psychological distress, and how this varies among people (Lench et al., 2018).

The Moderating Role of Moral Foundations

As illustrated, morality is a complex construct, historically (Turiel, 1983) defined as standards of right and wrong related to individuals' welfare, reduction of harm, and fairness. Research has suggested moral universals in dimensions of limiting *harm* (i.e., care for others) and upholding *fairness* (Graham et al., 2009; Gray, Schein, & Ward, 2014). The former domain is composed of values that emphasize benevolence, compassion, and reduction of human suffering, whereas the fairness dimension focuses on equality, human rights, and justice. Although these moral imperatives are shared to varying extents across cultures, Graham et al. (2011) argued that they are strongly entrenched in Western, individualistic assumptions.

Consequently, research has demonstrated the limitations of defining moral transgressions as strictly relevant to only the domains of harm and fairness (Haidt, 2001; Skitka, 2010; Bauman & Skitka, 2009). For example, some people might perceive an African American football player kneeling during the national anthem as an immoral act that violates their deeply held values of nationalism, while others could view this action as consistent with their values of fairness (Haidt, 2012). Research on people of lower socio-economic status in Brazil and the United States (Haidt et al., 1993), civilians in India (Shweder, Mahapatra, & Miller, 1987), and U.S. residing individuals who identify as conservative (Graham et al., 2009) revealed morally-valenced concerns beyond harm and fairness. Other concerns include purity (keeping the spiritual separated from the physical, e.g., sexual chastity, adhering to religious doctrine, avoiding acts considered as 'disgusting'), hierarchical roles in families and societies, and loyalty to one's group. Indeed, some moral concerns reference values of duty, obedience, tradition, respect, and/or purity of mind and soul. Thereby, Graham et al. (2011, p. 367) assert, "scales that attempt to measure morality by assessing attitudes of harm and fairness are thus leaving out much of what people – even Westerners – explicitly and spontaneously include in their descriptions of the moral domain." This lack of an adequate, systemic model of morality led to the development of moral foundations theory (Graham et al., 2009; Haidt & Graham, 2007).

Moral foundations theory (MFT) provides a framework for understanding how moral concerns (i.e., perceptions and decision making) differ between people and groups. Towards this aim, researchers utilized an anthropologic, cross-cultural approach to understand similarities and differences among individuals, groups, and societies' moral concerns. Graham et al. (2009) identified five distinct foundations that they expected most cultures to espouse in varying degrees, which include dimensions of (1) harm/care, (2) fairness/reciprocity, (3) in-

group/loyalty, (4) authority/respect, and (5) purity/sanctity. As demonstrated previously, harm and fairness apply to ethics of autonomy, care, and equality, whereas the in-group and authority domains stress obligation and duty to one's community, leader, and/or country. The foundation of purity adheres to ethics around divinity (i.e., keeping the sacred separate from the mundane), cleanliness, and chastity (Graham et al., 2011; Haidt & Graham, 2007; Haidt & Joseph, 2004; Shweder, Much, Mahapatra, & Park, 1997). To parallel these domains, the perceived moral transgressions (i.e., focal predictor) examined in this study include those related to violations of *harm* (e.g., someone causing harm or injury to another), *fairness* (e.g., unfair treatment and services of people of color; denial of rights), *in-group* (e.g., betrayal to one's country or community), *authority* (e.g., disrespecting traditions, authority figures), and *purity* (e.g., engaging in unnatural or 'disgusting' acts). I expect perceived moral transgressions in the current socio-political climate will be moderated by individuals' moral foundations (i.e., moral values of harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity).

Conservative and Liberal Approaches to Morality

MFT asserts that individuals and cultures vary in how much value they place on these specific moral domains. Consequently, MFT suggests that these discrepancies in prioritization of moral foundations may explain conflicts in ideologies and differing views of morally-relevant issues. Thereby, MFT theory may shed light on "culture wars" such as those among political liberals and conservatives in America (Haidt & Graham, 2007, p. 368).

Through investigating the differences between moral foundations held by liberals and conservatives, two trends unfolded (Graham et al., 2011; Haidt, 2012). Specifically, individuals who endorsed politically liberal views on moral issues tended to prioritize foundations of harm and fairness, the so-called "individualizing" foundations that emphasize protection of individuals

from unfair treatment and harm. Conversely, the moral dimensions of in-group loyalty, authority, and purity have been conceptualized as "binding" foundations, as they promote coherence in a larger group (by focusing on group loyalty, respect to authority, obedience, and sanctity), consistent with conservative ideologies. Several studies (Graham et al., 2009, 2011; Haidt, 2012; Lench et al., 2018) have investigated the differences between liberal versus conservative endorsements of these moral foundations and found that liberals generally value harm and fairness-related issues as more salient than in-group, authority, and purity foundations, whereas conservatives generally endorse all five foundations equally (Haidt & Graham, 2007).

These findings provide insight into the political divisiveness in the United States, and how individuals' perceptions of morally relevant issues (e.g., abortion and healthcare rights, racism and police brutality, sexual harassment, among other current events) depends upon their moral foundations and contributes to one's subsequent emotional responses (and perhaps psychological distress). However, no studies have directly examined how the relevance of moral transgressions to psychological distress might vary as a function of one's moral foundations. For instance, those who most strongly value authority/respect and purity/sanctity might endorse strongest distress in response to transgressions in those domains.

Current Study

Theorizing that perceptions of moral issues influence emotional distress, the current study aims to examine the unique contribution of perceived moral transgressions to psychological distress, above and beyond known mechanisms of distress. Furthermore, this research aims to address the gaps within the moral injury (i.e., termed perceptions of moral transgressions [PMT] in this study) and moral foundations literature by examining processes relevant to these constructs in a civilian population. Moral foundations are expected to moderate the relationship

between perceptions of moral transgressions in society and their effects on psychological distress.

In a large sample of U.S. adults, this study consists of two parts utilizing the same participant sample. Part I was a correlational examination of the extent to which between-person variability in PMT in the socio-political climate over the past two weeks predicted distress above and beyond known risk factors (and depended on moral foundations), whereas Part II experimentally investigated within-person variability in the moment (e.g., reported distress immediately after exposure to a moral transgression vignette) and how these perceived transgressions interacted with individuals' moral foundations. Parts I and II had parallel hypotheses; however, for ease of interpretation, they are delineated below for both portions of the study (correlational and experimental). For Part I, I hypothesize the following:

Hypothesis 1a. Given the possibility that links between PMT and distress apply not just to veterans (Litz et al., 2009) but also more broadly (Lench et al., 2018), I expect that perceptions of moral transgressions will positively predict psychological distress, operationalized as a composite of anxiety and depression symptoms. Specifically, I expect a main effect of each perceived moral transgression (PMT) on distress, such that (1) higher levels of PMT in the domain of harm/care will predict higher distress, (2) higher levels of PMT in the domain of fairness/reciprocity will predict higher distress, (3) higher levels of PMT in the domain of in-group/loyalty will predict higher distress, (4) higher levels of PMT in the domain of authority/respect will predict higher distress, (5) higher levels of PMT in the domain of purity/sanctity will predict higher distress, and (6) higher levels of total (a composite of all five perceived moral transgressions) will predict higher distress. In addition, as an exploratory analysis, I planned to simultaneously enter all predictors in one model to examine which PMTs

remain significant when accounting for all other PMTs in the analysis (I had no hypotheses about which effects would remain significant).

Hypothesis 2a. In line with the previous hypothesis, I expect that perceptions of moral transgressions (individual PMT types as well as a composite of all PMT) will positively predict psychological distress (six tests), even when controlling for known risk factors of distress, including neuroticism, perceived control, avoidance behaviors, social support, and history of trauma exposure (Figure 1).

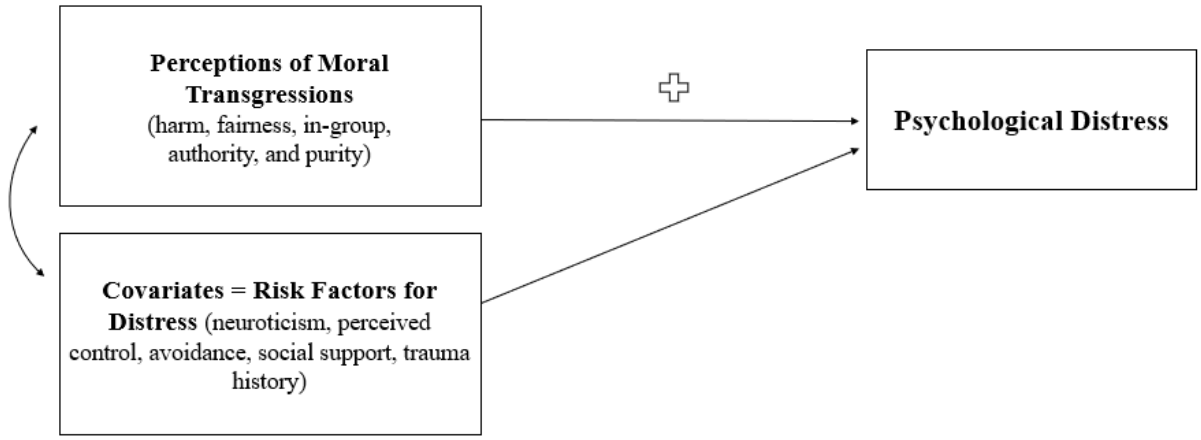

Figure 1. Proposed model diagram of the effect of perceptions of moral transgressions (individually, as well as a composite of all PMT) on psychological distress, controlling for known risk factors of distress.

Hypothesis 3a. Given the role of moral experiences, specifically perceived transgressions, on the development of psychiatric distress (Bryan et al., 2016; Currier, Holland, & Mallot, 2014; Ferrajao & Oliveira, 2016), and the existence of multiple moral foundations (i.e., conceptualized as five value systems; Graham et al., 2011), I hypothesize that the relationship between PMT and psychological distress will be moderated by moral foundations. Specifically, I expect a synergistic effect such that each perceived moral transgression will interact with the corresponding moral foundation (e.g., PMT*MF for harm/care,

fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity) to predict distress. For instance, I expect that scoring higher on the moral foundation of fairness/reciprocity will amplify the extent to which PMT for fairness/reciprocity will predict distress. That is, I predict that the more someone values each moral foundation, the stronger the relationship will be between their PMT and reported distress. At high levels of moral foundations (e.g., high endorsement of purity/sanctity foundation), the relationship between PMT and distress will be strongly positive; conversely, at low levels (e.g., low endorsement of purity/sanctity foundation), the relationship between PMT and distress will diminish or be non-significant. I expect this interaction pattern for all five foundations (Figure 2) and predict this to be the case even when accounting known risk factors of distress, including neuroticism, perceived control, avoidance, social support, and trauma history.

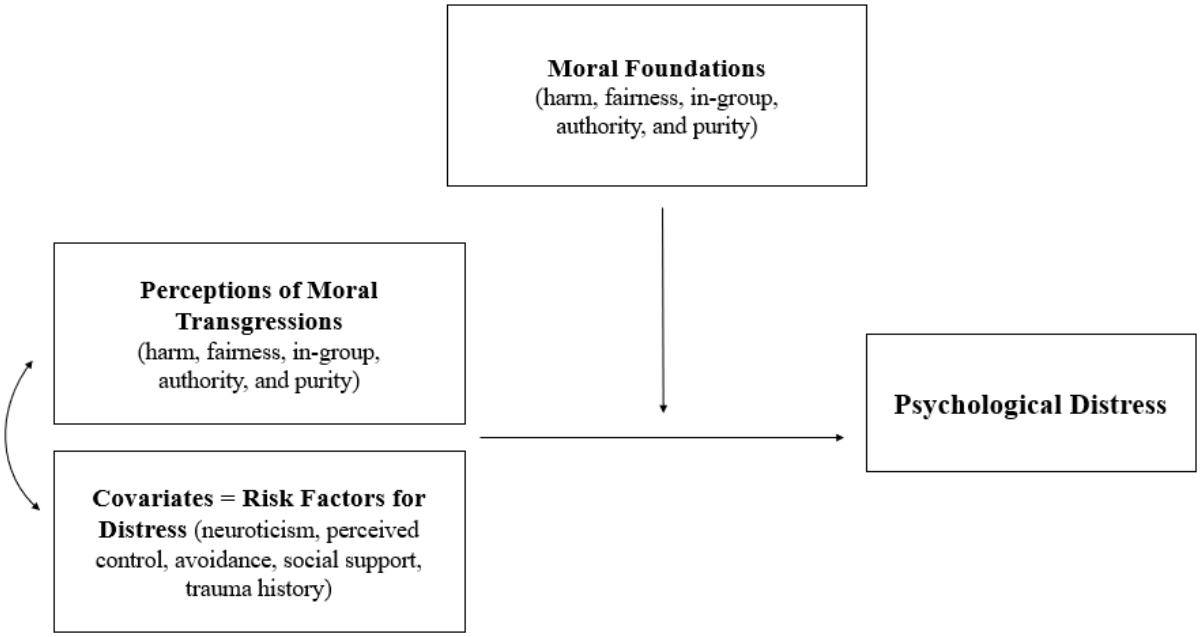

Figure 2. Hypothesized model diagram of the effect of perceptions of moral transgressions on psychological distress, moderated by moral foundations and controlling for known risk factors of distress.

Part II is a within-subjects experimental design in which each participant was exposed to a control condition vignette as well as two randomly assigned [real life] news article vignettes depicting various moral transgressions of harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity. For Part II, I hypothesize the following:

Hypothesis 1b. In an experimental context, I expect that perceptions of moral transgressions (vignettes of harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity) will positively predict distress compared to a control condition – a neutral vignette. That is, I predict a main effect of each perceived moral transgression (harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity) on distress relative to the control condition, such that participants will report higher distress related to each type of PMT compared to the control condition.

Hypothesis 2b. I predict that perceptions of moral transgressions will positively predict distress compared to a control condition, even when accounting for known risk factors of distress, including neuroticism, perceived control, avoidance, social support, and trauma history (Figure 3).

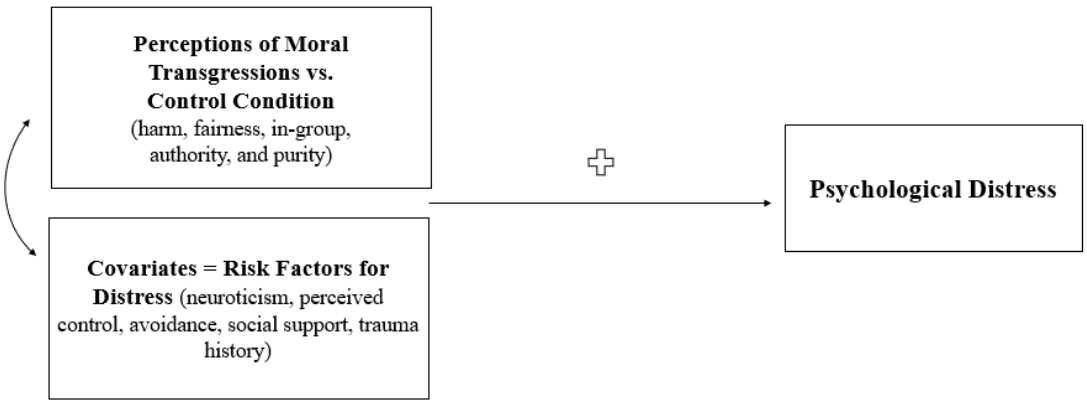

Figure 3. Proposed model diagram of the effect of perceptions of moral transgressions versus control condition on psychological distress, controlling for known risk factors of distress.

Hypothesis 3b. Given that perceptions of moral transgressions are associated with elevated distress (Drescher et al., 2011; Litz et al., 2009), as well as exposure to moral issues in the socio-political-cultural climate (Lench et al., 2018), I expect the relationship between PMT and psychological distress will be moderated by moral foundations. I expect each moral foundation will interact with the corresponding perceived moral transgression (e.g., perceived moral transgression of fairness/reciprocity will interact with the moral foundation of fairness/reciprocity) to positively predict distress compared to a control condition (i.e., within-person variability). I expect this interaction pattern for all five foundations, such that exposure to moral transgressions (i.e., perceived violations to harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity) will interact with endorsement of those specific moral foundations to predict higher distress, compared to a control condition. In other words, the within-person difference between distress related to a moral transgressions vignette versus a control condition will be amplified by higher scores on the corresponding moral foundation. I hypothesize this will be the case even when accounting for known risk factors of distress (e.g., neuroticism, perceived control, avoidance, social support, and trauma history; see Figure 4).

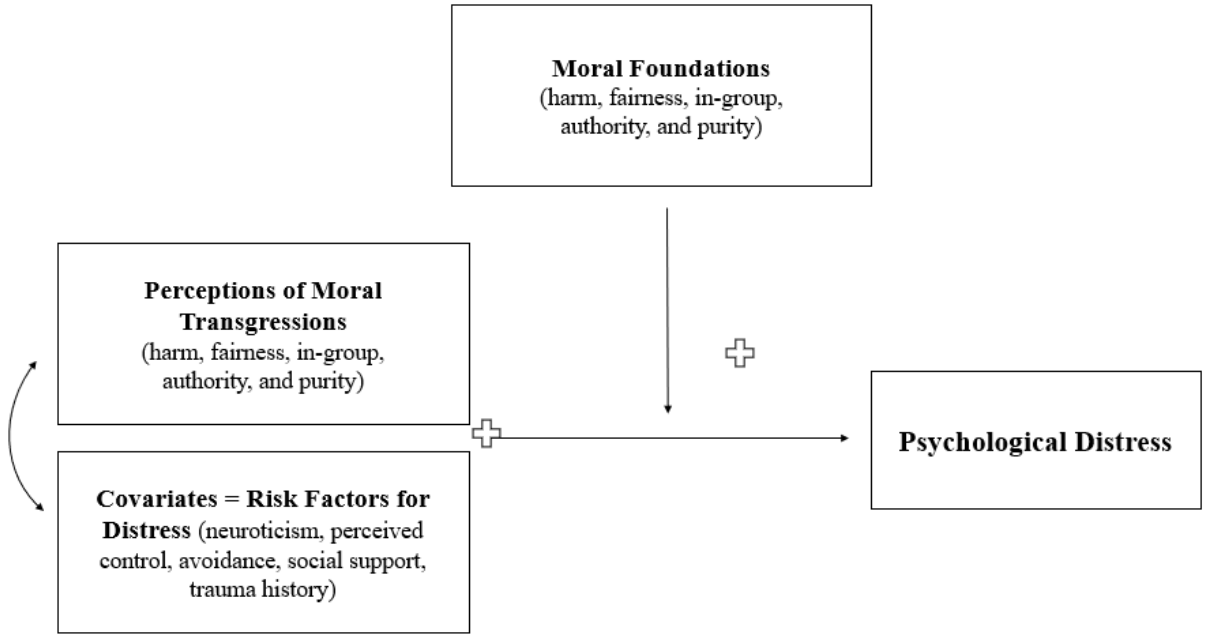

Figure 4. Hypothesized model diagram of the effect of perceptions of moral transgressions (versus control condition) on psychological distress moderated by moral foundations, controlling for known risk factors of distress.

