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Shame Proneness as a Vulnerability Factor for Negative Emotions in the Context of Interpersonal Stressors: An Experience Sampling Study

Oxana L. Stebbins
Seattle Pacific University

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Oxana L. Stebbins

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

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

Keyne Law, Ph.D.
Assistant Professor of Psychology
Committee Member

Reviewed by:
Jacob Bentley, Ph.D.
Chair, Department of Clinical Psychology

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

Katy Tangenberg, PhD.
Dean, School of Psychology, Family, & Community

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Abstract

Shame proneness is associated with psychopathology and may serve as a risk factor for experiencing distressing emotions at subclinical and clinical levels across diagnoses. Additionally, shame-prone individuals may have increased sensitivity toward interpersonal stressors and negative shifts in self-evaluations. However, little to no research has examined shame proneness as a prospective risk factor for distressed moods following interpersonal stressors using experience sampling methods. Furthermore, disagreement on theories of shame make it difficult to achieve consistent results in the literature. The purpose of this study was to assess whether shame proneness acts as a risk factor for distressed moods in the context of interpersonal stressors. Participants included 152 (76% female) undergraduate students (M_{age} = 19.51, *SD* = 2.09) varying across clinical and non-clinical levels of anxiety and mood disorders. Participants completed baseline measures of shame- and guilt-proneness followed by ratings of stressful interactions for five weeks, three times a week. Participants rated the degree to which the stressful event involved the other individual's negative evaluation, and the degree to which the participants viewed themselves as having agency (i.e., status, social standing) and communion (i.e., social connection) as a result of the interaction. Participants also rated concurrent depressed, anxious, and angry moods at the time of the interaction. Multilevel modeling was used to test the effects of shame proneness (controlling for guilt proneness) on daily distressed moods and moderations with the above person-mean centered interpersonal stressors. Results showed that grand-mean centered shame proneness prospectively predicted depressed and anxious but not angry moods across stressor contexts (*b* = 0.02, *95CI* = [0.01, 0.04]; *b* = 0.02, *95CI* = [0.01, 0.04]; and *b* = 0.02, *95CI* = [-0.01, 0.03], respectively). Only perceived negative evaluation interacted with shame proneness when predicting angry mood (*b* =

0.0001, *95CI* = [0.0001, 0.0005]), such that individuals higher in shame proneness experienced even more angry mood following these stressors relative to less shame-prone peers. Shame proneness did not interact with perceived submission or disconnectedness when predicting distressed moods, contrary to hypotheses. Implications for theory of shame are discussed.

CHAPTER I

Introduction and Literature Review

In the last two decades, researchers have begun to shed light on a distinct set of social emotions emphasizing self-conscious processes such as reflection on one's own interpersonal behavior and its impact on others (see Tracy & Robins, 2004). These include emotions such as shame, guilt, embarrassment, and pride (Tangney et al., 2007). Shame and guilt are of particular interest due to their relevance to interpersonal functioning and emotional well-being (Tangney et al., 2007). Despite ongoing questions about how shame and guilt should best be defined and measured (Cohen et al., 2011), shame proneness in particular has consistently and uniquely predicted psychopathology (Cândea & Szentagotai-Tătar, 2013; Dearing et al., 2005; Hastings et al., 2002; Hawes et al., 2013; Rüsch et al., 2007). For example, shame proneness predicted psychopathology beyond depressive thinking (Mills et al., 2013) or SES (Stuewig et al., 2014). Tangney's self-behavior distinction between shame proneness and guilt (Tangney & Dearing, 2002) has emerged as the predominant theory on shame and how it may promote psychopathology. This theory conceptualizes shame proneness as the tendency to appraise the self (rather than behavior) negatively in response to one's perceived transgression, whether real or imagined (Tangney, 1990; Tangney & Dearing, 2002). According to the self-behavior distinction, whereas shame involves perceiving one's entire self or person negatively and fosters avoidance or withdrawal behavior, guilt proneness is conceptualized as more adaptive in that it involves appraising only the behavior negatively, which can motivate reparative behavior (e.g., apologizing). Therefore, shame proneness is particularly clinically relevant and important to study.

Shame proneness may be a risk factor for distressing negative emotions across diagnoses. Consistent with the dimensional view of symptoms (Bullis et al., 2019; Brown & Barlow, 2009; Widiger, 1992; Widiger & Gore, 2014), negative emotions experienced in daily life may occur on a spectrum with more significant symptomatology. Because shame proneness is associated with psychopathology, which often involves frequent and intense experience of negative emotions in everyday life, shame proneness may be a risk factor for experiencing higher daily distress, even at subclinical levels. However, despite its widespread associations with psychopathology in cross-sectional research, to my knowledge, only one study has examined shame *proneness* (vs. state measures) as a predictor of daily emotion in daily life using experience sampling methods. Specifically, Luoma et al. (2018) used the internalized shame scale at baseline and daily mood fluctuations to predict drinking behavior. However, more research is needed to predict risk for psychopathology broadly. Therefore, this study first seeks to examine whether shame proneness prospectively predicts daily distressed emotions (anxiety, depression, anger) using experience sampling methods.

In addition, shame proneness may place individuals at increased risk for distress not just in general, but in the context of situational stressors and social situations that might elicit fluctuations in self-perceptions. Psychopathology is frequently associated with impaired social functioning (Keltner & Kring, 1999), and researchers are beginning to assess the differential impact of interpersonal processes on negative emotions. As a social emotion, shame-prone individuals may have increased sensitivity to interpersonal stressors compared to non-interpersonal ones. However, research has not examined the interaction between shame proneness and interpersonal stressors in predicting distressed mood in daily life, despite the fact that experience sampling methods are especially useful for measuring mood following particular

social interactions (Moskowitz & Young, 2006). This paper uses experiential sampling methods to examine whether individuals higher in shame proneness are particularly sensitive to the effects of negative evaluation (interpersonal stressor) on daily depressed, anxious, and angry mood.

However, given the conceptualization of shame as a self-conscious social emotion, it is important to consider not just the situational stressor (e.g., social evaluative threat) that is important to examine in predicting distressed mood, but also the individual's resulting self-evaluation based on the outcome of the interaction (in other words, how the target individual views him- or herself following the interpersonal stressor). Recent integrative theoretical advancements in conceptualizing shame suggest that it may be uniquely sensitive to perceived fluctuations in one's standing on a *vertical* dimension of social hierarchy, whereas guilt may be sensitive to shifts on a *horizontal* dimension of reciprocity or connection with others (Giner-Sorolla, 2013). Thus, shame-prone individuals may be particularly vulnerable to negative emotions when experiencing downwards shifts in hierarchical status or dominance, as compared to shifts in social connection. However, this theory warrants direct empirical testing of these ideas, an aim of the present study.

The purpose of this study is threefold: (1) to examine shame proneness as a risk factor for higher average daily distress states of depression, anxiety, and anger, (2) to test whether shame-prone individuals are particularly at risk for negative moods in the context of the interpersonal stressor of negative social evaluation, and (3) to test whether shame proneness will interact with situational shifts on the vertical and horizontal social dimensions. Before describing the present study, I will review the literature on the theories of shame, links of shame to psychopathology and relevance to dimensional symptoms, and reasons to expect shame proneness to interact with effects of interpersonal stressors on distress, in particular.

Shame Proneness

Theories on Shame

Several theories of shame have been developed, emphasizing different factors that differentiate shame from guilt. These include self versus behavior, public versus private, and hierarchical versus reciprocal distinctions (Giner-Sorolla, 2013). Noting limitations with each theory, Giner-Sorolla (2013) presented a fourth, integrative view. Each is presented below.

Self-Behavior

First, the self-behavior (or act-person) view refers to the behavior (act) versus self (person) distinction in its negative appraisal and action tendency. Otherwise known as the self-behavior distinction, this theory and its associated measure (the Test of Self-Conscious Affect-3 [TOSCA-3]; Tangney & Dearing, 2002; Tangney et al., 2000) represents the predominant approach to studying shame. Originally suggested by Lewis (1971), the self-behavior view holds that shame proneness is the tendency to view and experience one's core self, or entire person, as inherently flawed, bad, defective, or unworthy (Tangney, 1996; Tangney et al., 1992b). The attentional focus is on the *self* being bad, rather than the behavior associated with the social or moral transgressions. On the other hand, Tangney et al. (2007) defined guilt as the emotion resulting from believing that one has committed a wrongful *behavior* or act.

This theory describes shame and guilt in terms of distinct cognitive styles. Shame derives from internal, stable, and global attributions (Tangney et al., 1992b). In other words, causes or consequences of negative events are attributed to an internal (vs. external) sense of blame, are presumed to be relatively unchangeable and consistent (stable), and involve an evaluation of the entire self (global). This encapsulates a characterological self-blame described by Tangney et al. (1992b) that mirrors the attributional pattern found in depression, for example. On the other

hand, guilt results from cognitive attributions that are unstable and specific, although still internal (Tracy & Robins, 2006; Vliet, 2009). This means that although the negative event is still viewed as internally-caused (versus having external, environmental causation), the event is attributed to the specific behavior, which is interpreted as relatively changeable and manageable due to its specific and unstable nature. In other words, the more stable and global a cause is perceived to be, the more hopeless the individual may be about his ability to change it. To illustrate, a shame-prone individual may attribute a moral failure to the self via thoughts such as, "I'm stupid and unworthy," while a guilt-prone individual might think, "I fell short this time, but will try harder next time." Incidentally, this pattern is often seen in the low self-efficacy and learned helplessness seen in depression (Bandura et al., 1999; Feiring et al., 2002; Miller & Seligman, 1975). Research supports evidence for internal attributions in guilt and shame, and stable/global attributions for shame proneness but not guilt (Pineles et al., 2006).