Thus, in the present study, I aim to extend the literature by suggesting that perceptions of moral violations uniquely influence psychological distress, depending on moral foundations. It is my hope that these results will (1) provide evidence that morality explains unique variance in psychological distress, and (2) provide proof-of-concept for the idea that moral transgressions may bear implications for how clinicians might understand the integral role and influence that moral issues in the larger macro-system have on emotion. In fact, this study was inspired, in part, by my clinical interactions with patients who presented with elevated distress about events involving perceived transgressions (other toward other) in the current socio-political climate, such as healthcare restrictions, social injustices, and gun violence. I distinctly recall one client tearfully stating, “The world is just getting worse and worse, and I don’t know what to do about it.” These profound experiences provide anecdotal evidence of the need to address individuals’

morals and value systems in treatment, and how these perceptions contribute to their mental health. The present study aims to test these ideas empirically.

Chapter 2: Method

Sample and Participant Selection

Participants. The current study utilized a participant pool from an online cross-sectional investigation of perceived transgressions, moral foundations, and emotions. Participants included 418 individuals (46.9% female, 52.4% male, 0.5% transgender, and 0.2% other) recruited through Amazon Mechanical Turk (MTurk). All participants were residents in the United States with access to a computer and offered $3.60 compensation. Time to complete the survey ranged from 10 to 101 minutes (M = 23.95; SD = 12.85). Participants ranged in age from 18-76 years old (M = 36.01; SD = 11.04) and included majority (74.6% Caucasian/White) as well as minority individuals (10% African American/Black, 7.2% Asian/Asian American, 3.8% Hispanic or Latino/a, 2.6% Biracial, 0.7% American Indian or Alaska Native, 0.7% Other, and 0.2% Native Hawaiian or Other Pacific Islander). Participants were primarily heterosexual (89.7%), and 70.7% of the sample endorsed a history of exposure to trauma. The sample included 56% of individuals identifying as liberal (15.3% slightly liberal, 19.4% somewhat liberal, 21.3% strongly/extremely liberal), 24.4 % identifying as conservative (9.8% slightly conservative, 10.3% somewhat conservative, 4.3% strongly/extremely conservative), and 19.6% of individuals identifying as moderate. In addition, participants reported their political affiliation, with 44.5% registered as Democrat, 26.8% Independent, 20.6% Republican, 4.8% Not Registered to vote, 2.9% Other, and .05% Declined to answer. Prior to data collection, the study was approved by the SPU Institutional Review Board.

Procedure. Recruited participants signed up for this study through the MTurk service, operated by Amazon. Research on MTurk has demonstrated the utility of this platform for data collection (Casler, Bickel, & Hackett, 2013). Specifically, researchers have found that MTurk participants consistently respond in similar ways to other populations, such as in-person lab participants (Berinsky, Huber, & Lenz, 2012; Casler, Bickel, & Hackett, 2013). The equivalent MTurk survey results illustrate the ecological validity of this platform. In addition, Coppock (2018) recently conducted 15 replication studies of previous MTurk survey experiments, utilizing both convenience and national probability samples. Results revealed statistically significant homogeneity between the original studies and replicated findings, providing further evidence of the effectiveness of MTurk for data collection (Coppock, 2018).

MTurk researchers are considered "requesters" and participants, termed "workers," are compensated for completion of "HITs" (human intelligence tasks) such as cross-sectional surveys. MTurk does not support longitudinal studies at this time. As I was interested in a large national sample, the eligibility requirements were minimal, including the ability to read English as well as have access to the internet via a computer or mobile phone.

Eligible adults interested in participating were directed to an online consent form, followed by the entire online survey, including both Part I and Part II (all administered within the secure online survey platform, Qualtrics). They were notified that their participation was completely voluntary, and they were compensated through MTurk within 48 hours of completion of the survey. In addition, each participant was provided a randomized ID that is not associated with their MTurk account, in order to receive compensation.

For this one-time 30-45 minute survey, participants were asked to answer an online questionnaire, created through Qualtrics and distributed through MTurk, which consists of two

parts in one study (correlational and experimental). The first portion of the study contained measures to assess moral foundations as well as baseline covariates of trait neuroticism, perceived control, social support, avoidance, and trauma exposure. In addition, participants were asked questions about their perceptions of moral transgressions over the past two weeks, with items assessing violations between people (i.e., transgressions committed by others toward others). Next, they completed measures of depression, stress, and anxiety, as well as past history of trauma exposure.

After completing the aforementioned surveys, the same participants were exposed to an experimental manipulation in which they were randomly assigned to two of five moral transgression vignettes depicting foundations of harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, or purity/sanctity, as well as a control vignette (order counterbalanced). Each vignette was based on a slightly modified real-life news article depicting one of these five moral foundations. For example, the harm/care article describes a young black woman who was shot and killed in her car after cutting someone off while driving on the freeway.

Every participant received the same control condition, which depicted a relatively neutral news article (e.g., discussing increasing traffic in the nation) without any clear moral components, in order to control for the affective valence of stimuli (given the negative valence of the transgression vignettes). Each participant completed brief measures of their current emotional states before and after the first vignette or control condition, then after the second vignette. They also completed manipulation check questions after each condition to ensure they were representative of the moral foundation intended. This survey took most participants between 30-45 minutes and included approximately 250 items. It was also pilot tested by the investigators.

Sample Size, Power, and Precision

Based upon existing literature linking moral transgressions to distress (Currier et al., 2014), I expected a medium effect size of .15 for the paths between PMT, moral foundations, and psychological distress. For the correlational portion of the study, I expected to recruit at least 166 participants, assuming a total of 6 predictors for the main effects and 8 predictors for the moderation analyses (PMT, moral foundations, PMT x moral foundations, and covariates of trait neuroticism, locus of control, avoidance, social support, and trauma exposure) in hierarchical regression, with $\alpha = 0.05$, and power of .95. My sample size is sufficient ($N = 418$).

For Part II (experimental), according to Aguinas, Beaty, Boik, and Pierce (2005), to test moderated multiple regression with a continuous moderator and categorical predictor (transgressions versus control group), such an effect would achieve statistical power above .99 with an N of 188. My sample size consists of 418 participants.

Measures

Demographic variables. Demographic variables collected included age, gender, sexual orientation, race/ethnicity, and political affiliation.

Correlational measures (Part I).

Psychological distress. Distress symptoms were measured using the shortened version of the Depression, Anxiety, and Stress Scales (DASS-21; Lovibond & Lovibond, 1995). The DASS is a 21-item self-report measure designed to assess emotional symptoms over a one-week period. It is a widely used dimensional inventory of negative affect (Lovibond & Lovibond, 1995). Each subscale contains seven items assessing depression (e.g., “I couldn’t seem to experience any positive feeling at all”), anxiety (“I was worried about situations in which I might panic and make a fool of myself”), and non-specific physiological experiences of stress (“I found it

difficult to relax"). Each statement corresponds to a rating based on a 4-point Likert scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much or most of the time*). Sum scores are computed by adding the scores on items within each subscale and multiplying them by two, in order to compare the subscales with the original 42-item DASS (Lovibond & Lovibond, 1995). Scores on the subscales of the DASS-21 range from 0 to 42, with higher scores indicating more psychological distress; scores above 10 for depression, 8 for anxiety, and 15 for stress suggest risk for clinically significant symptomology (Lovibond & Lovibond, 1995). The DASS-21 has displayed acceptable psychometric properties across multiple studies, including good estimates of internal consistency ($\alpha = .87$) in both clinical and non-clinical populations (Henry & Crawford, 2005; Lovibond & Lovibond, 1995). In addition, the DASS-21 demonstrated concurrent validity via moderate to high correlations with measures of clinical depression and anxiety, such as the Beck Depression Inventory-II ($r = .80$; BDI-II; Beck, Steer, & Brown, 1996) and the Beck Anxiety Inventory ($r = .69$; BAI; Beck & Steer, 1990). Extant literature asserts that the average Cronbach's α for the DASS-21 is ≥ .90 (Osman et al., 2012). Cronbach's α for the present study was .97.

Moral foundations. The Moral Foundations Questionnaire (MFQ; Graham et al., 2009) is a 30-item measure developed to assess individual differences in how people use moral foundations in moral decision making. The MFQ measures the five moral foundations of harm/care ($\alpha = .69$), fairness/reciprocity ($\alpha = .65$), in-group/loyalty ($\alpha = .71$), authority/respect ($\alpha = .74$), and purity/sanctity ($\alpha = .84$), and is separated into two 15-item sections, including moral relevance and judgment considerations (Graham et al., 2011). The first section asks participants to rate the extent to which the items are relevant to their moral decisions on a 6-point Likert scale ranging from 0 (*not at all relevant*) to 5 (*extremely relevant*). Examples items include "Whether

or not someone suffered emotionally" (assessing harm/care) and "Whether or not someone did something to betray his or her group" (assessing in-group/loyalty; Graham et al., 2009).

The second section, assessing moral judgments, prompts participants to indicate how much they agree with the items on a 6-point Likert scale ranging from 0 (*strongly disagree*) to 5 (*strongly agree*). Items include "If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty" (assessing authority) and "People should not do things that are disgusting, even if no one is harmed" (assessing purity; Graham et al., 2009, 2011). Items are summed and averaged across both sections of the measure to create sub-scale scores ranging from 0-30 for each foundation, with higher values indicating greater endorsement of each foundation. Higher order factor dimensions of individualizing (harm/care and fairness/reciprocity) and binding (in-group/loyalty, authority/respect, and purity/sanctity) foundations can also be computed. However, Graham and colleagues (2011) analyzed comparative model fit via confirmatory factor analyses and found that a five-factor solution provided the best model fit.

The MFQ has showed acceptable psychometric properties, including adequate internal consistency (Graham et al., 2011), as well as satisfactory test-retest reliability (Graham et al., 2011). Furthermore, the MFQ has demonstrated good convergent and discriminant validity across all five moral foundations. For example, the MFQ foundation of harm/care positively correlates with other measures of empathy (Empathy subscale from Interpersonal Reactivity Index; Davis, 1983), benevolence (Schwartz, 1992), and caring (Adapted Good-Self Assessment; Barriga, Morrison, Liau, & Gibbs, 2001). Conversely, the MFQ foundation of harm/care demonstrated low correlations (r = .04) with Schwartz's Values Scale (1992) items of loyalty, national safety, and family security. In the present study, Cronbach's α = .88. Individual moral

foundations demonstrated adequate internal consistency: harm/care (α = .72), fairness/reciprocity (α = .66), in-group/loyalty (α = .80), authority/respect (α = .82), and purity/sanctity (α = .90).

Perceived moral transgressions. In order to assess the unique contribution of perceived transgressions witnessed/learned about in the past two weeks, we created items that parallel a pre-existing survey – the Moral Foundations Questionnaire previously discussed (Graham et al., 2009). These items assessed perceived moral violations corresponding to the five domains of morality referenced by Graham and colleagues (2009). As no extant measure of perceived transgressions across these domains was available, we created items patterned after the MFQ, which has demonstrated robust psychometric properties (Graham et al., 2009, 2011). The Perceived Moral Transgressions (PMT) questionnaire prompts participants to "think about how you've perceived the actions of people toward one another (e.g., social media, family interactions, news, etc.) in the past 2 weeks." Each statement corresponds with a rating of the extent to which the person endorses the frequency of these transgressions, on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*consistently/always*). This questionnaire consists of 15 scenarios (3 scenario items per domain) mapping onto the domains of harm/care ("To what extent have people been acting unkind and harsh toward one another?"), fairness/reciprocity ("To what extent have people participated in acts of injustice?"), in-group/loyalty ("To what extent have people not been faithful to the ideas this country stands for?"), authority/respect ("To what extent have people not shown respect for their leaders?"), and purity/sanctity ("To what extent have people violated what is sacred?"). Each subscale was computed by averaging scores within that particular moral dimension, and a total score was created for a composite of PMT. Internal consistency for total PMT was computed and the coefficient α = .93. In addition, each moral transgression demonstrated acceptable internal consistency: harm/care (α = .84),

fairness/reciprocity (α = .87), in-group/loyalty (α = .71), authority/respect (α = .76), and purity/sanctity (α = .77).

The dimensionality of the 15 items from the PMT measure was analyzed using exploratory factor analysis (EFA). First, data screening of the initial (unrotated) solution was conducted to determine the suitability for analyses. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .95, indicating that the patterns of correlations were relatively compact and factor analysis would likely yield distinct and reliable factors (Field, 2013). The Barlett's Test of Sphericity was statistically significant, suggesting clusters of correlated variables. In my dataset, X^2 (105) = 3571.47, $p < .001$. Four criteria were used to determine the number of factors to rotate, including a priori theory (e.g., MFQ literature), the scree test, the Eigenvalue-greater-than-one criteria, and the interpretability of the factor solution. After the initial EFA, the scree test indicated the presence of two or three factors. The Eigenvalue-greater-than-one criteria suggested two factors. Based on this information, two factors were rotated using the oblique, Direct Oblimin procedure. The rotated solution, as shown in Table 1, yielded two factors consistent with Graham and colleagues (2009) higher order factor structure: individualizing (harm, fairness dimensions) and binding (in-group, authority, purity) perceived moral transgressions. Individualizing items accounted for 50.15% of the item variance and binding items accounted for 11.98% of the variance. Several items loaded onto both factors, as depicted in Table 1, and thus item deletion may be appropriate. Further interpretation is warranted; however, a full factor structure analysis is beyond the scope of this dissertation. Thus, I will proceed with a five-factor structure, as hypothesized.

Table 1.
Component Matrix of the Two-Factor Structure of Perceived Moral Transgressions Self-Developed Questionnaire

Items	Factor	
	1 (Individualizing)	2 (Binding)
Whether or not people have shown discrimination against others (Fair).	.90	
Whether or not people have been treated unequally (Fair).	.89	
Whether or not people have been behaving like they don't care for those that are suffering or marginalized (Harm).	.78	
Whether or not people have participated in acts of injustice (Fair).	.76	
Whether or not people's actions have been causing feelings of pain to others (Harm).	.74	
Whether or not people have been acting unkind and harsh toward one another (Harm).	.72	
Whether or not people have engaged in dirty deeds (Purity).	.48	.35
Whether or not people have made extremely crude or filthy comments (Purity).	.41	.43
Whether or not people have not been faithful to the idea of what this country stands for (In-group).	.33	.42
Whether or not people have not honored the flag as a symbol of America (In-group).		.84
Whether or not people have shown respect to their leaders (Authority).		.69
Whether or not people have promoted anarchy and unrest (Authority).		.68
Whether or not people are lacking dedication to their own communities or families (In-group).		.62
Whether or not people have violated what is sacred (Purity).		.59
Whether or not people have rebelled against the established order (Authority).		.52

Trait neuroticism. Trait neuroticism was assessed using the Big-Five Mini-Markers Questionnaire (BFMMQ; Saucier, 1994). The BFMMQ is a 40-item measure of Big Five personality dimensions of openness, conscientiousness, extraversion, agreeableness, and neuroticism (Goldberg, 1992). Instructions ask participants to consider the accuracy of trait-adjectives based on a 9-point Likert scale ranging from 1 (*extremely inaccurate*) to 9 (*extremely accurate*). Nine of the 40 items are reverse coded. An aggregate score for each subscale is calculated by summing the items and dividing them by eight. Higher scores indicate stronger trait expression. The BFMMQ is considered a reliable and valid inventory of the Five-Factor Model of personality (Mullins-Sweatt, Jamerson, Samuel, Olson, & Widiger, 2006). In addition, the BFMMQ has demonstrated adequate internal consistency (openness, $\alpha = .76$; conscientiousness, $\alpha = .70$; extraversion, $\alpha = .58$, agreeableness, $\alpha = .68$, and neuroticism, $\alpha = .75$; Bègue et al., 2015), as well as criterion and construct validity (Palmer & Loveland, 2004; Saucier, 1994). For this study, I used only the neuroticism scale, composed of eight items out of the 40-item measure, two of which were reverse coded. The coefficient $\alpha = .86$.

Perceived control. The Brief Locus of Control Scale (BLOC; Lumpkin, 1985) is a six-item self-report measure developed as a brief screening assessment of individuals' perceptions of control over their lives. This scale was developed in response to the need for a brief measure of locus of control (Lumpkin, 1985; Rotter, 1966). The BLOC Scale contains three items assessing internal control, such as "What happens to me is my own doing," and three items assessing external dimensions of chance (reverse-scored), such as "Many times I feel I have little influence over the things that happen to me." Each statement is measured on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). All items are combined to create a composite locus of control. Higher scores indicate greater internal locus of control. The BLOC Scale was

fielded on a large national sample (N = 4, 720), and demonstrated adequate internal consistency (α = .68) and convergent validity with correlates of life satisfaction and coping (Lumpkin, 1985, 1988). In the present study, coefficient α = .71.

Avoidance. Approach versus avoidance tendencies were assessed using the Brief Approach/Avoidance Coping Questionnaire (BACQ; Finset, Steine, Haugli, Steen, & Laerum, 2002). The BACQ is a 12-item self-report inventory that assesses coping styles in response to stressful situations. Participants are asked to indicate how much they agree with items on a 5-point Likert scale with anchors from 1 (*disagree completely*) to 5 (*agree completely*). Items include "I like to talk with a few chosen people when things get too much for me" and "I make an active effort to find a solution to my problems," assessing approach-oriented coping, as well as "I bury myself at work to keep my problems at a distance," or "I withdraw from people when things get difficult," measuring cognitive (diversion) and behavioral (withdrawal) avoidance. One item, "physical exercise is important to me," was omitted due to low factor loadings and irrelevance to this study. Approach items are reverse scored (e.g., "I say so if angry or sad") to create a sum of avoidance, with higher scores indicating greater avoidance.

The BACQ was fielded on a clinical sample (N = 299) in a primary care setting and yielded satisfactory internal consistency (α = .68). It has also demonstrated concurrent validity with COPE (Carver, Scheier, & Weintraub, 1989) sub-scales of seeking emotional support, active coping, positive reinterpretation of stressors, and behavioral as well as mental disengagement (all significant at $p < .001$). In this study, the coefficient α = .74.

Social support. The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) is a 12-item measure developed to assess perceived social support in three domains of family, friends, and significant others. The MSPSS utilizes a

7-point Likert scale anchored from 1 (*very strongly disagree*) to 7 (*very strongly agree*). Each subscale includes four items, such as "My family really tries to help me," "I can count on my friends when things go wrong," and "There is a special person who is around when I am in need." The higher the total score, the more someone perceives social support in their lives. The MSPSS has demonstrated acceptable reliability and validity, with an average alpha value of .92 (López-Ramos, Fernández-Muñoz, Navarro-Pardo, & Murphy, 2017; Zimet et al., 1988). The MSPSS has been validated cross-culturally and across different age groups, including geriatric populations (López-Ramos et al., 2017). The MSPSS has also demonstrated an inverse relationship with depression scores, providing further evidence of its' construct validity (Zimet et al., 1988; Zimet, Powell, Farly, Werkman, & Berkoff, 1990). In the current study, the coefficient $\alpha = .95$.