In addition to distinct cognitive processes, shame and guilt pull for different associated action tendencies (emotion-driven behaviors). Tangney's model suggests that shame results in the behavioral tendency to hide, withdraw, or in some cases attack (Tangney, 1996; Tangney et al., 1992b). Contrasting its natural withdrawal/avoidance behavior, anger and aggression may reflect an unexpected or "second face" of shame, when shame is so unbearable that individuals lash out to defend the social self (Tangney & Dearing, 2002; Tangney et al., 1992a). As such, with the self-behavior view, shame may be associated with either withdrawal/avoidance or hostility/aggression. Guilt, on the other hand, is theorized to be associated more frequently with motivating apology or repair for the wrongdoing, and therefore promoting prosocial or adaptive responses (Tangney, 1996; Tangney et al., 1992b). A recent meta-analysis showed negative associations with prosocial behavior for shame proneness but positive for guilt proneness,

although the association with guilt was moderated by measure type (Tignor & Colvin, 2017). Specifically, the positive association with guilt was found for scenario measures (e.g., TOSCA-3) but was nonsignificant for checklist item measures. The present study incorporated the most widely-used measure of shame and guilt proneness (TOSCA) founded on the self-behavior view, although it is not the only way to conceptualize these constructs.

However, this theory is not without limitations. Although avoidance/withdrawal or externalization has the function of defending the self (Gausel & Leach, 2011), thereby being adaptive in some way, some argue that shame may have approach-oriented, prosocial qualities to it. These include apology/repair and self-improvement (Gausel & Leach, 2011; Gausel et al., 2018; Gausel et al., 2016; Leach, 2017; Leach & Cidam, 2015), behaviors not captured by the primary measure derived from the self-behavior theory (i.e., TOSCA-3; Tangney & Dearing, 2002; Tangney et al., 2000). This prosocial response resulted from appraising failure or social image as reparable in a meta-analysis, motivating the individual toward self-improvement or repair (Leach & Cidam, 2015). These constructive responses may also occur under circumstances where the individual is motivated to protect self-image (Gausel & Leach, 2011). Failures for which the individual does not feel a sense of control may result in avoidance. Additionally, others argue that shame is experienced too frequently for it to be entirely pathological (Giner-Sorolla, 2013), again suggesting an adaptive quality to it, contrary to the implications of the self-behavior theory.

Public-Private

A second theory of shame distinguishes shame and guilt based on hypothesized external (public) or internal (private) moral standards, respectively (Giner-Sorolla, 2013; Tangney & Dearing, 2002). Here, guilt is proposed as an emotion resulting from a behavioral violation of an

internalized set of values or moral code valued by the individual. In contrast, shame in this theory results from an "external moral conscience," in that the individual feels uncomfortable about the possibility of social disapproval by others. In other words, the concern is not on having done a bad behavior, but on the social appearance of the act and its social consequences. However, some have criticized the public-private distinction due to the fact that individuals may experience shame in even private settings (e.g., imagining a shameful experience; Smith et al., 2002), implying that internalized moral standards (or standards that are incorporated into one's identity or character) may be characteristic of shame as well. Furthermore, research has not supported this view (see Tangney & Dearing, 2002). The present study's aims do not directly address the public-private distinction.

Hierarchical-Reciprocal

A third theory of shame and guilt emphasizes a distinction between hierarchical and reciprocal social relations, grounded upon an evolutionary perspective (Fessler, 2007; Gilbert, 2007; Giner-Sorolla, 2013). Guilt is thought to monitor the self in relation to peers in a reciprocal relationship (horizontal), whereas shame monitors and adjusts the self's position relative to a social hierarchy (vertical). According to this view, shame may not necessarily provide direct, immediate benefit to the individual, but instead promotes social coherence and harmony for the larger group. In this sense, shame is adaptive not in terms of individual happiness but for survival and group inclusion, consistent with the biological evolutionary perspective (Fessler, 2007). Shame may maintain homeostatic balance, in that hierarchies decrease conflict and enhance organization. For example, in the animal kingdom, acknowledging another primate's dominance prevents continual battles for power; similarly, humans' submission to authority in the workplace and society maintains order and efficiency in system operations and organizational structures

(Giner-Sorolla, 2013). More indirectly, the expression of shame can pacify further punishment from group members, as the members see that the shameful individual acknowledges his or her lower social standing in the hierarchical system and has suffered already. Giner-Sorolla (2013) points out that although Western society tends to shun hierarchical systems today, rank-ordering is still present in more socially acceptable ways, such as evaluation of individuals' competence (e.g., productivity, intelligence) or the degree to which someone is moral or ethical. The fact that shame, according to this theory, can result from both moral and non-moral situations implies that shame is not necessarily a moral emotion, contrary to the self-behavior view, giving credence for a social hierarchy that can place individuals higher or lower based on any value system (e.g., intelligence). Additionally, simply internalizing one's hierarchical placement and its resulting worth is sufficient to produce feelings of shame in this view; others are not required to be present to induce shame. Giner-Sorolla (2013) summarized the hierarchical-reciprocal view by asserting that shame maintains inequalities (i.e., preserves the hierarchical system) while guilt reduces inequalities (i.e., making amends between individuals to restore relations). Therefore, shame's prosocial behavior is theorized to regulate and maintain the social hierarchy.

De Hooge's (2014) sociometer theory implies vertical and horizontal components to both shame and guilt and poses the idea that shame can even motivate prosocial, approach-oriented behavior. In this model, shame signals to the individual his potential for social exclusion or rejection via a social barometer. When one's social barometer signals that the social self is damaged or threatened, such as violating a group standard or norm, feelings of shame result and motivate one toward affiliative (horizontal) or appeasement (low vertical) behaviors in ways that minimize the likelihood of rejection, subsequently restoring one's status in the social group. Shame, in this theory, holds two functions. First, behavioral manifestations of shame (e.g.,

slumped posture, averted gaze; Gilbert, 1997; Keltner & Buswell, 1996) communicate nonverbally that the individual is cognizant of his wrongdoing and will behave differently next time. From an evolutionary perspective, these nonverbal, submissive expressions in primates communicate an understanding of lower social rank or status, signaling that aggression will not ensue (Kemeny et al., 2004). Second, the individual may actively engage in affiliative, prosocial behavior (e.g., cooperation; gift-giving) to reduce the likelihood of exclusion and to repair the damaged social self. The social self is one's self-evaluation of social standing in terms of potential or existing social relationships (de Hooge, 2014). Therefore, the sociometer theory proposes adaptive aspects to shame in terms of group and societal functioning (e.g., motivating prosocial behavior), and implies both vertical and horizontal dimensions to shame.

In contrast, this theory posits guilt functioning solely on the horizontal dimension. De Hooge (2014) stated that guilt results from neglecting or violating relational expectations, commitments, or obligations. This emotion, involving remorse and regret for one's behavior against another individual, is associated with prosocial behavior towards the victim, such as apology and damage reparation. Although it may seem that the approach-oriented behavior in shame is that of guilt's horizontal axis, de Hooge clarifies that shame's behaviors are directed towards a group of people, whereas guilt's are towards one victim. However, the hierarchical-reciprocal view does not explain why one situation can lead to either experiencing shame or guilt and the resultant divergent behavioral outcomes. Giner-Sorolla (2013) resolves discrepancies between the three theories by integrating them into a new view of shame and guilt, presented next. The present study speaks to the possible hierarchical and reciprocal components of shame proneness by using measures capturing the vertical and horizontal aspects of interpersonal or social dimensions, described below.

Integrative View

Noting limitations with each of the three stand-alone theories in their abilities to fully explain shame, guilt, and their associated action tendencies (see Giner-Sorolla, 2013), Giner-Sorolla presented a fourth view synthesizing the central principles of all three theories. The basic premise of his theory is that shame results from perceived hierarchical relationships whereas guilt results from perceived reciprocal relationships, with two types of shame and guilt: *unworthiness shame* and *defensive shame*, and *inequality guilt* and *injustice guilt*.

First, operating along a vertical dimension, *unworthiness shame* is the shame response that occurs when an individual who *accepts* his low social worth or standing is given a higher position than he deserves (for example, a criminal who is asked to dine at the king's table and, recognizing his depravity, feels shame). Or, in the Christian scriptures, after Jesus performs a miracle for the fisherman Peter, Peter realizes he is in the presence of a holy God, recognizes his unworthiness, and falls at Jesus' feet, crying, "Depart from me, for I am a sinful man…" (Luke 5:1-9 English Standard Version). Unworthiness shame's global self-evaluation and its associated avoidant behavior is conceptualized as the kind described by the self-behavior distinction, and it may be socially adaptive if the moral judgment is grounded in social reality. For instance, a child psychologist convicted of soliciting sex from a minor who in court slumps his posture, lowers his head, and accepts a guilty verdict for a prison sentence communicates to society that he agrees with the public's judgment of moral inferiority, functioning to assuage further uproar. Therefore, unworthiness shame includes an acceptance of low social standing along the social hierarchy, resulting in avoidance and submission. This kind of response is adaptive if there is reality in the individual's low rank.