Trauma exposure. In order to control for history of trauma (i.e., past stressful experiences that may involve moral transgressions), participants completed the Brief Trauma Questionnaire (BTQ; Schurr, Vielhaur, Weathers, & Findler, 1999). The BTQ is a brief self-report measure developed to assess trauma exposure consistent with Criterion A of PTSD (e.g., exposure to actual or threatened death, serious injury, or sexual violence; APA, 2013). The BTQ is comprised of 10 items assessing (1) exposure to the event, (2) fear that the individual's life was in danger, (3) and serious injury. Participants are asked to answer yes or no to each item. Example items of common traumatic events include "Have you ever served in a war zone, or have you ever served in a noncombat job that exposed you to war-related casualties; for example, as a medic or on graves registration duty?" and "Has a close family member or friend died violently; for example, in a serious car crash, mugging, or attack?" If any of the 10 event items are endorsed ("yes = 1" or "no = 0"), it is likely that the participant meets criteria for trauma

exposure; additional measures are needed to assess for clinical symptoms of PTSD. Higher sum scores indicate more exposure to traumatic events. The BTQ has demonstrated adequate inter-rater reliability (κ = .74 to 1.00) for all events except those that occurred to others, as well as criterion validity indicating strong associations between BTQ trauma exposure and PTSD symptom inventories (Lancester, Melka, & Rodriguez, 2009; Schurr, Spiro, Vielhauer, Findler, & Hamblen, 2002). The present study focused on history of trauma exposure, with the coefficient α = .68.

Experimental task (Part II).

Moral transgression vignettes. To experimentally manipulate perceptions of moral transgressions and examine subsequent effects on distress, participants were exposed to two of five vignettes depicting a specific moral violation, as well as one "control" vignette. These moral transgressions parallel the five moral foundations identified by Graham and colleagues (2009, 2011), including (1) harm, (2) fairness, (3) in-group, (4) authority, and (5) purity. These scenarios were adapted from 2018 internet news articles, and equivalent in length and reading level. For example, one vignette depicts a group of African American youth being arrested for suspicion while waiting in a coffee shop, demonstrating a violation of fairness. In addition to exposure to one of these five manipulated transgressions, each participant read the same control vignette, which depicted a news-story about increasing traffic rates in the United States, in order to provide a comparison condition that involves negative valence and perceived uncontrollability without a clear moral transgression. The order of vignettes was randomized and counterbalanced.

Distress ratings for experimental task. Before their first vignette, between vignettes, and after their final vignette (total of four times), participants were asked to rate their current emotional states on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). These 12

items assess affective reactions of anxiety (i.e., “nervous,” “on-edge”) dysphoria (i.e., “sad,” “hopeless”), anger (i.e., “resentful,” “annoyed”), and disgust (i.e., “grossed out,” “dirty”). Items were derived from the shortened Profile of Mood States inventory (POMS; Lorr & McNair, 1971). In order to determine state subjective distress, I created a composite of the items by averaging the scores, which provides a more stable and robust index of psychological distress. The POMS short form has evidenced good internal consistency (i.e., $\alpha = .84$; Gawrysiak et al., 2016). In the current study, the coefficient $\alpha = .94$.

Furthermore, this portion of the study includes manipulation checks to ensure that the transgressions depicted in the scenarios mapped onto their intended moral domains, such as harm/care (i.e., “To what extent did the news story make you think people are too unkind to each other?”), fairness/reciprocity (i.e., “To what extent did the news story make you think that our current world lacks fairness and justice?”), in-group/loyalty (“To what extent did the news story make you think people are not loyal and true to our country anymore?”), authority/respect (“To what extent did the news story make you think people lack respect for authority and/or their elders?”) and purity/sanctity (“To what extent did the news story make you think people act like nothing is sacred or pure anymore?”). Participants were asked to rate these perceptions on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*).

Data Analytic Plan

Correlational (Part I). After preliminary data screening for multivariate assumptions, I examined my hypotheses in the correlational portion of the study (perceptions of experiences in the past two weeks) via hierarchical linear regression using SPSS 26 software. That is, I tested the relationship between the predictor variable of perceptions of moral transgressions (transgressions of harm, fairness, in-group, authority, purity and a composite sum of all moral

transgressions) on psychological distress (i.e., main effects), subsequently also controlling for covariates of trait neuroticism, perceived control, avoidance, social support, and trauma history. I serially examined the main effects of each of the five types of moral transgressions (corresponding to the five domains of moral foundations) on distress. The covariates were entered into the first block, followed by perceptions of moral transgressions (individual PMT and a composite of all moral transgressions), in order to observe the unique incremental variance accounted for by the focal predictor. I also examined a composite of all PMT on psychological distress, as well as conducted a simultaneous regression entry (to investigate which PMTs remained significant when all are input into the model), for a total of seven main effects for the correlational portion. This analysis tested the primary question of whether broad perceptions of others' moral transgressions in one's social world will account for unique variance in distress symptoms.

I then tested the theorized moderation model using PROCESS macro for SPSS, Model 1 (Hayes, 2013). Specifically, I tested whether higher levels of individual differences in each of the five moral foundations amplified the prediction of distress by each respective type of moral transgression. For significant interactions, I conducted follow-up tests to probe the interaction (e.g., simple slope analyses at high [1 *SD* above the sample mean] and low [1 *SD* below the mean] levels of the moderator, moral foundations). Bias-corrected bootstrapping was applied in order to test the significance of the conditional effects. All predictors were grand-mean centered.

Experimental (Part II). For the experimental task (i.e., part two), I reorganized the data for multi-level modeling (MLM). I chose to use this approach because the experimental design (within-person repeated measures) violated the assumption of independent observations which ordinary least squares regression (OLS) necessitates. Conversely, MLM circumvents the

assumption of independent errors by nesting repeated measures, or Level 1 variables, within participants (Level 2). I calculated restricted maximum likelihood (REML) parameter estimates (Heck, Thomas, & Tabata, 2010). Finally, I grand-mean centered the moral foundations (MFQ) variable.

After screening for multivariate assumptions, I examined five main effects of each moral transgression (mapping onto domains of harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity) versus control condition on distress (comparing each transgression to the control condition, one at a time), while accounting for covariates of trait neuroticism, perceived control, avoidance, social support, and trauma history. This analysis tested for the causal influence of moral transgressions on distress in the moment, controlling for risk factors of distress.

Finally, parallel to the correlational portion of the study, I tested whether each of the five moral foundations dimensions moderated the effects of moral transgression(s) versus the control condition (within each respective domain), controlling for covariates of trait neuroticism, perceived control, avoidance, social support, and trauma history. I analyzed the experimental data (main effects and conditional effects) through multi-level modeling (MLM), so that each participant had three different data points (control plus two randomly assigned vignettes) nested within the participant (i.e., MIXED command function on SPSS). This allowed me to test the experimental versus control conditions as a within-person effect.

Chapter 3: Results

Preliminary Analyses

Preliminary data pre-screening evaluated assumptions of normality (e.g., calculating skew and kurtosis) and reviewed the data for outliers. The univariate skew was within normal limits,

ranging from -.99 to 1.09; kurtosis ranged from -1.01 to 1.12 across major variables. In addition, the scatterplots indicated no evidence of nonlinear relationships. Variable means, standard deviations, and reliability estimates are represented in Table 2.

Table 2.
Means and Standard Deviations, and Reliability

Variable	Range		*M*	*SD*	α
	Min	Max			
DASS Total	0	120.00	28.38	29.42	.97
PMT Total	15.00	75.00	47.78	12.36	.93
PMT Harm	3.00	15.00	10.50	2.98	.84
PMT Fairness	3.00	15.00	10.56	3.09	.87
PMT In-group	3.00	15.00	8.56	2.83	.70
PMT Authority	3.00	15.00	8.90	2.86	.76
PMT Purity	3.00	15.00	9.22	3.01	.77
MFQ Total	44.00	146.00	87.28	20.27	.88
MFQ Harm	7.00	30.00	22.10	4.87	.72
MFQ Fairness	7.00	30.00	22.05	4.45	.66
MFQ In-group	0	30.00	13.62	6.00	.80
MFQ Authority	0	30.00	15.77	6.29	.82
MFQ Purity	0	30.00	13.76	8.40	.91
COV Neuroticism	8.00	69.00	31.35	13.13	.68
COV Control	9.00	30.00	20.16	3.91	.71
COV Avoidance	11.00	50.00	28.81	6.68	.74
COV Social Support	12.00	84.00	64.64	15.39	.95
COV Trauma Exp.	0	10.00	2.02	1.99	.68

Note. DASS = Depression, Anxiety, and Stress Scales (DASS-21); PMT = Perceived Moral Transgression; MFQ = Moral Foundations Questionnaire; COV = Covariates

To ensure that conditions manipulated the intended perceived moral transgressions, we examined the manipulation check items. Multilevel models testing within-person comparisons of each experimental condition versus the control condition showed significant effects of the harm condition on perceived harm transgressions (B = 1.81, SE = .12, p <.001), the fairness condition on perceived lack of fairness (B = 1.56, SE = .13, p <.001), the in-group condition on perceived disloyalty (B = .57, SE = .10, p <.001), the authority condition on perceived transgressions against authority (B = 1.46, SE = .12, p <.001), and the purity condition on transgressions against

purity (B = 1.20, SE = .13, p <.001). In addition, although conditions tended to significantly predict effects on all perceived transgressions, they had the largest effect on their respective type of transgression, with one exception: the in-group/loyalty condition also had a strong effect on the purity transgression (B = .80, SE = .10, p <.001). Thus, results suggested that the manipulations were perceived as transgressions broadly (consistent with past research showing that transgressions tend to impact multiple moral domains; Gray et al., 2014), but generally elicited their respective transgression most strongly.

Prior to analyzing missingness, the principal investigator noticed a large discrepancy in the amount of time participants took to complete the survey, which ranged from approximately three minutes to 168 hours (M = 22.87 minutes, SD = 14.83), necessitating further examination. Through MTurk, participants can take as long as they want to complete a survey once they have electronically acknowledged the informed consent and started answering items. However, there is limited empirical evidence on required duration cut-offs in the MTurk literature, as the service suggests these parameters be set by the researcher (Stewart, Chandler, & Paolacci, 2017).

As this study does not measure reaction time, the length of time was not expected to cause significant measurement error, except for participants that arbitrarily answered items (this was addressed via four attention check items throughout the questionnaire) and/or rushed through the survey. The principal investigator and research team members at SPU pilot tested the survey and identified that the approximately 250 items in the study could not be completed in less than 10 minutes. The informed consent form explicitly stated that the survey would take approximately 30 minutes. Therefore, the principal investigator designated the minimum duration cut-off at 600 seconds (10 minutes), resulting in 22 cases being dropped.

The data was then analyzed and managed for missingness using the imputation tools in SPSS 26. The original data set consisted of 433 participants. Cases were dropped for participants missing more than 24% of their data, per recommendations for large sample sizes ($N > 300$) by Olinksy, Chen, and Harlow (2003). This resulted in 15 cases being dropped and a total sample size of 418 participants. Missingness was then re-examined, indicating that approximately 13% of the variables and 2% of the cases had some missing data; 99% of the values in the model had complete data. Due to the low missingness, and the inconsequential effects of imputation when less than 5% of the data is missing (Cheema, 2014), I analyzed the data without imputation. The bivariate correlations for all major study variables are presented in Table 3.

Furthermore, I initially examined all analyses with the covariate of gender included; however, as gender was not a significant predictor of distress in any of the models and did not markedly change any results, I chose to remove this variable from my analyses in order to optimize statistical power and degrees of freedom (Hayes, 2013). The following results address each hypothesis for Part I (correlational portion) and Part II (experimental portion).

Table 3.

Analysis of Major Variables and Covariates Predicting Outcomes

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
1. Distress																			
2. PMT Harm	.27**																		
3. PMT Fair	.22**	.83**																	
4. PMT In-group	.34**	.52**	.47**																
5. PMT Authority	.29**	.55**	.50**	.71**															
6. PMT Purity	.30**	.67**	.66**	.68**	.69**														
7. PMT Total	.34**	.86**	.83**	.80**	.82**	.88**													
8. MFQ Harm	-.08	.19**	.24**	-.02	.01	.67**	.12*												
9. MFQ Fair	-.08	.19**	.26**	-.06	-.03	.66**	.10*	.65**											
10. MFQ In-group	.17**	-.17**	-.21**	.25**	.21**	.68**	.03	.04	-.01										
11. MFQ Authority	.11*	-.12*	-.17**	.30**	.27**	.15**	.09	-.04	-.09	.74**									
12. MFQ Purity	.08	-.11*	-.18**	.23**	.20**	.14**	.06	-.02	-.10*	.67**	.77**								
13. MFQ Total	.08	-.05	-.08	.24*	.22*	.16**	.11*	.39**	.31**	.81**	.82**	.16**							
14. Neuroticism	.61**	.18**	.14**	.23**	.17**	.18**	.21**	-.11*	-.12*	.04	.04	.18**	-.03						
15. Control	-.39**	-.16**	-.17**	-.09	-.04	-.16**	-.15**	.01	-.03	.11*	.17**	-.16**	.12*	-.39*					
16. Avoidance	.55**	.12*	.11	.14**	.05	.09	.12*	-.16**	-.07	.04	-.02	.09	-.07	.54**	-.42**				
17. Social Support	-.36**	-.03	-.04	-.02	-.01	-.03	-.03	.21**	.15**	.20**	.13**	-.03	.23**	-.31**	.33**	-.50**			
18. TraumaExp	.26**	.25**	.22**	.23**	.23**	.23**	.28**	-.03	-.01	.07	.13**	.23**	.10*	.10*	-.04	.08	-.03		
19. Female Gender	-.04	.15**	.14**	.07	.10*	.07	.13**	.26**	.04	-.05	.03	.07	.09	.07	-.01	-.08	.11*	.08	

Note. **p* <.05, ** *p*<.001. PMT = Perceived Moral Transgression; MFQ = Moral Foundations Questionnaire; SocialSup = Social Support; TraumaExp = Trauma Exposure

Correlational – Part I.

Hypothesis 1a: Perceived moral transgressions predict psychological distress. First, I examined the main effects of each type of PMT in predicting distress, followed by a composite of all perceived moral transgressions predicting distress. Each PMT was analyzed separately, without the other PMTs in the model, as a first, less conservative test of the PMT-distress hypothesis. As hypothesized (see Table 3), when examined singly, each PMT positively predicted distress, such that individuals who endorsed witnessing various transgressions in the socio-political climate within the last two weeks endorsed higher distress. A composite of all PMTs, as expected, significantly predicted distress ($p < .001$) and accounted for 11% of the variance in the model. These effects are depicted in Table 4.

To explore the unique variance explained when *all* PMTs were included in the model as distinct predictors (i.e., not as a composite), psychological distress was regressed on all five PMTs *simultaneously*. Interestingly, the results indicated that only *in-group/loyalty* remained significant when all predictors were included in the model, suggesting a unique effect on distress by perceptions of a transgression against loyalty to the group/community after all shared variance between different types of PMT was removed from the equation. The four other PMT did not yield significant unique effects (see Table 5).

Table 4.
Regressions of Psychological Distress on PMT When Testing Predictors Separately

Outcome	Predictor	R^2	*b*	*SE*	*t*	*p*	LLCI	ULCI
DASS	PMT Harm	.08	8.12	1.40	5.80	$p < .001$	5.37	10.87
DASS	PMT Fairness	.05	6.39	1.37	4.68	$p < .001$	3.70	9.07
DASS	PMT In-group	.12	10.57	1.44	7.32	$p < .001$	7.73	13.41
DASS	PMT Auth.	.08	8.85	1.45	6.10	$p < .001$	5.99	11.70
DASS	PMT Purity	.09	8.89	1.37	6.50	$p < .001$	6.20	11.58
DASS	PMT Total	.11	4.02	.55	7.31	$p < .001$	2.94	5.10

Note. DASS= Depression, Anxiety, and Distress total scale; PMT= Perceived Moral Transgressions observed over past two weeks; CI = 95% Confidence interval.

Table 5.
Regressions of Psychological Distress on PMT When Testing Predictors Simultaneously

Outcome	Predictor	*b*	*SE*	*t*	*p*	LLCI	ULCI
DASS	PMT Harm	4.36	2.59	-1.69	*p* = .093	-20.13	1.53
DASS	PMT Fairness	-2.01	2.42	1.69	*p* = .406	-6.78	2.75
DASS	PMT In-group	6.89	2.20	3.14	*p* = .002	2.57	11.20
DASS	PMT Auth.	0.90	2.20	0.41	*p* = .685	-3.44	5.23
DASS	PMT Purity	2.36	2.30	1.02	*p* = .306	-2.17	6.88

Note. DASS= Depression, Anxiety, and Distress total scale; PMT= Perceived Moral Transgressions observed over past two weeks; CI = 95% Confidence interval.

Hypothesis 2a: Perceived moral transgressions predict psychological distress, controlling for risk factors of distress. A two-step hierarchical regression was conducted to examine the unique variance of PMTs (individual PMTs and composite PMT) on psychological distress beyond effects of risk factors. That is, all five covariates (neuroticism, perceived control, avoidance, social support, and trauma exposure) were input into Block 1, followed by each PMT in Block 2 (separately), to examine the incremental variance explained by each type of perceived transgression on distress. The results are presented in Table 6.

The hierarchical multiple regression indicated that in step one all covariates (i.e., known risk factors of distress) significantly predicted psychological distress. Neuroticism accounted for 11% of the variance in distress, even when controlling for the other risk factors in the model (see Table 6 for results, including unique variance represented as semi-partial correlations).

As expected, results revealed that all five PMTs positively predicted psychological distress above and beyond known risk factors of distress (e.g., neuroticism, perceived control, social support, avoidance, and trauma exposure). Introducing each PMT individually (i.e., covariates in Block 1, PMT in Block 2) indicated that perceived transgressions uniquely explained variance in psychological distress. For example, with the inclusion of the harm/care PMT to the model, this predictor explained an additional 1.40% change in distress. Results

demonstrated that the strongest predictors of distress were transgressions of *in-group/loyalty*, *purity/sanctity*, *authority/respect*, and a *composite* of all PMT. Overall, approximately 34% of the variance in distress was uniquely explained by the optimally weighted combination of predictors; perceived transgressions accounted for up to 3% of this variance, above and beyond known risk factors of distress (i.e., covariates).

Hypothesis 3a: Perceived moral transgressions predict psychological distress, moderated by moral foundations and controlling for risk factors of distress. Next, I tested moderation hypotheses via PROCESS for SPSS (Model 1; Hayes, 2013). I analyzed the models by testing separately the interaction between each PMT and the corresponding moral foundation (MF) when predicting distress, while accounting for all covariates in the model (e.g., neuroticism, perceived control, avoidance, social support, and trauma exposure). Results indicated significant main effects for moral foundations (moderator variable) of *in-group/loyalty*, *purity/sanctity*, and *total moral foundations* (a composite of all MF items); that is, individuals endorsing higher scores on these foundations (e.g., valuing in-group MF) reported higher distress. The harm/care MF, fairness/reciprocity MF, and authority/respect MF did not significantly predict distress (see Table 6).