Also operating along a hierarchical dimension, the second type of shame is *defensive*. Unlike unworthiness shame, in which the individual adjusts behavior to live consistent with the low rank, defensive shame is characterized by the desire to regain social standing if lost or defend it if threatened. Importantly, this response is different from the one produced from anger as a primary emotional response, in which the individual disagrees with the loss in social rank; defensive shame agrees with the verdict and seeks to regain status (e.g., the shamed criminal who changes his behavior to regain self-pride, or the cowardly soldier who fights valiantly in order to redeem himself and regain honor for his family). Instead, Giner-Sorolla (2013) states that anger and hatred include other-centered blame, rather than self-blame as happens with shame/guilt, although defensive shame may lead to the other-centered blame that results in anger. This may explain the frequent co-occurrence of shame and anger/hostility (Bennett et al., 2005; Harper & Arias, 2004; Lewis, 1971; Paulhus et al., 2004; Tangney & Dearing, 2002; Tangney et al., 2007). Therefore, defensive shame accepts the public's verdict of falling social worth but seeks to restore it.

While shame maintains global attributions of self-worth and operates under a social hierarchical system, guilt is more attentive to preserving and restoring the social relationship (horizontal) and is more consistently associated with reparative actions (e.g., apology). Given its lesser focus on the self compared to shame, and its desire for re-establishing equality, Giner-Sorolla considers guilt as the inherently more moral emotion. Under the integrative view, he describes guilt as originating from three appraisals: inequality, responsibility, and injustice (or lack of justification), with the former being classified under "inequality guilt" and the latter two under "injustice guilt." First, *inequality guilt* may result from observing, and may subsequently involve leveling, inequality (e.g., restoring close relations) in a social, peer relationship where an

individual is wronged. For example, Giner-Sorolla (2013) illustrated that guilt may be experienced when realizing that one holds privilege or when feeling survivor's guilt. In this case, even mild guilt can be present even if the other two appraisals (i.e., responsibility and injustice) are absent. However, this form of guilt may not be sufficient to result in a functional society that will lead to reparative action under inequality guilt alone. Therefore, he adds that optimal conditions under which guilt is felt and more likely leads to productive, corrective action are the additional presence of *injustice guilt.* Building upon inequality guilt, injustice guilt adds two additional components to the perceived inequality: First, the individual views the inequality as unjustified, and second, the individual takes responsibility for the inequality. Missing these two components lessens the likelihood of experiencing guilt and the subsequent reparative action. First, perceiving an inequality as justified lessens the experience of guilt. For example, inequalities in resources may be perceived as justified or fair if the disadvantaged 'other' is less skilled or qualified, does not work as hard, or is less moral. Second, perceiving oneself as not responsible for an inequality can also lessen the likelihood of felt guilt, thereby conserving resources for limited and specific relationships. For example, guilt for being privileged may not be felt if the individual does not feel responsible for the inequality or feels the inequality is justified. Taken together, an example where all three guilt appraisals are met is if a spouse feels responsible for disappointing his wife due to missing an important event for which he promised attendance. Because he views himself as having treated his spouse unfairly (i.e., inequality guilt), considers it to be unjustified by any fault of hers, and takes responsibility for this transgression (i.e., injustice guilt), he may adjust his behavior and pay closer attention to activities that would restore the ruptured relationship, such as apologizing and tracking timeliness. Therefore,

according to the integrative view, injustice guilt builds upon inequality guilt by including all three appraisals for inequality, injustice, and responsibility.

In summary, theoretical development and refinement for shame remains ongoing. Researchers have emphasized the self-behavior, public-private, and hierarchical-reciprocal distinctions between shame and guilt, with an integrative view incorporating aspects from all three theories to reconcile discrepancies or inadequacies posed by stand-alone theories. With shame research still being in its early stages, most psychopathology literature is principally grounded upon the self-behavior distinction due to its use of the TOSCA-3 shame measure which has shown consistent associations with psychopathology. Nonetheless, awareness of the integrative theory of shame may generate testable hypotheses even with the TOSCA-3. For example, the hierarchical-reciprocal distinction may inform predictions about how shame-prone individuals may be particularly at risk for distress in the contexts of perceived situational shifts on the vertical dominance and horizontal communal dimensions. Though the present study does not focus on guilt proneness as conceptualized under the integrative view, it indirectly examines relationships between shame proneness and sensitivity to movement along the vertical dimension, movement which is captured under self-view following interpersonal interactions, with resulting sensitivity measured by distressed moods.

Evidence for Links of Shame Proneness to Psychopathology and Negative Emotions

TOSCA Shame Proneness

Relevant to the background and method of this paper, as previously mentioned, the predominant view on shame proneness in psychopathology literature is the self-behavior distinction. As one of the pioneers in shame and guilt research, Tangney and colleagues developed a measure of shame and guilt proneness reflecting the self-behavior distinction, the

TOSCA-3 (Tangney & Dearing, 2002; Tangney et al., 2000). This measure of shame proneness gained traction in clinical psychology literature after producing consistent evidence for associations with psychopathology (e.g., Tangney et al., 1992b). As a result, because researchers most frequently used the TOSCA as their method of measurement, and due to its consistent associations with psychopathology, the literature now consists primarily of findings based on the self-behavior view, supporting the perspective that shame proneness, as measured by the TOSCA-3, is generally maladaptive, whereas guilt proneness is not. Representative studies are reviewed below.

Shame Proneness and Psychopathology

As reported above, due to it being the predominant theory on shame and guilt in psychopathology literature, research based on the self-behavior view (i.e., using the TOSCA) has consistently evidenced associations between shame proneness and psychopathology. Despite the fact that recent theories of shame have begun to speculate about adaptive functions of shame, the view of shame proneness measured by the TOSCA has emphasized maladaptive features, and empirical research has linked shame proneness broadly with psychopathology (Tangney et al., 1992b). For example, shame proneness correlated with features of OCD (Wetterneck et al., 2014), social anxiety, and generalized anxiety symptoms (Fergus et al., 2010), with the latter two even after accounting for shared variance in cognitive distortions (e.g., global, negative self-evaluations; Cândea & Szentagotai-Tătar, 2014). Trait shame also correlated with depression (Cândea & Szentagotai-Tătar, 2018; Hastings et al., 2002; Highfield et al., 2010; Kim et al., 2011), eating disorders (Cesare et al., 2016), substance use (Dearing et al., 2005), and suicidal ideation or behavior (Hastings, et al., 2002). It may also mediate the relationship between

parental invalidation and functions of nonsuicidal self-injury (NSSI) in children and adolescents (Mahtani et al., 2018).

Shame proneness has also been associated with personality disorders which are characterized by difficulties in interpersonal contexts, such as narcissistic personality disorder (NPD; Ritter et al., 2014) and Cluster C personality disorder symptoms, even after controlling for negative affect (Schoenleber & Berenbaum, 2010). Borderline personality disorder (BPD) has shown strong links to shame proneness as well. For example, although a social anxiety group endorsed higher shame proneness than controls, the BPD group endorsed the highest levels (Rüsch et al., 2007). Similar patterns were found for individuals with BPD compared to NPD and healthy controls (Ritter et al., 2014). Additionally, suicide attempters with BPD endorsed higher shame proneness than suicide attempters without BPD, non-suicidal psychiatric patients (the majority consisting of depression, anxiety, and personality disorders), and healthy controls (Wiklander et al., 2012). Thus, shame-proneness has been linked to a variety of clinical disorders, although this research has been limited mostly to cross-sectional studies.

Negative Emotions as Dimensional Risk Factors

However, shame proneness is relevant not only to individuals meeting formal criteria for specific diagnoses. Shame proneness may constitute a transdiagnostic risk factor for psychopathology due to its links with many disorders, in line with the view that symptom dimensions often cut across discrete DSM categories (Bullis et al., 2019). Despite the utility of clinical diagnoses, contemporary psychopathology research has emphasized the dimensional nature of symptoms, suggesting a broad continuum between subclinical and clinical levels (Brown & Barlow, 2009; Widiger, 1992; Widiger & Gore, 2014). Consistent with this view, trait shame may be considered another vulnerability factor for experiencing negative emotions more

frequently in daily life, which may explain why it is associated with psychopathology in the literature. The propensity to experience shame is relevant to subclinical negative emotions that, when prolonged, can lead to clinical symptoms. Shame proneness is therefore likely to predict dimensional levels of a range of negative symptoms, and three negative emotions may be particularly relevant to individuals with high shame proneness: depression, anxiety, and anger.

Depressed Mood

First, shame proneness may predict depressed moods. A meta-analysis produced evidence for a strong link between shame and depressive symptoms as common comorbid emotions (Kim et al., 2011). Both involve the threat of social rejection and thwarted belongingness, increased rumination (e.g., negative self-evaluation), and maladaptive attributional patterns (i.e., stable, global, uncontrollable), making sense of links to depressed mood. Supporting this claim, for instance, shame proneness mediated the relationship between resilience and depressed mood (Uji et al., 2011). In line with the view of shame as a social emotion, chronically low social status predicted depressed and anxious mood, lower well-being, and physiological consequences, such as the hypothalamic-pituitary-adrenal (HPA) cortisol stress response and inflammation (Gruenewald et al., 2007). In a clinical sample of individuals with major depressive disorder (MDD), viewing oneself as inadequate and with lower worth than others correlated with depressed mood in 90% of patients (Zahn et al., 2015). Furthermore, in non-clinical samples, shame strongly correlated with depression symptoms (Malinowski et al., 2017) and predicted children's depression symptomatology after accounting for self-esteem and hopelessness (Rodriguez et al., 2019). Taken together, shame proneness may predict subsequent daily depressed mood. However, these studies have been limited to cross-sectional designs and have not examined the effects of dispositional shame (vs. state shame) on mood. Therefore, it remains

to be tested whether baseline shame proneness prospectively predicts daily depressed mood in daily life.

Anxious Mood

In addition, shame proneness might serve as a risk factor for daily anxious emotions. Using the Experience of Shame Scale (ESS), trait shame was strongly correlated with state- and trait-level anxiety (Malinowski et al., 2017), and individuals experiencing greater average daily shame across social interactions endorsed higher subsequent generalized anxiety mood and symptoms (Shahar et al., 2015). However, the latter study assessed *state* shame using submissive behavior and single-item shame and inferiority endorsement, and neither study examined the effects of shame proneness on anxious mood beyond correlational methods. On the other hand, a measure of shame proneness did not predict concurrent anxiety symptoms in nonclinical children after accounting for self-esteem, discipline type, and depression comorbidity (Rodriguez et al., 2019). More research is needed to test shame proneness as a risk factor for anxious mood in daily life.

Angry Mood

Third, shame proneness may place individuals at increased risk for experiencing angry emotions. This is consistent with Tangney's and Dearing's (2002) conceptualization of the second face of shame (i.e., anger and aggression). They, along with Lewis (1971), suggested that the experience of shame may be so painful and global to the self that it might lead to the defensive, self-regulatory or coping strategy of redirecting anger externally in order to decrease the threat of negative evaluation. Lewis (1971) particularly proposed this theory after observing a "shame-rage" cycle in clients, whose anger/hostility followed shame. Tangney et al. (2007) described anger as a central feature to shame and noted a reciprocal shame-rage cycle in

romantic partners. Giner-Sorolla (2013) also described anger and hatred as secondary emotions following defensive shame. Specifically, he asserted that shame does not directly cause anger, but if shame's global self-evaluation externalizes to a global other-evaluation of blame, anger or hatred may ensue. Therefore, individuals high in shame proneness may experience angry emotions more frequently and intensely. This may account for the frequent co-occurrence of anger in individuals with high shame proneness (e.g., BPD; Kockler et al., 2020; Scott et al., 2015). Other research supports associations between shame proneness and anger/hostility, aggression, and externalized blame in both children and adults (Bennett et al., 2005; Harper & Arias 2004; Paulhus et al., 2004; Tangney & Dearing 2002). However, research has not examined the prospective effects of shame proneness on angry emotions in daily life using experience sampling methods. One study used similar data collection methods to explore the differences between shame, guilt, and embarrassment (Tangney et al., 1996). In this study, participants were asked to recall a situation in which they felt one of these three emotions, to describe the event in detail, and to rate the degree to which they felt angry at the time. Both shame- and guilt-inducing events were associated with feeling angry. However, the study was limited by its exploratory nature and lack of validated measurement of shame and guilt.

Taken together, extant studies imply that shame proneness may place individuals at risk for symptoms of depression, anxiety, and anger. Nonetheless, as noted, the existing studies have been limited to cross-sectional designs or, if implementing daily diaries, did not assess shame *proneness*, leaving the question unanswered of whether shame-proneness constitutes a risk factor for downstream negative emotions in daily life contexts. The present study aims to address this issue as its first aim.

Shame as Vulnerability in the Context of Interpersonal Stressors

Shame Proneness May Amplify Effects of Interpersonal Stress

Beyond general proneness to negative emotions, individuals high in shame proneness may be particularly susceptible to experiencing negative emotions within particular stressor contexts. Compared to non-interpersonal stressors, interpersonal stressors are especially linked to distressing mood (e.g., anxiety, depression, hostility; Bolger et al., 1989). Several conceptual models suggest the possibility of shame proneness exacerbating this relationship. First, according to the diathesis-stress model (Hankin & Abela, 2005), personality diatheses or vulnerabilities (e.g., neuroticism) constitute a predisposing factor that interacts with environmental stressors and results in increased likelihood for psychopathology or distress (Tackett & Krueger, 2005). In this framework, shame proneness might represent a similar vulnerability to distress responses in particular stress contexts.

Second, according to the Cognitive Affective Processing System (CAPS) model (Shoda et al., 1994), *if-then* behavioral signatures may be similar across individuals high in shame proneness regarding which interpersonal stressors more consistently produce which emotion. The CAPS model was developed to explain how an individual's apparent inconsistencies in behavior over time actually exhibit patterned consistency. Shoda and colleagues referred to "if-then behavioral signatures" to describe how the interaction between the situation and individual characteristics may more consistently produce a behavior. For instance, *if* an individual perceives others as patronizing, he or she might characteristically act aggressive. Similarly, it remains plausible that individuals with the dispositional tendency to feel shame may endorse higher negative emotions (depression, anxiety, anger) *if* they perceive a situation as involving shame-relevant stressors.

Given shame's status as a social emotion (e.g., de Hooge, 2014; Giner-Sorolla, 2013), it is likely that interpersonal stressors are particularly likely to predict negative emotions in shame-prone individuals. For example, several studies using EMA have examined shame and anger in individuals with BPD, a group with high shame proneness. Greater reactivity in anger and shame emotions, in response to the interpersonal stressor of perceived rejection, was found in women with higher BPD symptoms (Scott et al., 2017). Similarly, adolescent girls with more borderline personality traits reported greater hostility/irritability when experiencing concurrent (state) shame (Scott et al., 2015). Therefore, certain types of interpersonal stressors may interact with shame proneness to exacerbate negative emotions, such as anger. To review, shame results from the threat of social rejection, exclusion, or signals of low social worth, and has been described as a social barometer (de Hooge, 2014). Consequently, it is worth considering what types of interpersonal stressors might differentially evoke distress in shame-prone individuals.

Negative Social Evaluation as a Fundamental Social Stressor with Relevance to Negative Emotions

The threat of negative social evaluation is particularly distressing for humans as social creatures. Characterized as a cold-dominant behavior (i.e., high dominance, low warmth), negative social evaluation represents a core interpersonal stressor for humans in general (Dickerson & Kemeny, 2004). It is associated with heightened cortisol (Dickerson & Kemeny, 2004), a stress hormone serving as a transdiagnostic biomarker for stress responses. Being negatively evaluated by someone implies an assessment of lower social ranking, consistent with an evolutionary understanding of human behavior, and has been used to explain mechanisms of depression (e.g., social rank theory; Gilbert, 1992; Price et al., 1994).

Negative evaluation is a predictor of depressed mood in general. One of the maintenance factors of depression is negative evaluation-seeking (Giesler et al., 1996): when expectations for negative evaluation are confirmed, depressed mood follows. Being negatively evaluated by someone with higher social status tends to pull for submissive behavior because the individual considers himself to be inferior in comparison (Fournier et al., 2002). Coincidentally, depression severity was associated with submissiveness and low sociability (McEvoy et al., 2013). Similarly, in interactions with depressed individuals, higher dominance of the 'other' predicted higher feelings of inferiority and higher submission (Zuroff et al., 2007). Therefore, negative evaluation may lead to depressed mood.

The frequent comorbidity between depression and anxiety (Richards, 2011) implies an underlying transdiagnostic mechanism, with negative evaluation having similar effects on anxious mood as well. The fear of negative evaluation is especially central to social anxiety (Diagnostic and Statistical Manual of Mental Disorders, 5th edition [DSM-5]; American Psychiatric Association [APA], 2013). Social anxiety symptoms were related to negative emotion reactivity and higher neural activation following social threat compared to controls in an experimental study (Goldin et al., 2009), indicating that social threat stressors (e.g., negative evaluation) may be associated with anxious mood. Being ignored or rejected also implies negative evaluation (Geller et al., 1974), and using daily diaries, socially anxious individuals with GAD undergoing interpersonal rejection stressors showed higher spillover of anxious mood into later depressed mood (Starr & Davila, 2012). Taken together, these results suggest that negative evaluation stressors may predict anxious mood.

Additionally, shame proneness may amplify depressed and anxious moods under negative evaluation stressors. According to the integrative theory, if shame operates according to

a vertical dimension, then dominant behavior that implies lower ranking, inferiority, and submission may compound these effects to result in even stronger depressed and anxious moods. Because shame involves a falling hierarchical status (Giner-Sorolla, 2013), and negative evaluation implies a threat to social ranking, interpersonal stressors in which an individual is negatively evaluated may result in stronger distressed emotions for shame-prone individuals.