In addition, results of the moderation analyses suggested that the *in-group/loyalty interaction* (PMT*MFQ) positively predicted distress, followed by *composite/total PMT*, *authority/respect*, and *fairness/reciprocity*. Moderation effects were not significant for the harm/care dimension but were marginally significant for the purity/sanctity domain (p = .08). Of note, the covariates of neuroticism, perceived control, avoidance, social support, and trauma exposure all significantly contributed to distress across most analyses (see Table 6). Overall, the significant results suggest unique conditional effects, providing partial support for the theory that

the impact of some moral transgressions on distress is most pronounced for people high on the corresponding relevant moral foundation.

Simple slopes analyses indicated that at high levels of moral foundations of in-group/loyalty, composite/total PMT, authority/respect, and fairness/reciprocity, the relationship between PMT and distress was strongly positive; conversely, at low levels (e.g., low endorsement of each foundation), the relationship between PMT and distress became non-significant (Table 6). Graphical representations of these conditional effects are presented in Figures 5, 6, 7, and 8.

When examining the proportion of variance explained by each conditional effect, the interaction for *in-group/loyalty* accounted for the largest change in distress (R^2 = .55, $F(1, 405)$ = 14.89, $p < .001$, ΔR^2 =.017); that is, this interaction explained an additional 1.70% of the variance in distress, above and beyond known risk factors being included in the model (see Table 7). For a full comparison of all hypotheses for part I, please refer to Table 6.

Table 6.
Coefficients of Perceived Moral Transgressions on Psychological Distress, with Moral Foundations as a Moderator and Controlling for Risk Factors of Distress

	Model 1 (Risk Factors of Distress)		*Model 2 (Including PMT)*		*Model 3 Interactions (PMT*MF)*	
Predictor	*b (SE)*	*95%CI*	*b (SE)*	*95%CI*	*b (SE)*	*95%CI*
Neuroticism	7.18 (0.77)***	[5.66, 8.70]	6.93 (0.77)***	[5.43, 8.44]	6.93 (0.77)***	[5.42, 8.45]
Control	-4.31 (1.81)*	[-7.88, -.75]	-3.64 (1.80)*	[-7.18, -.10]	-3.59 (1.82)*	[-7.17., -.02]
Avoidance	11.59 (2.29)***	[7.10, 16.09]	11.44 (2.26)***	[7.0, 15.88]	11.40 (2.28)***	[6.92, 15.88]
Social Supp.	-1.69 (0.95)^	[-3.55, .16]	-1.87 (0.94)*	[-3.71, -.03]	-1.85 (.95)^	[-3.73, 0.01]
Trauma Exp.	28.85 (5.25)***	[18.53, 39.16]	24.71(5.33)***	[14.23, 35.19]	24.48 (5.40)***	[13.87, 35.10]
PMT Harm			3.63 (1.09)**	[1.49, 5.76]	3.63 (1.12) **	[1.43, 5.83]
MF Harm					.03 (1.34)	[-2.61, 2.67]
PMT*MF					.63 (1.37)	[-2.07, 3.33]
Neuroticism	7.18 (0.77)***	[5.66, 8.70]	7.07 (0.77)***	[5.55, 8.58]	7.08 (0.78)***	[5.56, 8.61]
Control	-4.31 (1.81)*	[-7.88, -.75]	-3.71 (1.82)*	[-7.29, -.14]	-3.37 (1.83)^	[-6.98, 0.23]
Avoidance	11.59 (2.29)***	[7.10, 16.09]	11.53 (2.27)***	[7.01, 15.99]	11.41 (2.27)***	[6.95, 15.87]
Social Supp.	-1.69 (0.95)^	[-3.55, .16]	-1.77 (0.94)^	[-3.62, 0.07]	-1.73 (0.95)^	[-3.59, 0.13]
Trauma Exp.	28.85 (5.25)***	[18.53, 39.16]	26.24(5.33)***	[15.77, 36.71]	25.03 (5.35)***	[14.52, 35.54]
PMT Fair			2.52 (1.04)*	[0.47, 4.57]	2.81 (1.08)**	[0.69, 4.94]
MF Fair					-0.80 (1.48)	[-3.71, 2.12]
PMT*MF					2.67 (1.37)^	[0.02, 5.37]
Neuroticism	7.16 (0.77)***	[5.63, 8.68]	6.49 (0.77)***	[4.98, 8.00]	6.35 (0.74)***	[4.89, 7.81]
Control	-4.34 (1.81)*	[-7.90, -.77]	-4.27 (1.82)*	[-7.74, -.80]	-4.47 (1.73)*	[-7.87, -1.07]
Avoidance	11.63 (2.29)***	[7.13, 16.13]	11.32 (2.23)***	[6.94, 15.88]	10.28 (2.18)***	[5.98, 14.57]
Social Supp.	-1.67 (0.95)^	[-3.53, .19]	-1.94 (0.92)*	[-3.76, -.13]	-2.87 (0.92)**	[-4.68, -1.06]
Trauma Exp.	28.85 (5.25)***	[18.53, 39.18]	23.56 (5.23)***	[13.27, 33.84]	21.66 (5.09)***	[11.66, 31.67]
PMT Ingroup			5.43 (1.13)***	[3.21, 7.66]	4.60 (1.13)***	[2.38, 6.81]
MF Ingroup					3.70 (1.05)**	[1.63, 5.77]
PMT*MF					3.56 (0.92)***	[1.75, 5.38]
Neuroticism	7.18 (0.77)***	[5.66, 8.70]	6.60 (0.76)***	[5.11, 8.10]	6.51 (0.75)***	[5.03, 8.00]
Control	-4.31 (1.81)*	[-7.88, -.75]	-4.37 (1.76)*	[-7.84, -.91]	-4.44 (1.79)*	[-7.97, -0.92]
Avoidance	11.59 (2.29)***	[7.10, 16.09]	12.05 (2.23)***	[7.67, 16.43]	11.67 (2.21)***	[7.33, 16.01]
Social Supp.	-1.69 (0.95)^	[-3.55, .16]	-1.81 (0.92)*	[-3.62, .00]	-2.12 (0.92)*	[-3.92, -0.31]
Trauma Exp.	28.85 (5.25)***	[18.53, 39.16]	23.28 (5.23)***	[12.99, 33.57]	22.01 (5.20)***	[11.79, 32.23]

PMT Auth			5.35 (1.10)***	[3.19, 7.52]	4.76 (1.12)***	[2.56, 6.97]
MF Auth					1.77 (1.02)^	[-0.23, 3.77]
PMT*MF					2.57 (0.97)**	[0.67, 4.48]
Neuroticism	7.18 (0.77)***	[5.66, 8.70]	6.78 (0.76)***	[5.29, 8.28]	6.69 (0.76)***	[5.20, 8.18]
Control	-4.31 (1.81)*	[-7.88, -.75]	-3.37 (1.78)^	[-6.88, .13]	-3.87 (1.78)*	[-7.37, -0.37]
Avoidance	11.59 (2.29)***	[7.10, 16.09]	11.82 (2.23)***	[7.42, 16.21]	11.85 (2.22)***	[7.48, 16.21]
Social Supp.	-1.69 (0.95)^	[-3.55, .16]	-1.88 (0.92)*	[-3.69, -.06]	-2.07 (0.92)*	[-3.88, -0.26]
Trauma Exp.	28.85 (5.25)***	[18.53, 39.16]	23.59(5.26)***	[-33.90, -13.26]	21.88 (5.26)***	[11.54, 32.22]
PMT Purity			4.78 (1.05)***	[2.71, 6.85]	4.45 (1.06)***	[2.37, 6.53]
MF Purity					1.46 (0.74)*	[0.01, 2.91]
PMT*MF					1.21 (0.69)^	[-0.15, 2.57]
Neuroticism	7.16 (0.77)***	[5.63, 8.68]	6.62 (0.76)***	[5.13, 8.13]	6.54 (0.75)***	[5.06, 8.01]
Control	-4.34 (1.81)*	[-7.90, -.77]	-3.55 (1.77)*	[-7.04, -.06]	-3.85 (1.75)*	[-7.29, -0.41]
Avoidance	11.63 (2.29)***	[7.13, 16.13]	11.63 (2.23)***	[7.25, 16.01]	11.11 (2.19)***	[6.80, 15.42]
Social Supp.	-1.67 (0.95)^	[-3.53, .19]	-1.92 (0.92)*	[-3.73, -.10]	-2.65 (0.93)**	[-4.47, -0.82]
Trauma Exp.	28.85 (5.25)***	[18.53, 39.18]	22.21 (5.29)***	[11.80, 32.63]	19.43 (5.25)**	[9.11, 29.74]
PMT Total			2.09 (0.44)***	[1.24, 2.95]	1.94 (0.43)***	[1.10, 2.79]
MFQ Total					4.50 (1.53)**	[1.49, 7.51]
PMT*MF					1.46 (0.54)**	[0.41, 2.52]

Note. ^$p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, PMT= Perceived Moral Transgressions observed over past two weeks. MF = Moral Foundation; Control = Perceived Locus of Control; Social Supp. = Social Support. Trauma Exp. = Trauma Exposure. sr^2 = represents the semi-partial correlation squared.

Table 7.
Simple Slopes of Perceived Moral Transgressions on Distress, Moderated by Corresponding Moral Foundations and Controlling for Risk Factors of Distress

Outcome Measure: Distress (DASS)				
MF (Moderator)	Coefficient	Bootstrapped SE	Bootstrapped LLCI	Bootstrapped ULCI
Fair -1SD	0.84	1.45	-2.02	3.70
Fair +1SD	4.79	1.51	1.82	7.75
Ingroup -1SD	1.02	1.44	-1.80	3.85
Ingroup +1SD	8.17	1.48	5.26	11.08
Authority-1SD	2.05	1.53	-0.96	5.06
Authority+1SD	7.47	1.50	4.52	10.42
Purity -1SD	2.75	1.45	-.10	5.61
Purity +1SD	6.14	1.41	3.36	8.93
TotalMF -1SD	0.95	0.57	-0.16	2.06
TotalMF +1SD	2.94	0.56	1.83	4.04

Note. DASS= Depression, Anxiety, and Distress total scale; PMT= Perceived Moral Transgression; MF = Moral Foundation; SE = standard error; LLCI = lower limit 95% confidence interval; ULCI = upper limit 95% confidence interval.

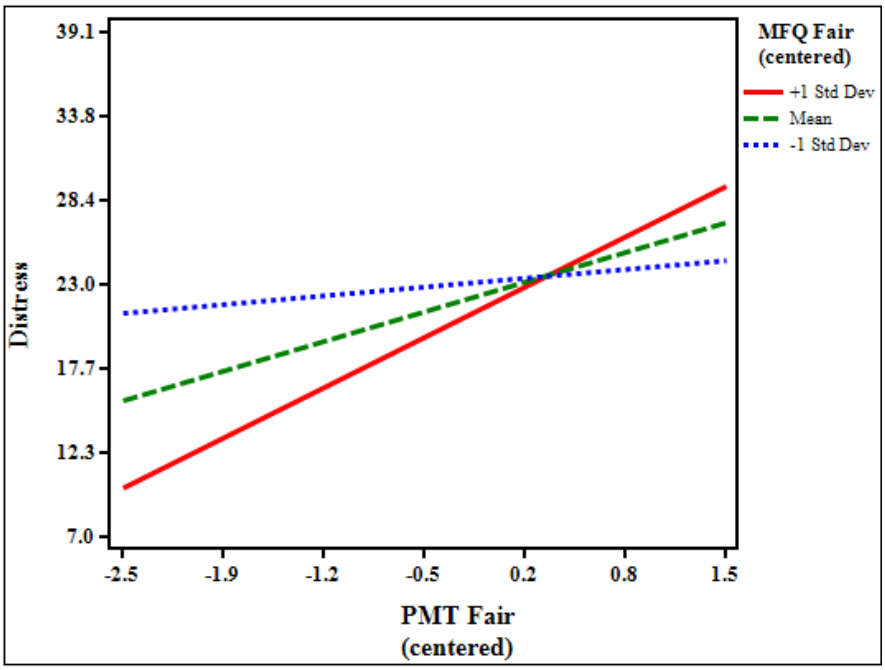

Figure 5. Graphical representation of the significant conditional effect of fairness/reciprocity PMT*MF on psychological distress, controlling for risk factors of distress.

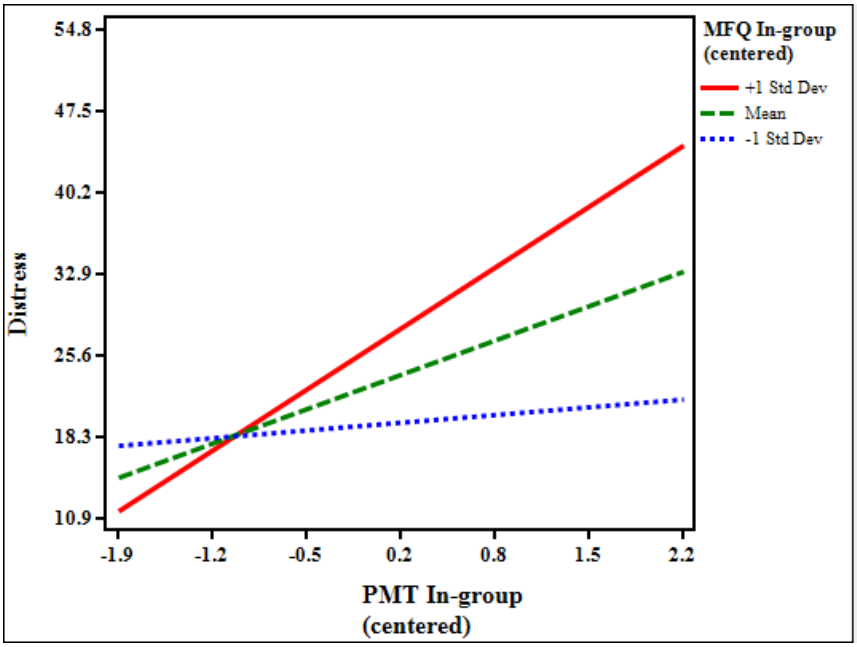

Figure 5. Graphical representation of the significant conditional effect of in-group/loyalty PMT*MF on psychological distress, controlling for risk factors of distress.

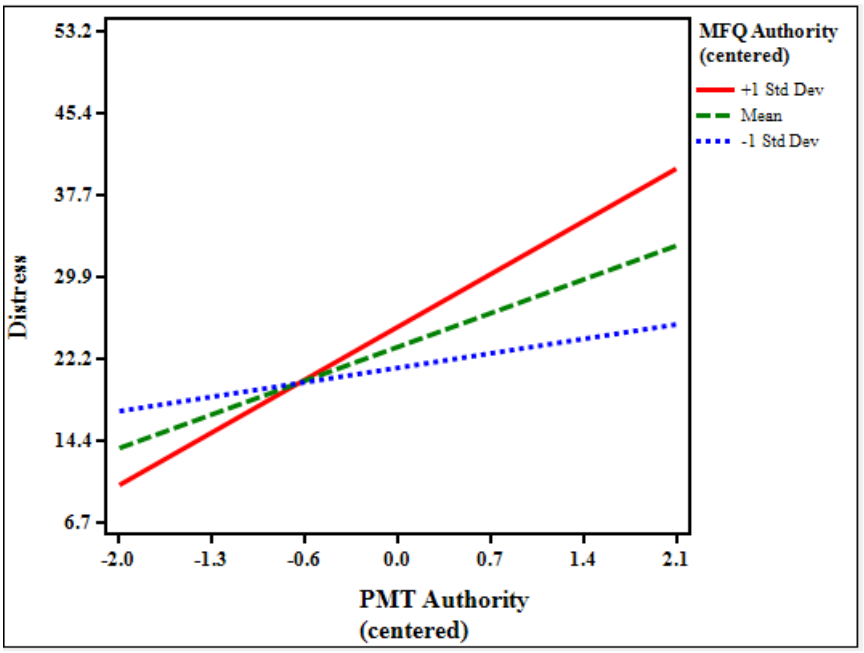

Figure 6. Graphical representation of the significant conditional effect of authority/respect PMT*MF on psychological distress, controlling for risk factors of distress.

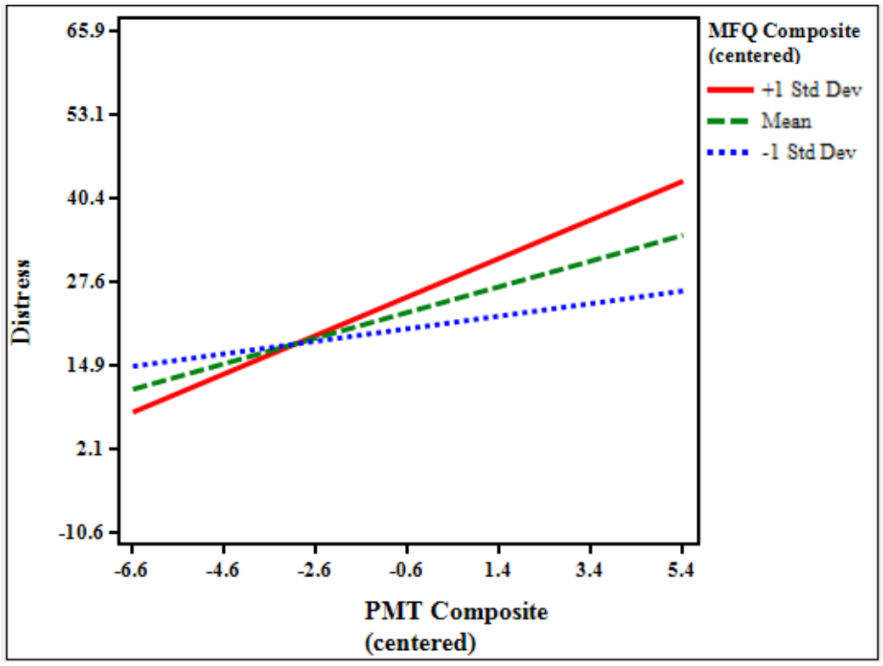

Figure 7. Graphical representation of the significant conditional effect of composite/total PMT*MF on psychological distress, controlling for risk factors of distress.

In summary, results from the correlational portion of the study demonstrated that (1) each PMT (harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity) separately predicted distress, (2) even when controlling for risk factors of distress (neuroticism, perceived control, avoidance, social support, and trauma exposure); this was consistent with my hypotheses. Conversely, when all PMTs were simultaneously included in the same hierarchical model, only the *in-group/loyalty* PMT remained significant, evidencing shared variance among PMTs and unique effects of perceived transgressions in the domain of group affiliation and loyalty. Finally, the results of the (3) interactions between each PMT and their corresponding moral foundation (e.g., fairness PMT*fairness MF) indicated significant conditional effects for the *in-group/loyalty, authority/respect, fairness/reciprocity, and composite transgressions* domains. Specifically, simple slopes analyses revealed that at high levels of each MF, the relationship between PMT and distress was significant and positive, demonstrating an amplified conditional effect (PMT*MF) on psychological distress.

Experimental – Part II.