Next, interpersonal stressors characterized by negative evaluation may be associated with more anger in those with high shame proneness. Rejection and negative evaluation involve similar processes of cold-dominant behavior in which an individual is evaluated as inferior and is pushed away. A literature review showed associations between interpersonal rejection and resultant anger/aggression (Leary et al., 2006). Indeed, anger may even be an adaptive response to a negative evaluation of competence (Celik et al., 2016). Consistent with the social rank theory, criticism from individuals appraised to be of lower rank resulted in more frequent quarrelsome displays, although this was particularly true for individuals with a general self-view of inferiority (Fournier et al., 2002). This finding illustrates that shame proneness, or the tendency to view oneself as inferior in social status, may increase anger responses in social interactions. High shame proneness may explain the frequent anger/hostility reactions in BPD as well, a group with high shame proneness (Rüsch et al., 2007). For example, experimental manipulation showed increased hostility in response to a combined social rejection/negative evaluation stressor (but not for non-interpersonal negative evaluation stress) for high- but not low-BPD individuals (Chapman et al., 2015). Therefore, negatively valenced and socially evaluative threat may produce stronger angry emotions in highly shame-prone individuals.

In sum, shame proneness may exacerbate the effect of negative evaluation stressors on predicting negative moods. Negative evaluation implies decreased approval or verdict of social

worth (vertical axis) along with interpersonal distancing (horizontal axis) and can result in depression, anxiety or anger. Shame follows a similar downward vertical process of threat for or actual loss in social rank. Due to this overlap, when encountering negative evaluative interpersonal stress, shame-prone individuals may react with stronger distressed mood compared to those with low shame proneness, having higher emotional lability. Therefore, shame proneness may interact with this stressor, leading to more frequent negative daily emotions.

Perceived Submission and Disconnectedness May Predict Distressed Moods and Interact with Shame Proneness

Submission and Disconnectedness

Shame proneness may interact not only with social evaluation, but also with perceived shifts in *submission* and *disconnectedness*. In response to relevant interpersonal stressors, individuals may perceive themselves as either falling lower in social rank or farther away from community with others. In the integrative theory, shame occurs along a vertical dimension of social ranking, whereas guilt occurs along a horizontal dimension in response to perceived ruptures in closeness to others (i.e., inequality). These vertical and horizontal dimensions of social space resemble the two axes of social cognition that can be used to understand interpersonal behavior (i.e., the fundamental factors underlying the interpersonal circumplex, see Figure 1; Gurtman, 2009; Wiggins, 1991). The vertical dimension is labeled variously as *agency*, dominance, or power (ranging from high status and assertion through submission, passivity, or subordination), and the horizontal axis represents *communion*, affiliation, warmth, or closeness (Cuddy et al., 2007; Gurtman, 2009; Wiggins, 1991). Low agency (i.e., submission), is characterized by submission/passivity, and low communion (i.e., disconnectedness) by coldness or distance. The integrative theory may be understood in terms of agency and communion, in

that shame is felt when an individual perceives himself as lower in agency (higher submission) in response to an interpersonal interaction (vertical drop), and guilt is felt when an individual perceives himself as more disconnected (less communal) from others (horizontal distance). According to Giner-Sorolla's (2013) theory, shame should only be experienced when individuals perceive themselves as lower in agency (y-axis) but not necessarily in communal (x-axis) change. This would be consistent with a hierarchical social ranking system, in which a person's worth or status is determined based on vertical placement. However, other theories (e.g., sociometer theory; de Hooge, 2014) imply that shame operates on both a vertical and horizontal dimension. This is consistent with negative evaluation stressors being characterized by both dominance and coldness, suggesting lower status/rank (vertical) and exclusion/rejection (horizontal). Therefore, interpersonal stressors that result in perceptions of either lower rank/agency (higher submission) or decreased communality (higher disconnectedness) may predict negative emotions, and shame may exacerbate these effects.

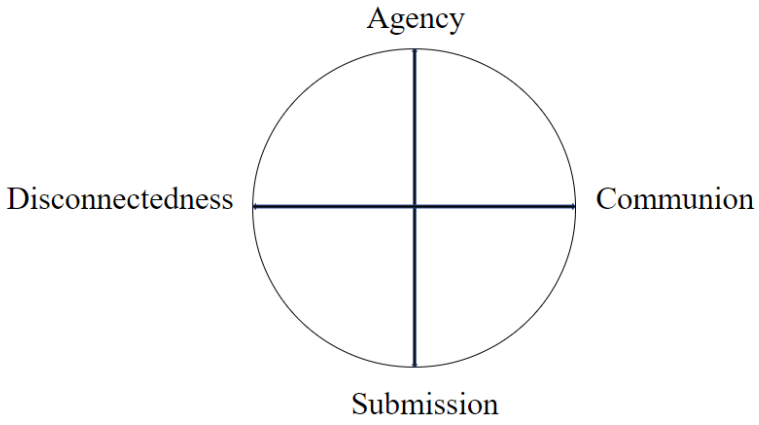

Figure 1. Interpersonal circumplex demonstrating vertical and horizontal dimensions of social space.

Perceived Submission (Vertical) May Predict Higher Depression/Anxiety, Lower Anger, and Interact with Shame Proneness

Interpersonal interactions that result in a self-view of submission are likely to predict depressed and anxious moods in general (for most people). Depression and anxiety have similar interpersonal flavors of passivity and submissiveness. A cold-submissive interpersonal style (i.e., low agency, low communion) was associated with depression, loneliness, social avoidance, trait anxiety (Wiggins & Broughton, 1991), and anxiety severity (McEvoy et al., 2013). Additionally, individuals exhibiting more submissive behavior endorsed higher average depression and anxiety (Rappaport et al., 2017). Therefore, interpersonal stressors leading to perceived submission likely predict depressed and anxious moods.

In addition, high shame proneness may exacerbate the relation between perceived submission and depressed/anxious mood. Movement along the vertical axis of agency/submission corresponds with Giner-Sorolla's (2013) conceptualization of shame reflecting a social hierarchical ranking system. In the context of social threat, viewing oneself as inferior and lower-ranking resulted in submission (Fournier et al., 2002). Behavioral manifestations of shame (e.g., avoided eye contact, slumped posture, shrinking of the self; Gilbert, 1997; Keltner & Buswell, 1996), are like those in submission: less verbal (Daly, 1978) and nonverbal communication (e.g., eye contact; Hokanson et al., 1989; Troisi & Moles, 1999), lower assertion (Eng & Heimbert, 2006; Grant et al., 2007), fewer interruptions (Natale et al., 1979), and higher verbal submission (Hokanson & Butler, 1992). Social anxiety disorder was also uniquely associated with perceptions in low social rank, inferiority, and submission (Weisman et al., 2011). Therefore, individuals who are sensitive to changes in hierarchical

standing (i.e., shame-prone individuals) may experience more depression and anxiety when perceiving themselves as less agentic and more submissive.

On the other hand, submission (i.e., low agency) may predict less anger. Said differently, experiencing the self as more agentic may predict more concurrent anger. Anger is characterized by high agency and low warmth. Other qualities associated with these axes were verbal aggression, quarrelsomeness, narcissism, antisocial behavior, domineeringness, authority conflict, cynicism, and vindictiveness (Wiggins & Broughton, 1991). When individuals interact with others in a way in which they strive to "come out on top," they would be expected to experience the agentic emotion of anger. Importantly, consistent with the integrative theory, shame may not directly cause anger, but the emotion may result if the 'other' is blamed for the perceived falling social status. As the focus of emotions turns outward towards the 'other' rather than 'self' and dominance ensues, this may activate resources to defend hierarchical rank, producing anger. Shame proneness may exacerbate these effects. For example, individuals who generally felt inferior (shame-prone) submitted more readily to higher status figures but were more quarrelsome (angry) when they were in positions of higher authority, whereas those without self-evaluated inferiority exhibited less frequent quarrelsomeness (Fournier et al., 2002). This process may explain the frequent, intense anger experienced by highly shame-prone individuals (e.g., BPD), and is consistent with Tangney's concept of anger/rage being the second face of shame (Tangney & Dearing, 2002). Therefore, shame-prone individuals may exhibit higher anger, relative to their non-shame-prone peers, when they perceive themselves as being dominant to the 'other', and less angry (more submissive) when perceiving themselves as lower agency or rank.

In sum, one's social space along the vertical dimension may interact with shame proneness to amplify the resulting effects on emotions. Following an interpersonal stressor, perceiving oneself as more submissive may predict concurrent depressed and anxious mood, but lower anger.

Perceived Disconnectedness (Horizontal) Predicts Distress in General and Shame Proneness May Interact with it

Shifts toward experiencing oneself as distant from others may predict depressed and anxious mood. The degree of communion, affiliation, or closeness to others runs along the horizontal axis of social space (Cuddy et al., 2007; Gurtman, 2009; Wiggins, 1991). Withdrawal from social relationships, isolation, and loneliness are typical experiences of depression, and are characterized by low horizontal communality. For instance, both cold and socially avoidant interpersonal styles (low communion, high disconnectedness) correlated with depression symptoms (Dinger et al., 2015). Furthermore, social anxiety is characterized by social avoidance (APA, 2013). Social anxiety disorder uniquely correlated with perceived low intimacy and closeness (Weisman et al., 2011). However, anxiety is a natural response whose function is to prepare for danger (Mathews, 1990). Therefore, a threatened loss or rupture in connection would likely predict higher depressed and anxious moods.

Contrary to the two previous predictors, the integrative theory would predict no interaction between shame and low communality, although other theories suggest otherwise. The integrative theory states that shame is only activated or relevant when there is a threat to social self in terms of hierarchical rank, whereas only guilt is associated with inequality in relationships (Giner-Sorolla, 2013), or the horizontal axis. However, the sociometer theory (de Hooge, 2014) implies relevance to shame when perceiving distance from others via social exclusion and

rejection. Therefore, it is possible that shame proneness may interact with both the vertical and horizontal axes of social space (i.e., agency and communion). In other words, shame-prone individuals may be more sensitive to shifts towards submissive or disconnected status relative to others.

Lastly, perceived interpersonal distance in social stressors may predict angry mood. Behaviors associated with anger, such as aggression, impulsivity, conflict, and cynicism, are low in affiliation and closeness (Wiggins & Broughton, 1991). Individuals with rejection sensitivity showed a similar pattern, with anger being classified as a cold behavior (vs. warm) while those with low anger were closer in communion with others (Cain et al., 2017). Therefore, interpersonal stressors that result in viewing oneself as becoming less communal, close, affiliative, and warm (or more distant and disconnected) would be associated with higher anger.

Again, theories vary in their implications for interactions with shame proneness and the communal dimension. According to the integrative theory of shame, which states that shame operates under the vertical dimension only (Giner-Sorolla, 2013), shame proneness should not interact with the horizontal dimension in which participants feel less communal. Only guilt proneness would be relevant to interactions with this horizontal dimension due to its concern for others and relationship quality compared to hierarchical status (shame). On the other hand, the sociometer theory describes shame with relevance to the horizontal dimension. Therefore, shame proneness may amplify the positive effect of perceived low communality as well, not only agency, on increased anger.

In sum, perceiving oneself as having low communality as a result of an interpersonal stressor may predict higher depressed, anxious, and angry mood, but will be independent of shame proneness levels. Because shame is thought to operate under a vertical, hierarchical

dimension, in which shame is experienced only when social status is falling, it should not, in theory, affect the experience of distressing emotions when perceiving oneself as moving along the horizontal dimension.

Present Study

The aims of this study are threefold: (1) to examine shame proneness as a prospective predictor of negative emotions and symptoms (depression, anxiety, anger) in daily life, (2) to examine shame proneness as a moderator (amplifier) of effects of negative evaluation (as an interpersonal stressor) on negative moods in daily life, and (3) to assess interactions between shame proneness and the two dimensions of perceived interpersonal behavior in the context of interpersonal stress: submission and disconnectedness. I will examine the hypotheses in the context of a sample that will include participants across a broad range of emotional symptoms, including those in the clinical range, to optimize generalizability of results for dimensional and transdiagnostic groups.

Hypotheses

The first study aim is to test shame proneness as a vulnerability factor prospectively predicting downstream distress (depression, anxiety, anger) in the context of daily stressors. Supporting the conceptualization of shame proneness as a risk factor for psychopathology, I hypothesize that higher shame proneness will predict higher average daily depressed, anxious, and angry mood using experience sampling methods (see Figure 2). Due to the shared variance between shame and guilt proneness, and previous associations of guilt with adaptive behavior (e.g., apology/repair), these analyses will control for guilt proneness to examine the unique, maladaptive effects of shame proneness (i.e., guilt-free shame) as other studies have done.

***Hypothesis 1a*: Shame proneness will predict higher average daily depressed mood.**

***Hypothesis 1b*: Shame proneness will predict higher average daily anxious mood.**

***Hypothesis 1c*: Shame proneness will predict higher average daily angry mood.**

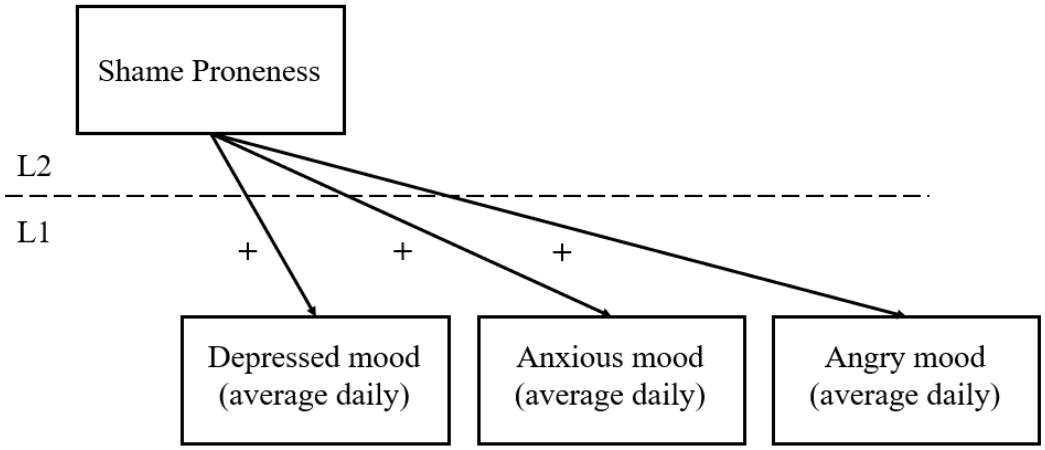

Figure 2. (Hypothesis 1) Conceptual models for shame proneness predicting average daily distressed mood (outcomes). L2 = Level 2 variable (person); L1 = Level 1 variable (repeated measures nested within persons).

The second aim involves testing whether shame proneness moderates the relationship between interpersonal stressors and resultant emotional responses. In general (main effect prior to testing moderation), I expect that negative evaluation will predict higher depressed, anxious, and angry emotions. Additionally, I hypothesize an interaction such that individuals high in shame proneness will exhibit greater depressed, anxious, and angry moods in the context of this stressor. In other words, negative evaluation will predict higher distressed emotions relative to the individual's mean, and high shame proneness will exacerbate this positive relationship (see Figures 3 through 7).

***Hypothesis 2a*: Negative evaluation will predict higher negative moods (depression, anxiety, anger).**

***Hypothesis 2b*: Shame proneness will interact with negative evaluation stressors in predicting moods, such that the effects of negative evaluation on mood will be stronger for those high in shame proneness.**

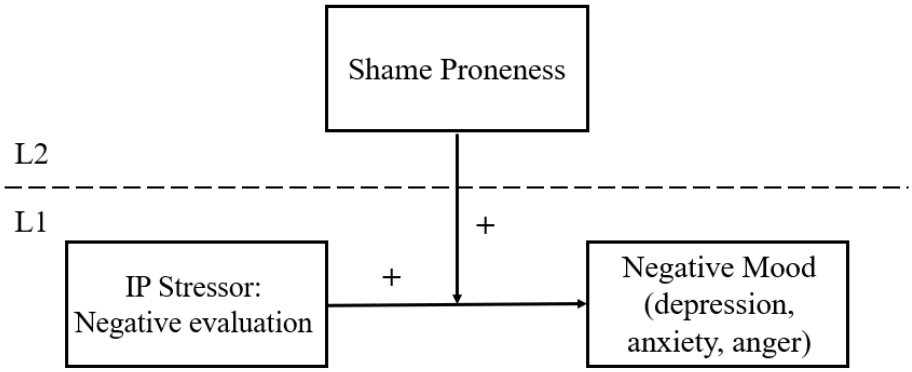

Figure 3. (Hypothesis 2) Conceptual model for shame proneness moderating the relationship between negative evaluation interpersonal (IP) stressors and negative moods (depression, anxiety, anger) in daily life. L2 = Level 2 variable (person); L1 = Level 1 variable (repeated measures nested within persons).

The third aim is to examine shame proneness as a moderator of shifts in perceived submission and disconnectedness on distressed mood. Interactions that result in movement along the vertical axis (feeling agentic/dominant) may interact with shame proneness (e.g., hierarchical/social rank) to polarize the effects on emotional outcomes. Regarding the horizontal dimension, although the integrative theory suggests shame would only interact with the hierarchical dimension, other theories (i.e., sociometer theory) imply a communal component to the experience of shame. Therefore, I predict

that shame would interact with both the vertical and the horizontal axes (submission and disconnectedness).

***Hypothesis 3a*: Perceived submission will predict higher depressed and anxious moods, but less anger.**

***Hypothesis 3b*: Shame proneness will interact with perceived submission in stressor contexts, such that for those high in shame proneness, higher submission will more strongly predict higher depressed and anxious moods and lower angry mood.**

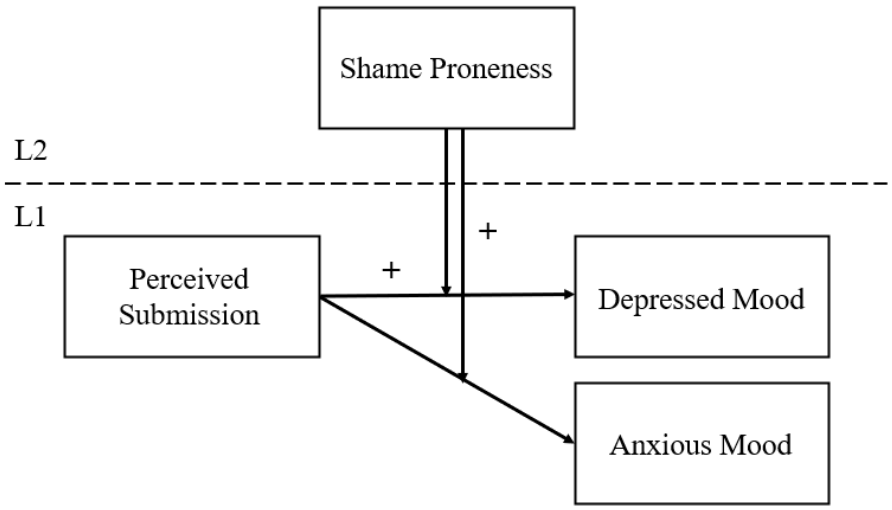

Figure 4. (Hypothesis 3) Conceptual model for shame proneness moderating the relationship between perceived submission and negative emotions (depression, anxiety) in daily life. L2 = Level 2 variable (person); L1 = Level 1 variable (repeated measures nested within persons).