For the experimental task (i.e., Part II), the dataset contained the same 418 participants, as all participants completed both the correlational and experimental phases of this one-time study. In order to examine within-person comparisons in the experimental portion, the data was restructured for multilevel modeling. That is, each participant produced three different data points nested (at level 1) within persons (level 2; e.g., data points for the control condition and two randomly assigned experimental conditions). This permitted examining experimental versus control conditions as within-person effects, enhancing statistical power. In addition, the conditions were counterbalanced in Qualtrics (the survey host) to minimize potential order effects. Cell sizes for each comparison were slightly different, as some participants did not

complete all assigned conditions (harm/care vs. control, *n* = 166; fairness/reciprocity vs. control, *n* = 170; in-group/loyalty vs. control, *n* = 171; authority/respect vs. control, *n* = 172; purity/sanctity vs. control, *n* = 166). All predictors were grand-mean centered, with the exception of condition, for which experimental vignettes were coded as 1 and the control vignette coded as 0. Furthermore, I included baseline distress (average of the anxiety and depression items; e.g., "nervous," "sad," "hopeless") from the shortened Profile of Mood States inventory (POMS; Lorr & McNair, 1971) as a covariate in order to examine effects of conditions and other predictors on residual change in distress emotions from before to after exposure to transgression vignettes. Controlling for baseline distress prior to transgression exposures allowed the effects of condition on distress to reflect emotional reactivity.

Hypothesis 1b: Experimental manipulation of perceived moral transgressions will elicit psychological distress, relative to a control condition. To investigate the effect of PMTs (two of five randomly assigned to each participant) versus the control condition on distress, I first analyzed the experimental condition effects without any covariates in the model. As expected, results indicated that four of the five PMT manipulations (*harm/care*, *fairness/reciprocity*, *authority/respect,* and *purity/sanctity)* experimentally elicited an increase in distress from baseline. In other words, individuals reported increased distress immediately after being exposed to depictions of harm, lack of fairness, disrespecting authority, and violations of perceived purity (see Table 8). Surprisingly, the only PMT that was not significant was in-group/loyalty, suggesting that this condition did not predict a change in distress levels.

Table 8.
Parameter Estimates for Multilevel Models of Perceived Moral Transgressions Predicting Distress

	Post-PMT Condition Distress (Outcome)			
Variable	*b (SE)*	*p*	LLCI	ULCI
Baseline Distress	0.62 (0.06)	< .001	0.51	0.73
PMT Harm vs. Control	0.55 (0.06)	< .001	0.44	0.66
Baseline Distress	0.71 (0.05)	< .001	0.61	0.81
PMT Fairness vs. Control	0.29 (0.05)	< .001	0.19	0.39
Baseline Distress	0.77 (0.05)	< .001	0.68	0.87
PMT Ingroup vs. Control	-0.00 (0.04)	.99	-0.07	0.07
Baseline Distress	0.73 (0.05)	< .001	0.62	0.84
PMT Authority vs. Control	0.19 (0.05)	< .001	0.09	0.29
Baseline Distress	0.63 (0.06)	< .001	0.52	0.74
PMT Purity vs. Control	0.14 (0.06)	.012	0.03	0.25

Note. Unstandardized coefficients reported. PMT= Perceived Moral Transgressions.

Hypothesis 2b. Experimental manipulation of perceived moral transgressions predicting increased psychological distress relative to a control condition, even when controlling for known risk factors of distress. In the next step, I examined each PMT versus control condition while accounting for risk factors of distress, including neuroticism, perceived control, avoidance, social support, and trauma history; additionally, I controlled for baseline distress. Consistent with findings, when controlling for risk factors, *all PMTs (harm/care, fairness/reciprocity, authority/respect, and purity/sanctity), with the exception of in-group/loyalty, significantly predicted distress* above and beyond the established risk factors of psychological distress (see Table 9).

Across all analyses, the covariates were not significant, with only marginal significance for effects of social support and trauma history on distress in the harm/care condition and neuroticism in the authority/respect condition. As depicted in the table, the *harm/care PMT* condition demonstrated the greatest increase in distress; that is, there was a significant positive effect of perceived moral transgressions of harm/care on distress, such that there was a .55 difference between the experimental (harm/care PMT) and control conditions.

Table 9.
Parameter Estimates for Multilevel Models of Perceived Moral Transgressions Predicting Distress, Controlling for Known Risk Factors of Distress

	Post-PMT Condition Distress (Outcome)			
Variable	*b (SE)*	*p*	LLCI	ULCI
Neuroticism	-0.00 (0.01)	.42	-0.02	0.01
Control	-0.01 (0.02)	.76	-0.04	0.03
Avoidance	0.00 (0.01)	.74	-0.02	0.03
Social Supp.	0.01 (0.00)	.06	-0.00	0.02
Trauma Exp.	0.05 (0.03)	.08	-0.01	0.11
Baseline Distress	0.63 (0.07)	< .001	0.50	0.77
PMT Harm vs. Control	0.55 (0.06)	< .001	0.44	0.67
Neuroticism	-0.00 (0.00)	.68	-0.01	0.01
Control	-0.01 (0.01)	.62	-0.04	0.02
Avoidance	-0.01 (0.01)	.45	-0.03	0.01
Social Supp.	0.00 (0.00)	.85	-0.01	0.01
Trauma Exp.	0.01 (0.03)	.82	-0.04	0.06
Baseline Distress	0.74 (0.07)	< .001	0.60	0.88
PMT Fairness vs. Control	0.29 (0.05)	< .001	0.19	0.39
Neuroticism	0.00 (0.00)	.74	-0.01	0.01
Control	0.01 (0.01)	.65	-0.02	0.03
Avoidance	0.00 (0.01)	.78	-0.01	0.02
Social Supp.	0.00 (0.00)	.18	-0.00	0.01
Trauma Exp.	-0.03 (0.02)	.20	-0.07	0.02
Baseline Distress	0.81 (0.06)	< .001	0.69	0.92
PMT Ingroup vs. Control	-0.00 (0.04)	.90	-0.08	0.07
Neuroticism	0.01 (0.01)	.07	-0.00	0.02
Control	0.01 (0.01)	.49	-0.02	0.04
Avoidance	0.00 (0.01)	.66	-0.01	0.02
Social Supp.	0.00 (0.00)	.27	-0.00	0.01
Trauma Exp.	-0.02 (0.02)	.35	-0.07	0.03
Baseline Distress	0.69 (0.07)	< .001	0.56	0.83
PMT Authority vs. Control	0.19 (0.05)	< .001	0.09	0.29
Neuroticism	-0.00 (0.00)	.47	-0.01	0.01
Control	-0.01 (0.01)	.46	-0.04	0.02
Avoidance	0.01 (0.01)	.17	-0.01	0.03
Social Supp.	0.00 (0.00)	.33	-0.00	0.01
Trauma Exp.	0.01 (0.03)	.79	-0.05	0.06
Baseline Distress	0.63 (0.07)	< .001	0.49	0.77
PMT Purity vs. Control	0.14 (0.06)	.02	0.03	0.25

Note. Unstandardized coefficients reported. PMT= Perceived Moral Transgressions. LLCI = lower limit 95% confidence interval; ULCI = upper limit 95% confidence interval.

Hypothesis 3b: The experimental effect of perceived moral transgressions on increased distress, relative to a control condition, will be amplified by corresponding moral foundations (e.g., purity PMT*purity MF), even when accounting for known risk factors of distress. Next, I examined the conditional effects of moral foundations on the relationship between PMT and distress, compared to a control condition (i.e., within-person variability). Similar to the prior analyses, I used the MIXED command on SPSS, including the interaction term for each pair of corresponding PMT and MF. As the results were consistent with and without the covariates (e.g., neuroticism, perceived control, avoidance, social support, trauma history), covariates were included in the model to provide the most conservative estimate of the effects; thus, the results demonstrate the unique variance explained by the interaction of PMT and moral foundations on psychological distress, above and beyond the risk factors of distress.

Results revealed a significant interaction between *fairness/reciprocity moral foundations* and *fairness/reciprocity PMT* on distress, compared to the control condition (see graphical representation Figure 9). There was a marginally significant conditional effect of *in-group/loyalty* MF*PMT on distress, relative to the control condition, however the direction of the interaction was negative, which was inconsistent with hypotheses. Contrary to hypotheses, there were no significant interaction effects for PMT*MF of harm/care, authority/respect, or purity/sanctity; results for fairness and in-group are represented in Table 11.

In addition, I probed the conditional effects of PMT*MF. Simple slopes analyses indicated that at high levels of the MF of *fairness/reciprocity*, the relationship between PMT fairness/reciprocity, compared to a control group, and distress was positive and significant. At low levels of the fairness/reciprocity MF, the effect became insignificant. Of note, when I probed the in-group/loyalty conditional effects at high and low levels of the in-group/loyalty MF, the

effects were non-significant. Interestingly, at high levels of purity/sanctity MF, the interaction between purity/sanctity MF and PMT, compared to a control condition, was significant and positive (Table 10).

When examining the proportion of variance explained by each conditional effect, the interaction for *fairness/reciprocity PMT vs. control*MF* accounted for the largest change in distress (R^2 = .47, F(1, 326) = 4.58, p = .03, ΔR^2 =.01); that is, this conditional effect explained an additional 1.0% of the variance in distress, above and beyond known risk factors being included in the model (see Table 11).

Table 10.
Parameter Estimates for Multilevel Models of Perceived Moral Transgressions Predicting Distress, Controlling for Baseline Distress and Known Risk Factors of Distress

	Post-PMT Condition Distress (Outcome)			
Variable	*b (SE)*	*p*	LLCI	ULCI
Neuroticism	-0.00 (0.01)	.42	-0.02	0.01
Control	-0.01 (0.02)	.78	-0.04	0.03
Avoidance	0.00 (0.01)	.74	-0.02	0.03
Social Supp.	0.01 (0.00)	.08	-0.00	0.02
Trauma Exp.	0.05 (0.03)	.08	-0.01	0.11
Baseline Distress	0.63 (0.07)	< .001	0.49	0.77
PMT Harm vs. Control	0.55 (0.06)	< .001	0.44	0.67
MF Harm (Moderator)	0.01 (0.08)	.91	-0.14	0.16
PMT*MF Harm	0.05 (0.07)	.50	-0.09	0.19
Neuroticism	-0.00 (0.00)	.67	-0.01	0.01
Control	-0.01 (0.01)	.59	-0.04	0.02
Avoidance	-0.01 (0.01)	.46	-0.03	0.01
Social Supp.	0.00 (0.00)	.83	-0.01	0.01
Trauma Exp.	0.01 (0.03)	.83	-0.04	0.06
Baseline Distress	0.74 (0.07)	< .001	0.60	0.88
PMT Fairness vs. Control	0.29 (0.05)	< .001	0.19	0.39
MF Fairness	-0.10 (0.07)	.16	-0.24	0.04
PMT*MF Fairness	0.23 (0.07)	.001	0.10	0.37
Neuroticism	0.00 (0.00)	.76	-0.01	0.01
Control	0.02 (0.01)	.85	-0.02	0.03
Avoidance	-0.00 (0.01)	.82	-0.02	0.01
Social Supp.	0.00 (0.00)	.80	-0.01	0.01
Trauma Exp.	-0.03 (0.02)	.19	-0.07	0.01
Baseline Distress	0.78 (0.06)	< .001	0.67	0.89

PMT Ingroup vs. Control	-0.01 (0.04)	.86	-0.08	0.07
MF Ingroup	0.18 (0.04)	< .001	0.09	0.27
PMT*MF Ingroup	-0.06 (0.04)	.08	-0.13	0.01
Neuroticism	0.01 (0.01)	.07	-0.00	0.02
Control	0.01 (0.01)	.54	-0.02	0.04
Avoidance	0.00 (0.01)	.68	-0.02	0.02
Social Supp.	0.00 (0.00)	.36	-0.00	0.01
Trauma Exp.	-0.02 (0.02)	.33	-0.07	0.02
Baseline Distress	0.69 (0.07)	< .001	0.56	0.82
PMT Authority vs. Control	0.19 (0.05)	< .001	0.09	0.29
MF Authority	0.05 (0.06)	.36	-0.06	0.16
PMT*MF Authority	-0.00 (0.05)	.98	-0.10	0.10
Neuroticism	-0.00 (0.00)	.36	-0.01	0.01
Control	-0.02 (0.01)	.27	-0.04	0.01
Avoidance	0.01 (0.01)	.20	-0.01	0.03
Social Supp.	0.00 (0.00)	.41	-0.00	0.01
Trauma Exp.	-0.01 (0.03)	.84	-0.06	0.05
Baseline Distress	0.64 (0.07)	< .001	0.50	0.78
PMT Purity vs. Control	0.14 (0.06)	.01	0.03	0.25
MF Purity	0.07 (0.04)	.10	-0.01	0.14
PMT*MF Purity	-0.06 (0.04)	.17	-0.02	0.14

Note. Unstandardized coefficients reported. PMT= Perceived Moral Transgressions. LLCI = lower limit 95% confidence interval; ULCI = upper limit 95% confidence interval.

Table 11.

Simple Slopes of Perceived Moral Transgressions on Distress, Moderated by Corresponding Moral Foundations and Accounting for Baseline Distress and Risk Factors of Distress

Outcome Measure: Distress (DASS)				
MF (Moderator)	Coefficient	Bootstrapped SE	Bootstrapped LLCI	Bootstrapped ULCI
Fair -1SD	0.12	0.11	-0.10	0.34
Mean	0.29	0.08	0.13	0.44
Fair +1SD	0.45	0.11	0.24	0.67
Ingroup -1SD	-0.06	0.09	-0.12	0.23
Mean	-0.01	0.06	-0.13	0.12
Ingroup +1SD	0.05	0.09	-0.24	0.11

Note. DASS= Depression, Anxiety, and Distress total scale; PMT= Perceived Moral Transgression; MF = Moral Foundation; SE = standard error; LLCI = lower limit confidence interval; ULCI = upper limit confidence interval. All variables were grand-mean centered.

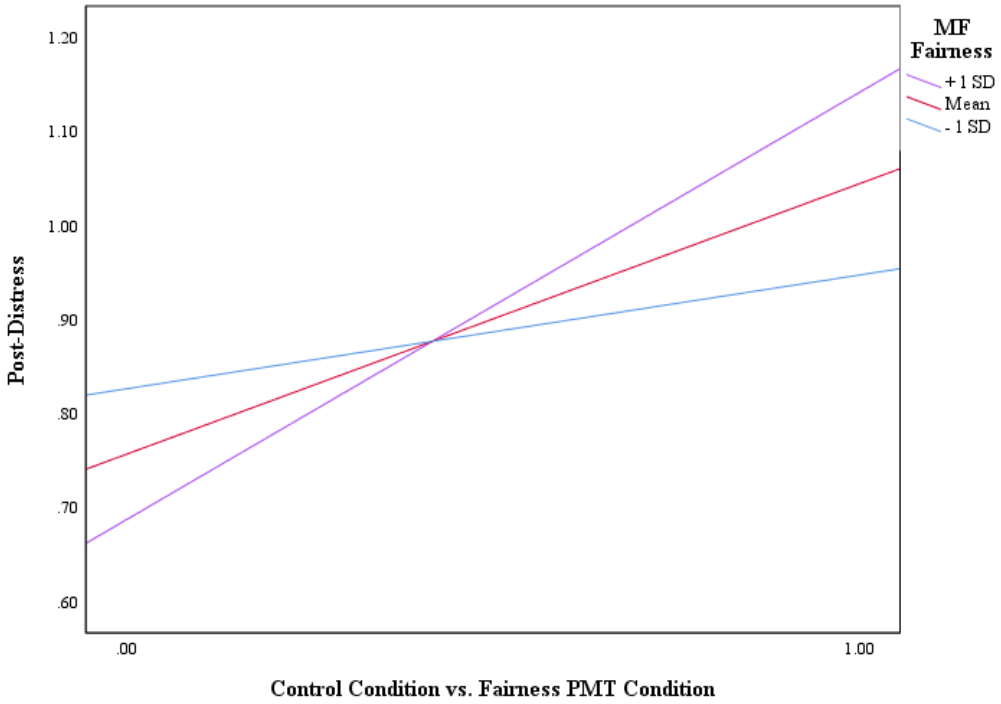

Figure 8. Graphical representation of the significant conditional effect of fairness/reciprocity PMT*MF on psychological distress, compared to a control condition, accounting for baseline distress and known risk factors of distress.

In summary, results from the experimental portion (within-person variability) of the study indicated that (1) four of the five experimental PMTs (vignettes depicting *harm/care, fairness/reciprocity, authority/loyalty, and purity/sanctity*), compared to the control condition, predicted an increase in distress, (2) those same four of five experimental PMTs (*harm/care, fairness/reciprocity, authority/loyalty, and purity/sanctity*), compared to the control condition, predicted an increase in distress, even when controlling for risk factors of distress (neuroticism, perceived control, avoidance, social support, and trauma exposure). The *harm/care PMT* condition predicted the greatest change in distress between the control and experimental conditions. Results of the (3) interactions between the fairness/reciprocity PMT vs. control condition and the corresponding moral foundation of fairness/reciprocity (*PMT fairness/reciprocity*MF fairness/reciprocity*) was the only significant conditional effect, but this effect was in line with hypotheses. Simple slopes analyses suggested that individuals who

endorse high levels of the moral foundation of fairness/reciprocity also experienced a significant increase in distress, as evidenced by the difference between the PMT versus control conditions. The subsequent discussion will explore the implications of these results.

Chapter 4: Discussion

Past research has elucidated several risk factors that contribute to psychological distress (i.e., anxiety and depression symptoms), such as neuroticism, low perceived control, avoidance, poor social support, and trauma history (Barlow, 2000; Brown & Barlow, 2009; Litz et al., 2009; Miller et al., 2007; Wang et al., 2014). However, there is limited research on the unique contribution of moral experiences, such as perceptions of moral transgressions in the socio-political-cultural climate, on emotional health (Haidt & Graham, 2007; Lench et al., 2018). Thus, the present findings implicate perceived moral transgressions (PMT) as relatively unexplored constructs that may predict changes in distress, specifically in response to perceived events (related to how people treat one another) in the larger social-political world.

As moral transgressions are correlated with distress (Litz et al., 2009) in military populations, I conducted a two-part study (correlational and experimental portions) to examine whether distress is explained by individuals' interpretations of the social and political climate, beyond military-specific contexts. This study was prompted by my (i.e., principal investigator) observations of partisan divisiveness in the United States and how perceptions of moral transgressions (often along partisan lines) have elicited distress in clients. Therefore, I hypothesized that exposure to perceived moral transgressions in the social climate would positively predict distress in a convenience sample of U.S. residing individuals (N = 418). I also expected the relationship between PMT and distress to remain significant even when accounting for known risk factors of distress, including neuroticism, perceived control, avoidance, social

support, and trauma history. In addition, I hypothesized each PMT would interact with its corresponding moral foundation (e.g., purity PMT*purity MF) to positively predict distress. Of note, the correlational and experimental portions of this study had parallel hypotheses, allowing for both between-person (distress after exposure to other-toward-other PMTs over the past two weeks) and within-person analysis (momentary assessment of distress after reading a control vignette and random assignment of two out of five PMT vignettes).

Major Findings

PMTs as Individual Predictors of Psychological Distress (Hypotheses 1a and 1b). First, results supported hypothesized positive associations between perceived moral transgressions and psychological distress, in line with the moral injury literature (e.g., Litz et al., 2009); *each PMT separately predicted distress* in the correlational portion of the study. That is, higher distress was associated with endorsement of perceiving actions between people in the socio-political climate as 1) harmful (e.g., "to what extent have people been unkind and harsh toward one another?"), 2) unfair (e.g., "to what extent have people been treated unequally?"), 3) disloyal to their in-group (e.g., "to what extent have people not been faithful to the idea of what this country stands for"), 4) disrespectful to authority (e.g., "to what extent have people not shown respect to their leaders?"), and 5) violating standards of purity (e.g., "to what extent have people engaged in dirty deeds?"). Across each PMT, in addition to a composite of all perceived moral transgressions, the proportion of variance explained in distress ranged from 5% (fairness/reciprocity) to 12% (in-group/loyalty). These first analyses provided preliminary evidence that moral transgressions are relevant to psychological distress symptoms.

In addition, I sought to explore the unique variance explained when all PMTs were included in the model (as distinct predictors); when regressing distress on all five PMTs simultaneously,

results revealed that *in-group/loyalty* was the only PMT that remained significant. Given that all effects were significant when separately examined, this interesting finding suggests there is a large amount of shared variance among the types of transgressions. Covariance between PMTs indicates that shared variance was being thrown out when examining unique effects. It is unclear why only *in-group/loyalty* transgressions uniquely predicted distress above and beyond the shared variance, but this finding implies that these items had a unique effect even when accounting for the substantial variance shared among PMT scales. Inspection of PMT intercorrelations suggests that some scales were more highly intercorrelated (e.g., harm/care and fairness) relative to those with in-group/loyalty, and in the EFA, in-group/loyalty items were more likely to load on the "binding" component which explained much less variance than the larger "individualizing" component (Graham et al., 2009).

In the experimental portion of the study, *four of the five PMT conditions elicited an increase in distress* (pre vs. post) after reading the moral transgressions in the dimensions of harm/care (e.g., road rage accident leading to a murder), fairness/reciprocity (e.g., racial discrimination at a coffee shop), authority/respect, (e.g., students and their parents disrespecting a teacher), and purity/sanctity (e.g., a parent marrying their daughter). However, distress unexpectedly did not significantly change between the control and in-group/loyalty condition (e.g., an Olympic athlete for the US using illicit drugs during competition). This finding might potentially be attributed to the fact that this news article was not as recent as the other four PMTs, or the fact that some individuals do not consider sports teams as part of their in-group (Brewer & Brown, 1998). In addition, the conflicting findings between the correlational and experimental portions of this study could be due to possible habituation and desensitization (e.g., via more exposure on the news media; Scharrer, 2008) to moral transgressions in the current sociopolitical climate; thus,

the news article about Lance Armstrong misusing substances ("doping") and reportedly betraying his country/in-group may not have been a strong enough PMT to elicit distress in the moment. Future studies should include a broader range of vignettes or scenarios to limit the risk of vignette-specific effects. Nonetheless, the experimental effects paint the same picture as the correlational results—namely, that perceived moral transgressions about the social-political climate impact distress symptoms.

PMTs as Individual Predictors of Psychological Distress, Controlling for Risk Factors of Distress (Hypotheses 2a and 2b). When exploring the unique effects of PMTs on distress, I controlled for known risk factors of distress (neuroticism, perceived control, avoidance, social support, and trauma exposure) to examine the *unique* variance explained by moral transgressions *beyond* these factors. Results across both correlational and experimental portions of the study revealed that PMTs are associated with higher distress between people, as well as changes in distress within individuals. Specifically, *all five PMTs positively predicted distress* above and beyond risk factors of distress in the correlational portion; altogether, the PMTs accounted for approximately 13% of the variance in distress.

Similarly, in the experimental portion of the study, *four of the five PMT experimental conditions (harm/care, fairness/reciprocity, authority/respect, and purity/sanctity)* elicited a significant increase in distress, controlling for baseline levels. These findings are consistent with the correlational portion and demonstrate that individuals who were exposed to vignettes based on real-life news articles depicting harm to others, unfair discrimination, disrespect to people in authority positions, and impure actions between people, compared to a control condition, experienced an increase in distress immediately after reading these vignettes (controlling for baseline distress and risk factors of distress). This interesting finding may be related to disgust

sensitivity and provide further justification for intuitive models of morality (Haidt et al., 1994; Haidt & Graham, 2007).

Surprisingly, the *in-group/loyalty experimental manipulation was the only PMT that did not significantly predict distress.* This may be due to the nature of the actual vignette content or possible semantic encoding differences when interpreting this vignette (Dunham, Baron, & Carey, 2011). Although the experimental condition intended to illustrate moral violations to one's group, research has demonstrated that in-group determination varies significantly between people (Aronson, Wilson, Akert, & Sommers, 2013); for example, some individuals may consider their in-group to be their immediate family or religious community, whereas others may identify their in-group as their ethnicity or political affiliation (Graham et al., 2009).

Consistent with previous findings (Barlow, 2002; Brown & Barlow, 2009; Costa & McCrae, 1992; Kendler et al., 2003; Wang et al., 2014), all covariates in the correlational portion (neuroticism, perceived control, avoidance, social support, and trauma exposure) positively predicted distress, lending evidence to the transdiagnostic, dimensional nature of distress (Brown et al., 2004; Brown & Barlow, 2009). Of note, the covariates were non-significant for the experimental design; that is, they did not predict distress in a meaningful, interpretable way. This may be attributable to the experimental induction, suggesting that its effects were strong enough to situationally wash out any effects of pre-existing characteristics such as neuroticism, perceived lack of control over the transgression, avoidance, limited social supports, or trauma histories.

In line with this assertion, pre-existing moral foundations (MF) did not consistently predict increased distress in the experimental portion (i.e., only in-group/loyalty MF predicted higher distress), which might be due to the strong emotionally evocative nature of the manipulations

(PMTs). This finding provides further evidence of Haidt and colleagues' (2000) claim that individuals often experience strong, visceral, intuitive responses to morally-valanced stimuli without being able to articulate their reasoning, a process termed moral dumbfounding (Haidt et al., 1993). However, in the correlational portion, in-group/loyalty, purity, and total MF (and marginally, authority) predicted higher distress, suggesting the possibility that individuals higher in these "binding" functions are more prone to distress in general. This fits with previous studies finding small positive associations between psychological conservatism, proneness to anxiety, and the need to manage uncertainty (Jost & Amodio, 2012; Jost, Glaser, Kruglanski, & Sulloway, 2003).

Furthermore, there is ample evidence in the literature suggesting exposure to traumatic events is associated with elevated PTSD, depression, and anxiety (Bryan et al., 2016; Koenig et al., 2018; Volk & Koenig, 2018), as well as the development of moral injury as a distinct syndrome (i.e., separate from PTSD; Nash et al., 2010). However, the majority of these studies utilized veteran or active duty service members, which limits their generalizability to other populations beyond the military. Surprisingly, there is also a dearth of research on morally injurious events as a *predictor* of distress, rather than an outcome (Koenig, Youssef, & Pearce, 2019). In turn, this study sought to fill this gap by examining perceptions of moral transgressions on emotional well-being in a civilian population, while accounting for known risk factors of distress, such as trauma history. Trauma history consistently predicted distress in the correlational portion, but not in the experimental portion (in line with the idea that the manipulation overwhelmed the effects of preexisting traits). These findings contribute to the literature on moral injury by demonstrating that exposure to moral transgressions in the larger sociopolitical climate uniquely predicts distress. Moreover, the current study systematically

examined transgressions in several domains which parallel moral foundations theory (harm, fairness, in-group, authority, purity; Graham et al., 2011), demonstrating that *type of perceived moral transgression* may be relevant to determining the level of distress one experiences. Therefore, the current study demonstrates the unique contribution of perceived moral transgressions on affective processing of moral events, especially those elicited in the moment, above and beyond established risk factors of distress.

Conditional Effects of PMT*MF on Psychological Distress, Controlling for Risk Factors of Distress (Hypotheses 3a and 3b). In order to better understand the process of interpreting moral events observed in the socio-political climate, I examined the interaction between PMTs and participants' moral foundations—belief systems that influence moral reasoning and decision-making (Dobolvi, 2019; Haidt, 2013). For the correlational portion, the conditional effects indicated that moral foundations of *in-group/loyalty, authority/respect, fairness/reciprocity, and a composite of all moral foundations* interacted with the corresponding PMTs (e.g., fairness MF*fairness PMT) in predicting higher distress. That is, endorsing high levels on the respective moral foundations amplified the distressing effects of perceived moral transgressions of fairness, in-group, or authority over the past two weeks. Simple slopes analysis confirmed that at higher levels of moral foundations, the relationship between PMT and distress was positive, whereas the effect of PMT on distress tended to be non-significant in individuals low on the foundations. This may indicate that stronger moral convictions (i.e., moral decisions based in MF) are a predisposing factor for how individuals perceive events in the socio-political climate (Skitka & Morgan, 2014) above and beyond known risk factors of distress.

Conversely, when assessing for the conditional effects on the path from PMT to distress as a function of the moderator of moral foundations in the experimental portion, results diverged

from the correlational analysis. Specifically, only *fairness/reciprocity PMT*MF* produced a significant increase in distress, compared to the control condition, from baseline. That is, participants who were exposed to this vignette, which depicted lack of fairness between people (other toward other), endorsed increased distress in the moment. This finding may be attributed to the nature of the vignette, which was taken from a news-article on racial discrimination. As experiences of inequality and experienced racism have negative health implications, even at the level of genetic expression (Thames, Irwin, Breen, & Cole, 2019), this conditional effect provides further causal evidence of the impact of perceived inequality on emotional well-being.

The discrepancy between the experimental and correlational findings with regard to interaction effects is worth noting (e.g., Part I demonstrated significant interactions in domains of in-group/loyalty, authority/respect, and fairness/reciprocity whereas the experimental part only found a significant conditional effect of fairness PMT*MF on distress). This discrepancy might be explained by the content of the items, potential confounds, shared variance among perceived moral transgressions and moral foundations (Graham et al., 2011), or intensity of emotion induced in the moment [after exposure to a PMT condition]. Along with the fact that trait effects were less predictive in the experimental part, it may be that the experimental induction was intense enough to constitute a "strong situation" that trumps personality effects, whereas "weaker" situations that are more ambiguous or less constrained provide greater opportunity for trait effects or trait-by-situation interactions. In addition, one potential factor that may explain these relationships is political affiliation, as research has shown differences between liberals and conservatives in emotional sensitivity to moral stimuli (Graham et al., 2009); for example, McCann (2008) found that individuals who identified as conservative tended to demonstrate

elevated emotional reactivity to stimuli that violated respect for authority and maintenance of the social order, compared to their liberal counterparts.

Future studies should control for political identity in order to disentangle its effects from perceived moral transgressions observed in the sociopolitical climate. Accounting for political affiliation would provide further evidence of the unique contribution of PMT to distress. Examining differences in binding versus individualizing foundations (i.e., due to shared variance between PMT, based on results of the EFA) is also recommended. An overview of correlational and experimental findings is presented in Table 12.

Table 12.
Overview of Correlational and Experimental Examination of Perceived Moral Transgressions Predicting Distress and Controlling for Known Risk Factors of Distress

Study Portion & Relevant Findings	Correlational (Part 1)	Experimental (Part 2)
Individual PMTs Predicting Distress	• Harm/care • Fairness/reciprocity • In-group/loyalty • Authority/respect • Purity/sanctity	• Harm/care • Fairness/reciprocity • Authority/respect • Purity/sanctity
Individual PMTs Simultaneous Entry	• In-group/loyalty	• N/A
Individual PMTs Predicting Distress, Controlling for Risk Factors of Distress	• Harm/care • Fairness/reciprocity • In-group/loyalty • Authority/respect • Purity/sanctity	• Harm/care • Fairness/reciprocity • Authority/respect • Purity/sanctity
Conditional Effect of PMT*MF on Distress, Controlling for Risk Factors of Distress (and Baseline Distress in Experimental Portion)	• In-group/loyalty • Total PMT*MFQ • Authority/respect • Fairness/reciprocity	• Fairness/reciprocity

Clinical Implications

Research indicates that moral experiences can directly impact psychiatric distress, as evidenced through literature on the development of moral injury in military populations (Litz et al., 2009; Maguen & Litz, 2012; Maguen et al., 2017). However, to date, past studies have

predominantly focused on moral injury as an outcome of traumatic events, particularly in the context of co-occurring PTSD (Barnes, Hurley, & Taber, 2019; Koenig, Youssef, & Pearce, 2019). Although this construct is well-established in veteran and active duty samples (see Koenig et al., 2019 for review of the literature), there is limited research on moral injury in civilian populations (Currier, Holland, Rojas-Flores, Herrera, & Foy, 2015b). To that end, there is even less empirical research on the predictive or downstream effects of perceptions of moral transgressions on emotional well-being in U.S. residing civilians. Thus, the purpose of this two-part study was to better understand the relative contribution of perceived moral transgressions on distress in individuals' daily lives, within the context of the larger macro-system (socio-political climate).

In today's society, we are inundated with information from various sources, such as the news, conversations with others, and social media. Often, the way we appraise and judge this information is based in our moral belief systems (Gray et al., 2014; Haidt & Graham, 2007) and interpretations of others' actions (Tepe & Aydinli-Karakulak, 2019). In turn, these perceptions may elicit negative emotional reactions. As demonstrated, research to date has attempted to understand what factors contribute to psychological distress, identifying risk factors such as neuroticism (Brown & Barlow, 2009; Keightley et al., 2003; Stein et al., 2007; Westlye et al., 2011), perceived uncontrollability (Barlow 2000; Miller et al., 2007), avoidance behaviors (Barlow, 2000; Brown & Barlow, 2009), poor social support (Hefner & Eisenberg, 2009; Lewinsohn, Gotlin, & Seeley, 1997), and exposure to trauma (Litz et al., 2009). However, the present study demonstrates that perceptions of moral transgressions both *correlationally and causally* impact distress, above and beyond these well-established risk factors for anxiety and depression. This may suggest a new approach to intervention with clients who present to

behavioral health with elevated psychiatric distress, not better explained by other stressors. For example, during clinical intakes, practitioners could prompt clients to identify if their worries (if diffuse, as with GAD) pertain to community or world affairs (e.g., does the individual become activated emotionally and/or physiologically when watching the news), as this is an important domain to address and may be a contributing factor to maintenance of distress (Lench et al., 2018).

Towards this aim, mental health professionals could utilize interventions targeted to clients' specific moral concerns. For example, behaviorally restricting media exposure (e.g., watching the news, surfing social media sites) could limit the frequency by which clients are subjected to PMT, which may reduce distress. In line with this recommendation, Lench et al. (2018) found a strong association between media exposure and moral foundations on subjective well-being after the 2016 election. That is, their study showed that more media exposure to moral foundations inconsistent with participants' own morals (i.e., individualizing vs. binding) was correlated with worse life satisfaction, further evidencing the impact of media attention on mental health.

In addition to limiting media exposure, clinicians could provide psychoeducation and skills training in assertiveness, with the goal of assisting clients to set firm boundaries with people who regularly discuss morally evocative content (i.e., family, co-workers, friends). An anecdotal example best illustrates this intervention, as one of my past patients presented to treatment with emotional reactivity after discussing politics with her siblings. The client noticed an increase in her physiological symptoms (e.g., elevated heart rate, sweating, trembling, flushed with heat) every time she engaged in these conversations. Through our work together, we explored her moral foundations, noted discrepancies between her interpretations of events compared to her family members' perceptions, and reviewed interpersonal effectiveness. Over time, she began to

assert limits with her siblings regarding political discussions (e.g., DEARMAN skill; Linehan, 2015), which appeared to also increase her self-efficacy and improve her mood. By the end of treatment, my client had even set a boundary with a co-worker who often shared "passionate" opinions about sociopolitical events at their workplace. This case example demonstrates the importance of assessing the moral dimension to fully conceptualize clients from a biopsychosocial-cultural lens.

Additional treatment approaches that may attenuate distress related to perceived moral transgressions include cognitive, mindfulness, and coping interventions. Cognitive interventions, such as those employed through CBT or Cognitive Processing Therapy (CPT) for PTSD (Resick, Monson, & Chard, 2008), may be indicated to address rigid, inflexible beliefs and problematic patterns of thinking regarding moral situations (e.g., all or none, labeling, overgeneralization, magnification, disqualifying the positive, mind reading). Mindfulness-based practices may also attenuate distress related to rumination about moral stressors observed in clients' environment, as these exercises focus on intentional present-moment, non-judgmental awareness (Kabat-Zinn, 1994). Coping strategies, such as diaphragmatic breathing, progressive muscle relaxation, engagement with pleasurable activities, or seeking social support, could also target emotion-driven behaviors elicited from exposure to PMTs (e.g., substance misuse, isolation, avoidance, interpersonal conflicts; Barlow et al., 2018).

Moreover, this study demonstrates the importance of assessing individuals' values and moral systems in treatment, which is a major aim of Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 2011). During the intake and initial phases of treatment, mental health providers may benefit from collaboratively identifying clients' values and assessing whether they are living them out in their day-to-day lives. For example, a patient may

endorse moral values of fairness and reciprocity but report he/she/they engages in discriminatory practices at work (e.g., avoiding Hispanic individuals in a customer service position). Highlighting these discrepancies might assist with understanding clients' distress and targeting treatment accordingly. Of note, providers should be mindful to *not conflate* their clients' moral/value systems with their reported religious affiliation, as these are not always consistent (Skitka & Morgan, 2014). Indeed, it is imperative that clinicians, including myself, remain vigilant to our own biases and moral imperatives that may interfere with treatment (Jackson, Hansen, & Cook-Ly, 2013). In other words, we must know our own stimulus value; to illustrate, Weir (2019) asserts that many individuals tend to perceive psychologists as "liberal leaning," which may impact their level of disclosure and the relative strength of the therapeutic alliance (Jackson et al., 2013).

In addition to treatment considerations, differences in perceived moral transgressions may partially explain clients' interpersonal tendencies and/or relational conflicts. The current study lends evidence to this claim, as it suggests PMTs between people uniquely contributes to experiences of distress, particularly in those triggered by the socio-political cultural climate. As hypothesized, observed PMTs between people (other toward other) were associated with higher distress; this finding is consistent with recent research (Tepe & Aydinli-Karakulak, 2019) suggesting that relational motivations (i.e., moral judgments based on quality of relationships with others) influence the degree of perceived "moral wrongness" of observed acts (Tepe & Aydinli-Karakulak, 2019). Moreover, Tepe and Aydinli-Karakulak (2019, p. 326) conducted six studies to investigate the role of social context on moral construals; their research showed that situations were perceived as "more morally relevant when a relational component was present," compared to content containing harm or impurity transgressions unrelated to social context.

Therefore, it makes sense that moral transgressions involving others (i.e., focus of most news stories) may elicit higher distress than non-relational transgressions.