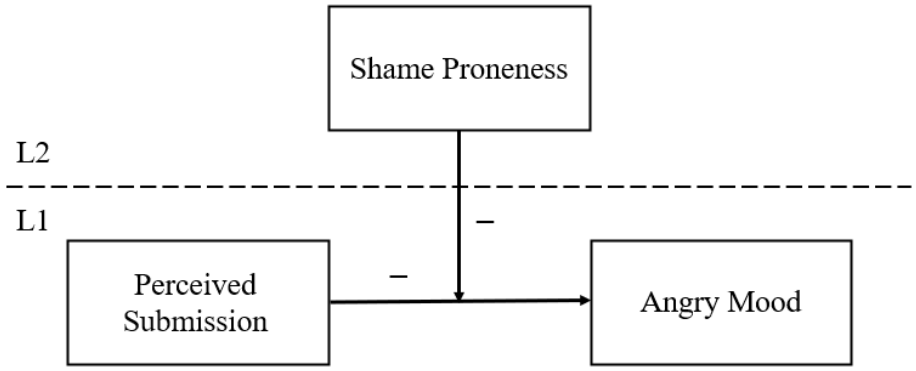

Figure 5. (Hypothesis 3) Conceptual model for shame proneness moderating the relationship between perceived submission and angry mood in daily life. L2 = Level 2 variable (person); L1 = Level 1 variable (repeated measures nested within persons).

***Hypothesis 3c*: Higher disconnectedness or distance will predict higher depressed, anxious, and angry moods.**

***Hypothesis 3d*: Shame proneness will interact with perceived disconnectedness, such that those high in shame proneness will exhibit higher distressed moods.**

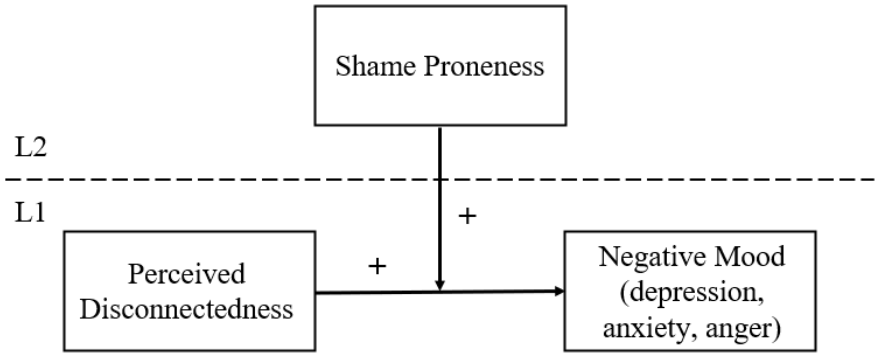

Figure 6. (Hypothesis 3) Conceptual model for shame proneness moderating the relationship between perceived disconnectedness and negative emotions (depression, anxiety, anger) in daily life. L2 = Level 2 variable (person); L1 = Level 1 variable (repeated measures nested within persons).

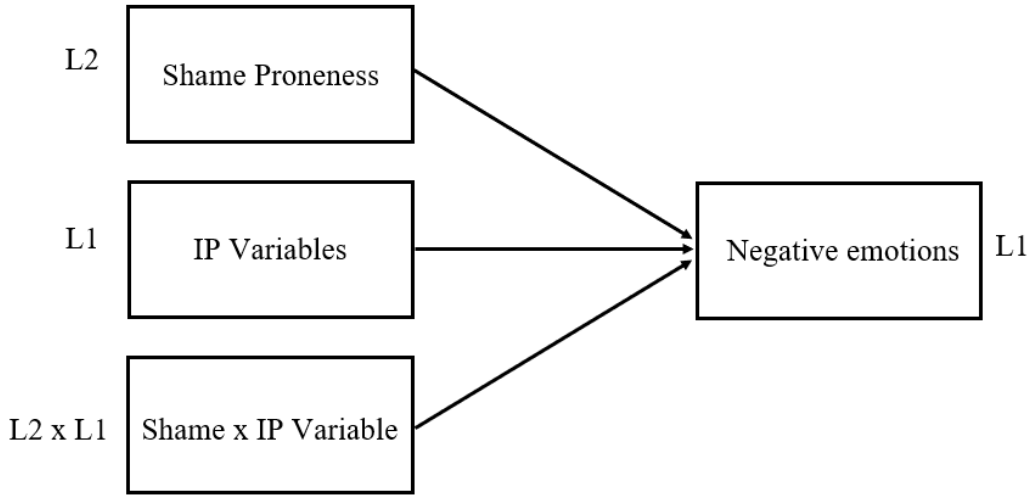

Figure 7. (Hypotheses 3a-d) Statistical model for shame proneness moderating the relationship between interpersonal (IP) variables and negative emotions (depression, anxiety, anger) in daily life. L2 = Level 2 variable (person); L1 = Level 1 variable (repeated measures nested within persons).

CHAPTER II

Method

Participants

Participants included 152 undergraduate students (76% female), with ages ranging from 18 to 31 (*M* = 19.51, *SD* = 2.09). The sample consisted of 48.7% Caucasian/White, 22.7% Asian/Asian American/Pacific Islander, 12.6% Multiracial, 6.7% Lantinx, 5.9% African American/Black, 1.7% Middle Eastern, and 1.7% other individuals.

Sample Size, Power, and Precision

MLM uses a different process for calculating sample size and power compared to standard regression designs. Power in MLM is dependent on sample size, effect size, and the intraclass correlation coefficient (McCoach, 2010). In repeated measures designs, there are two sample sizes: the number of Level 2 units (individuals) and the number of Level 1 observations across time within individuals. Adequate sample size at both levels maximizes power. Simulations (Arend & Shäfer, 2019) suggested that a sample of 150 participants at Level 2 and approximately 15 Level 1 repeated measures per person would be sufficiently powered (.80) to detect small Level 1 effects (.10), small-to-medium Level 2 effects (.25), and medium cross-level interactions (.30).

Procedure

Participants were recruited from a private university as part of a larger study on personality and stress. They received course credit and $15 compensation at the end of the study. Data collection was completed through Qualtrics, an online survey platform. Informed consent was collected online prior to participation. Baseline questionnaires included demographic information and personality risk factors (shame and guilt proneness).

Subsequently, participants completed experience sampling comprised of stressor interaction diaries administered three times per week for five weeks (15 surveys total). Participants were sent a link on each data collection day via Qualtrics to complete the questionnaire by phone or computer (administration time was 5 minutes per day). If they did not complete it, they received a reminder email the following day to complete the survey that same day. The weekly surveys prompted individuals to describe the most stressful social interaction they had in the past three days. Consistent with other diary studies assessing interpersonal situations (e.g., Conner et al., 2009; Moskowitz et al., 2009), social interactions were defined as lasting at least five minutes and in which the individual changed his or her behavior as a result. Participants rated the degree to which the stressful event involved the other individual judging or negatively evaluating the participant and resulting self-views of submission and disconnectedness. Participants rated these perceptions in addition to concomitant symptoms of depression, anxiety, and anger.

Finally, participants visited the lab at the end of the study and participated in a brief (30-40 minute) clinical interview to screen for diagnoses of anxiety and mood disorders. Individuals screening positive for a clinical-level disorder and meeting diagnostic criteria were noted as such (described below). Thus, the sample consisted of a broad range of symptom levels, from healthy to at-risk.

Measures and Covariates

Shame Proneness (Baseline)

The Test of Self-Conscious Affect-3 (TOSCA-3 short form; Tangney et al., 2000) measures shame proneness and guilt proneness. Answer options assessing for other self-conscious emotions (i.e., externalized blame, detachment/unconcern, pride) are often excluded

for those only interested in shame and guilt. A short version is created by eliminating the 5 positive scenarios, resulting in an 11-item scenario scale. A sample positive scenario item is, "You have recently moved away from your family and everyone has been very helpful. A few times you needed to borrow money, but you paid it back as soon as you could." A sample negative scenario item is, "You are driving down the road, and you hit a small animal." Participants read the 11 negative scenarios and rate how likely they are to react in a given way using a 5-point Likert scale (1 = *not likely*, 5 = *very likely*). The shame and guilt proneness scales assess the tendency to respond with shame (e.g., "You would think: 'I'm terrible'") and guilt (e.g., "You'd feel bad you hadn't been more alert driving down the road"). Shame is operationalized as being directed towards the self (e.g., internal, stable, global attributions for negative events), and guilt is directed at the behavior (e.g., internal, unstable, specific attributions). Responses are summed to create total scale scores ranging from 11 to 55, with higher scores indicating higher shame or guilt proneness.