Furthermore, the correlational portion of this study suggests that *in-group transgressions* may be particularly relevant to distress, as in-group was the only PMT that remained significant when controlling for all other PMTs in the model. This may suggest that participants valued this foundation more than others in evaluating moral situations. This finding maps onto research demonstrating how we make sense of our world through the lens of our affiliated groups, whether they be based on characteristics of ethnicity, gender, socio-occupational status, geographic location, religious beliefs, nationality, or political affiliation (Aronson et al., 2013).

When an individual's in-group is perceived to be threatened, this appears to activate their fundamental beliefs about loyalty to their affiliated group (i.e., moral foundation); this interaction produces an amplified effect on distress and lends further evidence to the current divisiveness of the United States population, particularly the partisan conflicts or "culture wars" (Haidt & Graham, 2007, p. 368; Jost et al., 2003; Lench et al., 2018). Towards this aim, Jost et al. (2003) conducted a meta-analysis to investigate differences in political ideology and motivation between people. Their findings indicated that conservatives tended to endorse higher scores on tests of dogmatic thinking, cognitive rigidity, and need for structure and order (in line with more binding foundations), whereas liberals tended to have higher tolerance for uncertainty and increased cognitive-based reasoning. The researchers argue that membership within a group likely influences some of these processes, such as what people attend to or ignore (i.e., motivated reasoning, confirmation bias), and how these moral interpretations impact emotional well-being within a larger socio-political environment (Jost, 2017).

The present study lends support to the current polarized nature of our country and suggests that political issues (e.g., gun control, gender inequalities, access to education, economic disparities, immigration) may be a salient target of treatment in clinical settings. For example, if a client presents to treatment with elevated distress related to the socio-political climate (e.g., client heard about sexual misconduct on the news), it may be clinically appropriate to explore whether the individuals' moral values are at play. Therefore, identifying moral foundations and perceptions may be useful guides for determining the most appropriate treatment interventions (i.e., cognitive restructuring of rigid beliefs, ACT-based cognitive diffusion from thoughts, behavioral exercises such as limiting social media exposure to inflammatory transgressions). In turn, clinicians can assist clients in identifying ways they can become engaged in the larger culture, whether that be political participation, activism/advocacy, building relationships with political opponents and gaining different perspectives, or other community involvement (Weir, 2019).

Of note, although individuals endorsed in-group as relevant to their moral interpretations, foundations, and emotional experiences in the correlational part of the study, this finding was not true when experimentally eliciting distress. That is, in-group/loyalty main effect was the only manipulated condition that did *not* predict changes in baseline distress, whereas exposure to real-life vignettes depicting harm, lack of fairness, threat toward authority, and impurity produced increased distress. One possible explanation for this counterintuitive finding is the idea that people may expect that violations to their in-group have caused them the greatest distress (in the last two-week period), however this may not be representative of how they *actually* respond, in the moment, when presented with transgressions against their in-group.

Finally, across all experimental PMT, *except fairness*, transgressions did not interact with moral foundations to produce a change in distress. To date, research has focused on the impact of perceived harm as the most influential dimension of interpreting moral events (Gray et al., 2014), however the current study elucidates the importance of *fairness and reciprocity* in one's experience of distress. The present findings demonstrate that perceptions of violations to fairness may cut across group affiliation to influence distress. To illustrate, some individuals perceive restricting gun control laws as a transgression of fairness (e.g., taking away second amendment rights), whereas others may argue that lack of gun control is perpetuating discrimination and inequality among people. Overall, the current study lends further evidence to the importance of assessing individuals' values and moral systems and may implicate PMT as a public health concern relevant to individuals' emotional well-being (Lench et al., 2018; Weir, 2019).

Limitations and Future Research

There are several limitations to this study. First, as there is no existing measure of perceived moral transgressions in the literature, I self-developed a measure of PMT that paralleled the domains in moral foundations theory (harm, fairness, in-group, authority, purity; Graham et al., 2011). Although the internal consistency estimates and intercorrelations with transgression subscales and other study variables provided preliminary evidence of reliability and validity, further research is warranted to determine psychometric properties of these items. In addition, as in-group/loyalty was the only PMT that remained significant when all five PMTs were included in the model, this indicates a large proportion of shared variance between the various PMT items (i.e., across all PMTs). This suggests the need to examine the factor structure of this measure, which was briefly investigated via exploratory factor analysis (EFA; see Methods section). Results of the PMT measure for the correlational portion indicated a two-component structure.

This finding could be due to the study being only moderate in size and representativeness; for example, Graham et al. (2011) used a sample of 34, 476 participants to examine the factor structure of four versions of the Moral Foundations Questionnaire (MFQ). Further analysis is needed to understand the dimensionality of PMTs, which is beyond the scope of the current investigation. It is recommended that future studies use a well-validated measure, if one exists in the future, to explore this construct; if no measure exists, replicability studies could examine the factor-structure and psychometric properties of our PMT measure.

Furthermore, as the PMT exploratory factor analysis appeared to support a two-factor structure (individualizing vs. binding dimensions) consistent with early MFQ literature (Graham et al., 2009), it is unclear if there is a meaningful distinction between these two morality dimensions, compared to a five-factor model. That is, by assuming a two-factor structure, it is possible that importance variance may be discarded. Indeed, Graham and colleagues (2011) re-examined the factor structure of the MFQ by conducting comparative model fitting of confirmatory factor analyses (CFAs); taking fit and parsimony into consideration, the researchers found that the five-factor model was consistently "a significant improvement over the hierarchical models" (p. 375). Therefore, future studies should examine the best model fit for our PMT measure and explore further implications of individualizing versus binding dimensions of morality (Graham et al., 2009; Haidt & Graham, 2007).

An additional study limitation is the fact that I did not correct for multiple comparisons when analyzing the data, which could lead to inflation (i.e., family-wise error rate). As most of the results for the main variables under study were significant at $p < .001$, it is suggested that *marginally significant results* (which were primarily the covariates and one main effect [purity PMT vs. control] analyses in the experimental portion) and those with larger *p*-values be

examined with caution in order to avoid the likelihood of finding an erroneously significant effect and/or possibly misinterpreting the results. Thus, it is recommended that future studies correct for multiple analyses/comparisons, via adjusted significance levels, by using more conservative tests such as the Bonferroni correction or Holm-Bonferroni method (Field, 2013).

Another major limitation of the present study concerns the generalizability of these findings. Specifically, I used a convenience sample gathered through Mechanical Turk (MTurk), which has historically caused contention in the empirical literature (Coppock, 2018). For example, Chandler and colleagues (2015) found that MTurk participants generally complete dozens of academic surveys, which may elicit different approaches to answering items or other demand effects. However, a recent meta-analysis using a replication approach of 15 experiments conducted through MTurk found a high degree of agreement between these convenience samples and national probability samples, suggesting results may not be as biased as originally proposed (Coppock, 2018).

In addition to possible confounds associated with an online convenience sample, most participants identified as Caucasian (74.6%), were relatively young (M_{age} = 36.01; SD_{age} = 11.04; cohort effects), and liberal (56%). This threatens ecological validity of our findings, or the ability to generalize them to all U.S. residing citizens. This is particularly salient to the current socio-political climate, as issues of ethnicity, race, and associated negative social attitudes between people are emotionally evocative topics. A recent national study conducted by Pew Research Center found that approximately 65% of Americans expressed the belief that it has become more common for people in society to display “racist or racially insensitive views” (Horowitz, Brown, & Cox, 2019). Future research on moral transgressions should consider collecting a more nationally diverse and representative participant pool, which may require a larger sample. It is

recommended that researchers also control for political affiliation to best understand the effects of perceived moral transgressions on distress within the socio-political climate.

A final limitation of the current study is the influence of contextual factors co-occurring at the same time as data collection (July 2018). That is, when this survey was distributed the news coverage was primarily focused on issues of immigration reform, which may have affected participant responses. It is also possible that participants experienced increased fatigue or carry-over effects during the experimental portion of the study, which is another threat to external validity. Furthermore, I did not control for media exposure, as this could be a possible confound or moderator. In the future, this methodical concern should be addressed. Nonetheless, the present study does demonstrate that PMT in society are both associated with higher distress and cause increased distress in the moment, which was the purpose of this exploratory study.

Conclusion

The current study extends the literature by examining the relationship between perceived moral transgressions (other towards other) in society (observed in the last two weeks, as well as in the moment), moral foundations, and correlates of psychological distress in a sample of U.S. residing participants. Specifically, this investigation utilized both correlational and experimental designs to examine these constructs between and within participants. In this respect, I found that individuals indicated higher distress if they perceived transgressions against their in-group, suggesting implications for cultural and political divisiveness and conflict (Graham et al., 2009). This relationship became stronger at high levels of endorsement of the corresponding moral foundation of loyalty to one's in-group. Conversely, the experimental manipulation indicated that the only PMT*MF interaction that elicits increased distress [from baseline] are those that violate moral systems of fairness.

Overall, the current study suggests that perceived moral transgressions are a novel construct which are correlated with distress and evoke distress in the moment. Moreover, this relationship is likely amplified by belief systems based in moral values and intuitions (i.e., moral foundations). Of note, this study further illustrates the contribution of perceived moral transgressions to distress above and beyond well-known, established risk factors of distress (neuroticism, perceived control, avoidance, social support, trauma history), suggesting the *moral dimension plays a role in emotional well-being*. Thus, clinicians should consider exploring this domain with clients and identify strategies that can assist in ameliorating their distress, specifically in response to socio-cultural stressors observed in their environment. Future research is warranted to better elucidate other psychological effects, beyond distress, of perceived moral transgressions in the socio-political climate.

References

Aguinis, H., Beaty, J. C., Boik, R. J., & Pierce, C. A. (2005). Effect size and power in assessing moderating effects of categorical variables using multiple regression: A 30-year review. *Journal of Applied Psychology*, *90*(1), 94-107. doi:10.1037/0021-9010.90.1.94

Almeida, O. P., Draper, B., Pirkis, J., Snowdon, J., Lautenschlager, N. T., Byrne, G., & ... Pfaff, J. J. (2012). Anxiety, depression, and comorbid anxiety and depression: Risk factors and outcome over two years. *International Psychogeriatrics*, *24*(10), 1622-1632. doi:10.1017/S104161021200107X

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders-5 (DSM-5).* Washington, DC: American Psychiatric Association.

American Psychological Association. (2017). *Stress in America: The state of our nation*. Stress in America Survey.

Andrews, G. (1990). Classification of neurotic disorders. *Journal of Royal Society of Medicine, 83*, 606–607.

Aronson, E., Wilson, T., Akert, R., & Sommers, S. (2013). *Social psychology* (9th ed.). Boston, MA: Pearson.

Bandelow, B., & Michaelis, S. (2015). Epidemiology of anxiety disorders in the 21st century. *Dialogues in Clinical Neuroscience*, *17*(3), 327–335.

Barnes, H. A., Hurley, R. A., & Taber, K. H. (2019). Moral injury and PTSD: Often co-occurring yet mechanistically different. *The Journal of Neuropsychiatry and Clinical Neurosciences*, *31*(2), 98–103. doi: 10.1176/appi.neuropsych.19020036

Barriga, A. Q., Morrison, E. M., Liau, A. K., & Gibbs, J. C. (2001). Moral cognition: Explaining the gender difference in antisocial behavior. *Merrill-Palmer Quarterly, 47,* 532–562. doi:10.1353/mpq.2001.0020

Barlow, D. H. (1988). *Anxiety and its disorders: The nature and treatment of anxiety and panic.* New York: The Guilford Press.

Barlow, D. H. (2000). Unraveling the mysteries of anxiety and its disorders from the perspective of emotion theory. *American Psychologist*, *55*(11), 1247-1263. doi:10.1037/0003-066X.55.11.1247

Barlow, D. H. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic* (2nd ed.). New York, NY: Guilford Press.

Barlow, D. H., Allen, L. B., & Choate, M. L. (2004). Toward a unified treatment for emotional disorders. *Behavior Therapy, 35,* 205–230.

Barlow, D., Farchione, T., Sauer-Zavala, S., Murray Latin, H., Ellard, K., Bullis, J., Bentley, K., Boettcher, H., & Cassiello-Robbins, C. (2018). *Unified protocol for transdiagnostic treatment of emotional disorders: Therapist guide, 2nd edition.* New York, NY: Oxford University Press.

Barlow, D. H., Sauer-Zavala, S., Carl, J. R., Bullis, J. R., & Ellard, K. K. (2014). The nature, diagnosis, and treatment of neuroticism: Back to the future. *Clinical Psychological Science*, *2*(3), 344-365. doi:10.1177/2167702613505532

Bauman, C. W., & Skitka, L. J. (2009). In the mind of the perceiver: Psychological implications of moral conviction. In D. M. Bartels, C. W. Bauman, L. J. Skitka, D. L. Medin, D. M. Bartels, C. W. Bauman, ... D. L. Medin (Eds.), *Moral judgment and decision making* (pp.

339-362). San Diego, CA, US: Elsevier Academic Press. doi:10.1016/S0079-7421(08)00411-8

Beck, J. G. (2010). *Interpersonal processes in the anxiety disorders: Implications for understanding psychopathology and treatment.* Washington, DC: American Psycho- logical Association.

Beck, A. T., & Steer, R. A. (1990). *Manual for the Beck Anxiety Inventory.* San Antonio, TX: Psychological Corporation.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the revised Beck Depression Inventory-II.* San Antonio, TX: Psychological Corporation.

Bègue, L., Beauvois, J., Courbet, D., Oberlé, D., Lepage, J., & Duke, A. A. (2015). Personality predicts obedience in a Milgram paradigm. *Journal of Personality*, *83*(3), 299-306. doi:10.1111/jopy.12104

Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.coms Mechanical Turk. *Political Analysis, 20*(03), 351-368. doi:10.1093/pan/mpr057

Bouchard, T. J., & Loehlin, J. C. (2001). Genes, evolution, and personality. *Behavior Genetics*, *31*, 243–273. doi:10.1023/A:1012294324713

Brewer, M. B., & Brown, R. J. (1998). Intergroup relations. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 554-594). New York, NY, US: McGraw-Hill.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*, 513–531.

Bronfenbrenner, U. (1995). The bioecological model from a life course perspective: Reflections of a participant observer. In P. Moen, G. H. Elder Jr., & K. Lüscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 599–616). Washington, DC: American Psychological Association.

Bronisch, T., & Wittchen, H. U. (1994). Suicidal ideation and suicide attempts: Comorbidity with depression, anxiety disorders, and substance abuse disorder. *European Archives of Psychiatry and Clinical Neuro- science, 244,* 93-98.

Brown, C., Schulberg, H. C., Madonia, M. J., & Shear, M. K. (1996). Treatment outcomes for primary care patients with major depression and lifetime anxiety disorders. *American Journal of Psychiatry, 153,* 1293- 1300.

Brown, T. A., & Barlow, D. H. (2009). A proposal for a dimensional classification system based on the shared features of the DSM-IV anxiety and mood disorders: Implications for assessment and treatment. *Psychological Assessment*, *21*(3), 256-271. doi:10.1037/a0016608

Brown, T. A., Campbell, L. A., Lehman, C. L., Grisham, J. R., & Mancill, R. B. (2001). Current and lifetime comorbidity of the DSM-IV anxiety and mood disorders in a large clinical sample. *Journal of Abnormal Psychology*, *110*(4), 585-599. doi:10.1037/0021-843X.110.4.585

Brown, T. A., Chorpita, B. F., & Barlow, D. H. (1998). Structural relationships among dimensions of the *DSM-IV* anxiety and mood disorders and dimensions of negative affect, positive affect, and autonomic arousal. *Journal of Abnormal Psychology, 107,* 179–192.

Bryan, C. J., Bryan, A. O., Anestis, M. D., Anestis, J. C., Green, B. A., Etienne, N., & ... Ray-Sannerud, B. (2016). Measuring moral injury: Psychometric properties of the moral injury events scale in two military samples. *Assessment*, *23*(5), 557-570. doi:10.1177/1073191115590855

Bryan, A. O., Bryan, C. J., Morrow, C. E., Etienne, N., & Ray-Sannerud, B. (2014). Moral injury, suicidal ideation, and suicide attempts in a military sample. *Traumatology*, *20*(3), 154–160. doi: 10.1037/h0099852

Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior, 29*(6), 2156-2160. doi:10.1016/j.chb.2013.05.009

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *56*(2), 267-283. doi:10.1037/0022-3514.56.2.267

Chandler, J., Paolacci, G., Peer, E., Mueller, P., & Ratliff, K. (2015). Using non-naïve participants can reduce effect sizes. *Psychological Science, 26,* 1131-1139.

Cheema, J. R. (2014). Some general guidelines for choosing missing data handling methods in educational research. *Journal of Modern Applied Statistical Methods, 13,* 53-71. doi: 10.22237/jmasm/1414814520

Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology, 100,* 316-336.

Coppock, A. (2018). Generalizing from survey experiments conducted on Mechanical Turk: A replication approach. *Political Science Research and Methods,* 1-16. doi:10.1017/psrm.2018.10

Costa, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences, 13*(6), 653-665. doi:10.1016/0191-8869(92)90236-I

Currier, J. M., Holland, J. M., Drescher, K., & Foy, D. (2015a). Initial psychometric evaluation of the Moral Injury Questionnaire—Military version. *Clinical Psychology & Psychotherapy, 22*(1), 54-63. doi:10.1002/cpp.1866

Currier, J. M., Holland, J. M., & Malott, J. (2014). Moral injury, meaning making, and mental health in returning veterans. *Journal of Clinical Psychology, 71*(3), 229-240. doi:10.1002/jclp.22134

Currier, J. M., Holland, J. M., Rojas-Flores, L., Herrera, S., & Foy, D. (2015b). Morally injurious experiences and meaning in Salvadorian teachers exposed to violence. *Psychological Trauma: Theory, Research, Practice, and Policy, 7*(1), 24–33. https://doi-org.ezproxy.spu.edu/10.1037/a0034092

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44,* 113–126. doi:10.1037/0022-3514.44.1.113

Dobolvi, D. (2019). *Moral foundations theory.* Retrieved from https://moralfoundations.org.

Drescher, K., Foy, D., 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,* 8-13.

Dunham, Y., Baron, A. S., & Carey, S. (2011). Consequences of "minimal" group affiliations in children. *Child Development, 82*(3), 793–811. doi: doi:10.1111/j.1467-8624.2011.01577.x

Enders, C. K. (2010). *Applied missing data analysis.* New York, NY, US: Guilford Press.

Erickson, T. M., Granillo, M. T., Crocker, J., Abelson, J. L., Reas, H. E., & Quach, C. M. (2017). Compassionate and self-image goals as interpersonal maintenance factors in clinical depression and anxiety. *Journal of Clinical Psychology*, doi:10.1002/jclp.22524

Ferrajão, P. C., & Oliveira, R. A. (2016). Portuguese war veterans: Moral injury and factors related to recovery from PTSD. *Qualitative Health Research*, *26*(2), 204-214. doi:10.1177/1049732315573012

Field, A. (2013). *Discovering statistics using SPSS* (4th ed.) London: Sage Publications.

Finset, A., Steine, S., Haugli, L., Steen, E., & Lærum, E. (2002). The Brief Approach/Avoidance Coping Questionnaire: Development and validation. *Psychology, Health & Medicine*, *7*(1), 75-85. doi:10.1080/13548500120101577

Forbes, E. E., & Dahl, R.E. (2005). Neural systems of positive affect: Relevance to understanding child and adolescent depression? *Developmental Psychopathology*, *17*, 827-850.

Frankfurt, S., & Frazier, P. (2016). A review of research on moral injury in combat veterans. *Military Psychology*, *28*(5), 318-330. doi:10.1037/mil0000132

Gallagher, M. W., Bentley, K. H., & Barlow, D. H. (2014). Perceived control and vulnerability to anxiety disorders: A meta-analytic review. *Cognitive Therapy and Research*, *38*(6), 571-584. doi:10.1007/s10608-014-9624-x

Gawrysiak, M. J., Leong, S. H., Grassetti, S. N., Wai, M., Shorey, R. C., & Baime, M. J. (2016). Dimensions of distress tolerance and the moderating effects on mindfulness-based stress reduction. *Anxiety, Stress & Coping: An International Journal*, *29*, 552-560. doi:10.1080/10615806.2015.1085513

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development.* Cambridge, MA: Harvard University Press.

Goldberg, L. (1992). The development of markers for the Big Five factor structure. *Psychological Assessment*, 4, 26–42.

Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology, 96*(5), 1029-1046. doi:10.1037/a0015141

Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the moral domain. *Journal of Personality and Social Psychology, 101*(2), 366-385. doi:10.1037/a0021847

Gray, K., Schein, C., & Ward, A. F. (2014). The myth of harmless wrongs in moral cognition: Automatic dyadic completion from sin to suffering. *Journal of Experimental Psychology: General, 143*(4), 1600-1615. doi:10.1037/a0036149

Gross, J. J., & Levenson, R. W. (1997). The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology, 106*, 95-103.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review, 108,* 814–834. doi:10.1037/0033-295X.108.4.814

Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. New York, NY: Pantheon.

Haidt, J. (2013). Moral psychology for the twenty-first century. *Journal of Moral Education, 42*(3), 281-297. doi:10.1080/03057240.2013.817327

Haidt, J., Bjorklund, F., & Murphy, S. (2000). *Moral dumbfounding: When intuition finds no reason*. Unpublished manuscript, University of Virginia.

Haidt, J., & Graham, J. (2007). When morality opposes justice: Conservatives have moral intuitions that liberals may not recognize. *Social Justice Research, 20,* 98–116. doi:10.1007/s11211-007-0034-z

Haidt, J., & Joseph, C. (2004). Intuitive ethics: How innately prepared intuitions generate culturally variable virtues [Special issue]. *Daedalus, 133,* 55–66. doi:10.1162/0011526042365555

Haidt, J., & Joseph, C. (2007). The moral mind: How 5 sets of innate intuitions guide the development of many culture-specific virtues, and perhaps even modules. In P. Carruthers, S. Laurence, & S. Stich (Eds.), *The innate mind* (Vol. 3, pp. 367–391). New York: Oxford University Press.

Haidt, J., Koller, S., & Dias, M. (1993). Affect, culture, and morality, or is it wrong to eat your dog? *Journal of Personality and Social Psychology, 65,* 613–628. doi: 1037/022-3514.65.4.613

Haidt, J., McCauley, C.R., & Rozin, P. (1994). Individual differences in sensitivity to disgust: A scale sampling seven domains of disgust elicitors. *Personality & Individual Differences, 16*, 701-703. doi: 10.1016/0191-8869(94)90212-7

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.

Hayes, S.C., Strosahl, K. D., & Wilson, K. G. (2011). *Acceptance and commitment therapy, second edition: The process and practice of mindful change.* New York, NY: The Guilford Press.

Heck, R. H., Thomas, S. L., & Tabata, L. N. (2010). *Multilevel and longitudinal modeling with IBM SPSS*. New York, NY: Routledge.

Heerey, E. A., & Kring, A. M. (2007). Interpersonal consequences of social anxiety. *Journal of Abnormal Psychology, 116,* 125-134. doi: 10.1037/0021-843X.116.1.125

Hefner, J., & Eisenberg, D. (2009). Social support and mental health among college students. *American Journal of Orthopsychiatry, 79*(4), 491-499. doi:10.1037/a0016918

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology, 44,* 227–239.

Hettema, J. M., Neale, M. C., & Kendler, K. S. (2001). A review and meta-analysis of the genetic epidemiology of anxiety disorders. *American Journal of Psychiatry, 158,* 1568–1578. doi:10.1176/appi.ajp.158.10.1568

Hoffman, J., Liddell, B., Bryant, R. A., & Nickerson, A. (2018). The relationship between moral injury appraisals, trauma exposure, and mental health in refugees. *Depression and Anxiety, 35*(11), 1030–1039. doi: 10.1002/da.22787

Horowitz, J., Brown, A., & Cox, K. (2019). Views on race in America 2019. Retrieved from https://www.pewsocialtrends.org/2019/04/09/race-in-america-2019/.

Jackson, A. P., Hansen, J., Cook-Ly, J. M. (2013). Value conflicts in psychotherapy. *Issues in Religion and Psychotherapy, 35*(1), 6 –15.

Jost, J. T. (2017). Ideological asymmetries and the essence of Political Psychology. *Political Psychology, 38*(2), 167–208. doi: 10.1111/pops.12407

Jost, J. T., & Amodio, D. M. (2012). Political ideology as motivated social cognition: Behavioral and neuroscientific evidence. *Motivation and Emotion, 36*(1), 55–64. doi: 10.1007/s11031-011-9260-7

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin, 129*(3), 339–375. doi: 10.1037/0033-2909.129.3.339

Kabat-Zinn, J. (1994). *Wherever you go there you are: Mindfulness meditation in everyday life*. New York, NY: Hyperion.

Keightley, M. L., Seminowicz, D. A., Bagby, R. M., Costa, P. T., Fossati, P., & Mayberg, H. S. (2003). Personality influences limbic-cortical interactions during sad mood induction. *NeuroImage*, *20*, 2031–2039. doi:10.1016/j. neuroimage.2003.08.022

Kendler, K. S., Prescott, C. A., Myers, J., & Neale, M. C. (2003). The structure of genetic and environmental risk factors for common psychiatric and substance use disorders in men and women. *Archives of General Psychiatry*, *60*, 929–937. doi:10.1001/archpsyc.60.9.929\n60/9/929

Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-Month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*, 617-627. doi:10.1001/archpsyc.62.6.617

Koenig, H. G., Ames, D., Youssef, N., Oliver, J. P., Volk, F., Teng, E., J….et al. (2018). The Moral Injury Symptom Scale—Military Version. *Journal of Religious Health, 57*, 249–265. doi: 10.1007/s10943-017-0531-9

Koenig, H. G., Youssef, N. A., & Pearce, M. (2019). Assessment of moral injury in veterans and active duty military personnel with PTSD: A review. *Frontiers in Psychiatry*, *10*, 443. doi: 10.3389/fpsyt.2019.00443

Kohlberg, L. (1969). Stage and sequence: The cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), *Handbook of socialization theory and research* (pp. 347–480). Chicago: Rand McNally.

Kohlberg, L. (1971). From is to ought: How to commit the naturalistic fallacy and get away with it in the study of moral development. In T. Mischel (Ed.), *Cognitive development and epistemology* (pp. 151–235). New York, NY: Academic Press.

Lancaster, S. L., Melka, S. E., & Rodriguez, B. F. (2009). An examination of the differential effects of the experience of DSM-IV defined traumatic events and life stressors. *Journal of Anxiety Disorders*, *23*(5), 711-717. doi:10.1016/j.janxdis.2009.02.010

Lench, H. C., Levine, L. J., Perez, K. A., Carpenter, Z. K., Carlson, S. J., & Tibbett, T. (2018). Changes in subjective well-being following the U.S. Presidential election of 2016. *Emotion*, doi:10.1037/emo0000411

Lewinsohn, P. M., Gotlib, I. H., & Seeley, J. R. (1997). Depression-related psychosocial variables: Are they specific to depression in adolescents. *Journal of Abnormal Psychology, 106*, 365–375. doi: 10.1037/0021-843X.106.3.365

Linehan, M. (2015). *DBT skills training handouts and worksheets*. New York, NY: Guilford.

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. doi:10.1016/j.cpr.2009.07.003

López Ramos, Y., Fernández Muñoz, J. J., Navarro-Pardo, E., & Murphy, M. (2017). Confirmatory factor analysis for the multidimensional scale of perceived social support in a sample of early retirees enrolled in university programs. *Clinical Gerontologist: The*

Journal of Aging and Mental Health, *40*(4), 241-248. doi:10.1080/07317115.2016.1199077

Lorr, M., & McNair, D. M. (1971). *The Profile of Mood States manual.* San Diego, CA: Educational and Industrial Testing Service.

Lovibond, P. F., & Lovibond, S. H. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Book, Sydney: Psychology Foundation.

Lumpkin, J. R. (1985). Validity of a brief locus of control scale for survey research. *Psychological Reports, 57,* 655-659.

Lumpkin, J. R. (1988). Establishing the validity of an abbreviated locus of control scale: Is a brief Levenson's scale any better? *Psychological Reports, 63*(2), 519-523. doi:10.2466/pr0.1988.63.2.519

Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2004). Unemployment alters the set point for life satisfaction. *Psychological Science, 15,* 8–13. http://dx.doi.org/10.1111/j.0963-7214.2004.01501002.x

Lynch, T. R., Robins, C. J., Morse, J. O., & Krause, E. D. (2001). A mediational model relating affect intensity, emotion inhibition, and psychological distress. *Behavior Therapy, 32,* 519-536.

Maguen, S., Burkman, K., Madden, E., Dinh, J., Bosch, J., Keyser J, et al. (2017). Impact of killing in war: A randomized, controlled pilot trial. *Journal of Clinical Psychology, 73*(9), 997–1012. doi: 10.1002/jclp.22471

Maguen, S., & Litz, B. (2012). Moral injury in veterans of war. *National Center for PTSD Research Quarterly 23*(1), 1-6.

Markus, H., & Kitayama, S. (2009). Cultures and selves: A cycle of mutual constitution. *Perspectives on Psychological Science, 5,* 420–430.

McCann, S. J. H. (2008). Societal threat, authoritarianism, conservatism, and U.S. state death penalty sentencing (1977–2004). *Journal of Personality and Social Psychology, 94,* 913–923.

Miller, G. E., Chen, E., & Zhou, E. S. (2007). If it goes up, must it come down? Chronic stress and the hypothalamic-pituitary- adrenocortical axis in humans. *Psychological Bulletin, 133*, 25–45. doi:10.1037/0033-2909.133.1.25

Morgan, M., & Shanahan, J. (2017). Television and the cultivation of authoritarianism: A return visit from an unexpected friend. *Journal of Communication*, *67*(3), 424-444. doi:10.1111/jcom.12297

Mullins-Sweatt, S. N., Jamerson, J. E., Samuel, D. B., Olson, D. R., & Widiger, T. A. (2006). Psychometric properties of an abbreviated instrument of the five-factor model. *Assessment,* 13, 119–137.

Nash, W. P., Carper, T. M., 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. doi:10.7205/MILMED-D-13-00017

Nash, W. P., Vasterling, J., Ewing-Cobbs, L., Horn, S., Gaskin, T., Golden, J., … Baker, D. G. (2010). Consensus recommendations for common data elements for Operational Stress research and surveillance: Report of a federal interagency working group. *Archives of Physical Medicine and Rehabilitation, 91*(11), 1673–1683. doi: 10.1016/j.apmr.2010.06.035

Newman, M. G., Llera, S. J., Erickson, T. M., Przeworski, A., & Castonguay, L. G. (2013). Worry and generalized anxiety disorder: A review and theoretical synthesis of evidence on nature, etiology, mechanisms, and treatment. *Annual Review of Clinical Psychology*, *9*275-297. doi:10.1146/annurev-clinpsy-050212-185544

Nietzsche, F. W., & In Kaufmann, W. (1966). *Beyond good and evil: Prelude to a philosophy of the future*. New York: Vintage Books.

Olinsky, A., Chen, S., & Harlow, L. (2003). The comparative efficacy of imputation methods for missing data in structural equation modeling. *European Journal of Operational Research, 151,* 53-79.

Osman, A., Wong, J. L., Bagge, C. L., Freedenthal, S., Gutierrez, P. M., & Lozano, G. (2012). The Depression Anxiety Stress Scales—21 (DASS-21): Further examination of dimensions, scale reliability, and correlates. *Journal of Clinical Psychology*, *68*(12), 1322-1338. doi:10.1002/jclp.21908

Palmer, J. K., & Loveland, J. M. (2004). Further Investigation of the Psychometric Properties of Saucier's Big Five 'Mini-Markers:' Evidence for Criterion and Construct Validity. *Individual Differences Research*, *2*(3), 231-238.

Resick, P.A., Monson, C.M., & Chard, K.M. (2008). *Cognitive processing therapy: Veteran/military version.* Washington, DC: Department of Veterans' Affairs.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied, 80,* 1–28. doi:10.1037/h0092976

Saucier, G. (1994). Mini-Markers: A brief version of Goldberg's unipolar Big-Five markers. *Journal of Personality Assessment*, 63, 506–516.

Scharrer, E. (2008). Media Exposure and Sensitivity to Violence in News Reports: Evidence of Desensitization? *Journalism & Mass Communication Quarterly, 85*(2), 291–310. https://doi-org.ezproxy.spu.edu/10.1177/107769900808500205

Schwartz, S. H. (1992). Universals in the content and structure of values. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1–65). New York: Academic Press.

Schwartz, S. H., Sagiv, L., & Boehnke, K. (2000). Worries and values. *Journal of Personality*, *68*(2), 309-346. doi:10.1111/1467-6494.00099

Schwartz, S. H. (2007). Universalism values and the inclusiveness of our moral universe. *Journal of Cross-Cultural Psychology, 38*(6), 711–728. doi: 10.1177/0022022107308992

Schnurr, P. P., Spiro, A., III, Vielhauer, M. J., Findler, M. N., & Hamblen, J. L. (2002). Trauma in the lives of older men: Findings from the Normative Aging Study. *Journal of Clinical Geropsychology, 81*, 175– 187.

Schnurr, P., Vielhauer, M., Weathers, F., & Findler, M. (1999). *The Brief Trauma Questionnaire (BTQ)* [Measurement instrument]. Available from http://www.ptsd.va.gov

Shweder, R. A., Mahapatra, M., & Miller, J. (1987). Culture and moral development. In J. Kagan & S. Lamb (Eds.), *The emergence of morality in young children* (pp. 1– 83). Chicago, IL: University of Chicago Press.

Shweder, R. A., Much, N. C., Mahapatra, M., & Park, L. (1997). The "big three" of morality (autonomy, community, and divinity), and the "big three" explanations of suffering. In A. Brandt & P. Rozin (Eds.), *Morality and health* (pp. 119–169). New York: Routledge.

Skitka, L. J. (2010). The psychology of moral conviction. *Social and Personality Psychology*

Compass, 4, 267–281.

Skitka, L. J., Bauman, C. W. and Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more? *Journal of Personality and Social Psychology, 88*, 895–917.

Skitka, L. J., & Morgan, G. S. (2014). The social and political implications of moral conviction. *Political Psychology, 35*(Suppl 1), 95–110. doi: 10.1111/pops.12166

Starr, L. R., & Davila, J. (2008). Excessive reassurance seeking, depression, and interpersonal rejection: A meta-analytic review. *Journal of Abnormal Psychology, 117*,762-775. doi: 10.1037/a0013866

Stein, M. B., Simmons, A. N., Feinstein, J. S., & Paulus, M. P. (2007). Increased amygdala and insula activation during emotion processing in anxiety-prone subjects. *The American Journal of Psychiatry, 164*, 318–327. doi:10.1176/ appi.ajp.164.2.318

Stewart, N., Chandler, J., & Paolacci, G. (2017). Crowdsourcing samples in cognitive science. *Trends in Cognitive Sciences, 21*(10), 736-748. doi: 10.1016/j.tics.2017.06.007

Substance Abuse and Mental Health Services Administration. (2017). *Key substance use and mental health indicators in the United States: Results from the 2016 National Survey on Drug Use and Health* (HHS Publication No. SMA 17-5044, NSDUH Series H-52). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from https://www.samhsa.gov/data/

Tepe, B., & Aydinli-Karakulak, A. (2019). Beyond harmfulness and impurity: Moral wrongness as a violation of relational motivations. *Journal of Personality and Social Psychology, 117*(2), 310–337. doi: 10.1037/pspi0000169

Thames, A. D., Irwin, M. R., Breen, E. C., & Cole, S. W. (2019). Experienced discrimination and racial differences in leukocyte gene expression. *Psychoneuroendocrinology, 106*, 277–283. doi:10.1016/j.psyneuen.2019.04.016.

Turiel, E. (1983). *The development of social knowledge: Morality and convention.* Cambridge, United Kingdom: Cambridge University Press.

Vélez-Agosto, N. M., Soto-Crespo, J. G., Vizcarrondo-Oppenheimer, M., Vega-Molina, S., & García Coll, C. (2017). Bronfenbrenner's bioecological theory revision: Moving culture from the macro into the micro. *Perspectives on Psychological Science, 12*(5), 900-910. doi:10.1177/1745691617704397

Volk, F., & Koenig, H, G. (2018). Moral injury and religiosity in active duty US Military with PTSD symptoms. *Military Behavioral Health 7*(1):64–72. doi: 10.1080/21635781.2018.1436102

Wang, X., Cai, L., Qian, J., & Peng, J. (2014). Social support moderates stress effects on depression. *International Journal of Mental Health Systems, 8*.

Weir, K. (2019). Politics is personal. *Monitor on Psychology, 50*(10), 44–51.

Westlye, L. T., Bjornebekk, A., Grydeland, H., Fjell, A. M., & Walhovd, K. B. (2011). Linking an anxiety-related personal- ity trait to brain white matter microstructure: Diffusion tensor imaging and harm avoidance. *Archives of General Psychiatry, 68*, 369–377. doi:10.1001/archgenpsychiatry.2011.24

Whisman, M. A., Sheldon, C. T., & Goering, P. (2000). Psychiatric disorders and dissatisfaction with social relationships: Does type of relationship matter? *Journal of Abnormal Psychology, 109*(4), 803-808. doi:10.1037/0021-843X.109.4.803

Wong, H. J., & Anitescu, M. (2017). The role of health locus of control in evaluating depression

and other comorbidities in patients with chronic pain conditions, a cross-sectional study. *Pain Practice, 17*(1), 52-61. doi:10.1111/papr.12410

Yan, G. W. (2016). The invisible wound: Moral injury and its impact on the health of Operation Enduring Freedom/Operation Iraqi Freedom Veterans. *Military Medicine, 181*(5), 451–458. doi: 10.7205/milmed-d-15-00103

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52,* 30–41. doi:10.1207/s15327752jpa5201_2

Zimet, G. D., Powell, S. S., Farley, G. K., Werkman, S., & Berkoff, K. A. (1990). Psychometric characteristics of the multidimensional scale of perceived social support. *Journal of Personality Assessment, 55*(3–4), 610–617.