The TOSCA-3 has demonstrated good psychometric properties. The short version of the TOSCA-3 shame scale correlated .94 with its full-length version (Tangney & Dearing, 2002). The TOSCA-3 has demonstrated good internal consistency ($\alpha = .76$; Tangney et al., 2000) and test-retest reliability ($r = .85$ and .74 for shame and guilt, respectively; Tangney, 1996). In this study, internal consistency for the TOSCA-3 short form was $\alpha = .79$ for shame proneness, $\alpha = .75$ for guilt proneness, and $\alpha = .83$ for the complete scale. Research supported the TOSCA's construct and discriminant validity (Lacerenza et al., 2020), and factor analysis supported a two-factor structure (Lacerenza et al., 2020; Luyten et al., 2002). Guilt proneness was used as a covariate to assess guilt-free shame.

Interpersonal Stressors (Experience Sampling)

After defining and identifying a stressful social interaction, participants were asked follow-up questions created for this study. For the negative evaluation stressor, the item asked, "To what extent did this stressful event involve each of the following? ... I felt negatively evaluated or judged by someone." The interaction was assessed and rated on a 0-100 continuous, anchored scale (0 = *not at all,* 50 = *moderately,* 100 = *extremely).*

Self-view outcomes of interpersonal stressors were assessed with the item, "As a result of how you responded in the situation, to what extent did you see yourself as…" followed by "Assertive, dominant, or powerful" (perceived agency) and "Social, outgoing, or close to others" (perceived communion). Agency and communion items were reverse-scored to obtain measures of perceived submission (i.e., *low* agency) and disconnectedness (i.e., *low* communion. These were scored on a 5-point Likert scale (0 = *not at all*, 4 = *very much*).

In experience sampling methods, single-item measures are often adequate and perform as well as 6-item measures (Fisher & To, 2012; van Hooff et al., 2007). Single-item interpersonal assessments have been used in other studies with similar methods (e.g., EMA; Scott et al., 2017).

Negative Moods (Experience Sampling)

The Profile of Mood States-15 (POMS-15; Cranford et al., 2006; McNair et al., 1971; Shacham, 1983), shortened from two previous versions (65 and 37 items), is a 15-item measure of transient emotions recommended for use with daily diary studies to ease subject burden (Cranford et al., 2006). Items consisted of emotional adjectives grouped into five emotions (anxious mood, depressed mood, anger, fatigue, vigor), with each subscale comprising 3 items. Only depressed, anxious, and angry moods are reported here. After recalling the interpersonal stressor, participants were instructed to rate "how you felt then" on a 5-point Likert scale (0 = *not*

at all, 4 = *extremely*). The three items are averaged for each mood to obtain the score. This study used only the anxious, depressed, and angry subscales. Cranford et al. (2006) documented reliability when assessing within-person changes in mood. Additionally, the 37-item version has shown evidence of internal consistency, convergent and discriminant validity, and confirmatory factor analysis revealed a 6-factor structure, consistent with the 65-item version (Baker et al., 2002). In this study, reliability calculated based on variance components analysis (Cranford et al., 2006) was .90.

Psychopathology

Symptoms of psychopathology were assessed to examine the extent to which participants experienced substantial clinical levels of symptoms. We utilized an abridged or "mini" version of the Anxiety Disorders Interview Schedule for *DSM-5* (ADIS-5; Brown & Barlow, 2014), which is a semi-structured clinical interview screening a range of common anxiety (e.g., panic disorder, OCD), mood (e.g., bipolar, persistent depressive disorder), and related diagnoses (e.g., PTSD). Its items assessed for current endorsement of diagnostic criteria, eliminating extensive query of past diagnoses and individual symptom ratings. Abbreviated forms of the ADIS that exclude historical items have been used in research when diagnostic history was irrelevant to current symptoms and study inclusion (Michelson et al., 2011). Each diagnostic category's assessment followed the item questioning and wording of the full ADIS-5, with a few major exceptions. First, the individual simply endorsed the presence or absence (yes/no) of symptoms (e.g., palpitations for panic attacks) rather than rating each one on a 9-point (0-8) Likert scale. For example, ratings on distress/severity, fear/avoidance, or excessiveness/uncontrollability of each symptom were eliminated, and only the presence or absence of each symptom were assessed. This change cut ADIS administration time significantly. However, the Mini-ADIS-5 still

included a 9-point Likert scale assessing for total distress/impairment ("How much does it bother you/interfere?"), ranging from 0 (*none*) to 8 (*very severe*) with middle anchors ("*mild*," "*moderate*," and "*severe*"), and, consistent with the full ADIS, 4 was the clinical cut-off. Next, the Mini-ADIS-5 eliminated assessment and screening of less relevant diagnoses (e.g., separation anxiety; eating disorder/substance use screener items). Additionally, medical rule-out questions were efficiently lumped together at the end of the entire assessment, compared to the full ADIS that includes these items after every diagnostic section. The total administration time for the Mini-ADIS-5 resulted in 15-20 minutes compared to 3-4 hours, easing participant burden.

One of two clinical psychology graduate students, both of whom were trained and experienced in administering the full ADIS-5, administered the Mini-ADIS-5 to screen for diagnostic status. Due to its recent development, psychometric properties of the full ADIS-5 have not yet been published. The full ADIS-5 was revised from the ADIS-IV (Brown et al., 1994) to reflect updated DSM-5 criteria and has excellent interrater and test-retest reliability, and concurrent validity (Brown et al., 1994; Brown et al., 2001). In this sample, positively screened primary diagnoses were social anxiety (10.5%), generalized anxiety (9.2%), major depressive (5.3%), posttraumatic stress (5.3%), and bipolar spectrum (1.3%) disorders. Those with *any* anxiety disorder (e.g., including obsessive-compulsive, panic, specific phobia, separation anxiety, unspecified disorders), primary or secondary, were 34.9%, and those with *any* primary or secondary depressive disorder (e.g., including persistent depressive disorder, premenstrual dysphoric, specified/unspecified disorders) were 15.8% of the sample.

Data Analytic Plan

Overview of Statistical Approach

Hypotheses were tested using mixed models in SPSS 27.0, an analytical strategy appropriate for multilevel designs in which repeated measures (e.g., diary entries) are nested within a higher-level (i.e., hierarchical) model. Multilevel modeling (MLM) was appropriate for several reasons. First, it accounts for between- and within-person variability. Second, its analytical approach avoids the assumption of independent observations, given that repeated measures within individuals were dependent. Third, it allows for unbalanced data, or different amounts of data among participants. Last, it permits within-person missing data. Level 1 variables are those that involve repeated measures data; they occur within the individual, and they are nested within the higher-order variables of Level 2 (e.g., the individual). In this study, Level 2 variables included shame proneness and guilt proneness (covariate to assess guilt-free shame); Level 1 variables include negative social evaluation and social self-perceptions (submission and disconnectedness). Level 2 predictors were grand-mean centered (i.e., the variable mean is subtracted from individual scores), with the exception of gender, and Level 1 predictors were person-mean centered (i.e., the individual's mean across entries was subtracted from each daily score). Analyses were completed using restricted maximum likelihood (REML) parameter estimates, which are recommended when not testing the fit of nested models (Heck et al., 2010). Additionally, consistent with repeated measures designs, an autoregressive (AR1) covariance structure was used.

First, tests of unconditional effects were examined for significant variability of intercepts, the presence of which would indicate using random intercepts. Preliminary analyses also tested for random variance in slopes. Next, for hypothesis 1, I tested for prospective main effects of baseline shame proneness on subsequent daily depression symptoms, anxiety, and anger, while controlling for guilt proneness (a covariate in all models). Then, for hypothesis 2, I incorporated

main effects of negative evaluation and shame proneness, as well as the interaction terms of shame proneness × negative evaluation. I repeated this process in hypothesis 3 for submission and disconnectedness as Level 1 predictors. Simple slope tests were completed for any significant interactions.

CHAPTER III

Results

Preliminary Analyses

Preliminary data screening suggested some deviations from normality. The variables depressed mood, dominance, and affiliation demonstrated positive skew; guilt proneness exhibited negative skew; and inspection of histograms suggested that perceived negative evaluation was somewhat platykurtic. It is possible that recalling the most stressful event somewhat constrained responses to be more extreme. However, all skew and kurtosis values were within a reasonable range (less than $\left|1.15\right|$; Field, 2013); therefore, untransformed data were used in analyses. There were no significant outliers (values with standardized scores of greater than 3.29, i.e., $p < .001$).

Scatterplots showed evidence of nonlinear relationships with mood outcomes for the variables of shame proneness, guilt proneness, and negatively evaluation. Therefore, these variables were tested for quadratic effects. Viewing the self as submissive and disconnected did not show evidence of nonlinear relationships, so these variables were not tested for quadratic effects. To examine which moods contained quadratic relationships with shame and guilt, linear (e.g., shame) and quadratic (e.g., shame*shame) terms were included as predictors in models testing hypothesis 1. Significant quadratic effects were found for quadratic guilt predicting depression and anxiety, but not anger, and thus were included in subsequent models and hypotheses predicting these emotions. The quadratic effect of shame*shame predicting anxiety approached significance when controlling for guilt and thus was included in subsequent models and hypotheses predicting anxious mood.

A similar process was conducted for testing quadratic effects of feeling negatively evaluated, whose scatterplots also showed evidence of nonlinearity. Preserving the significant quadratic results from the prior procedure, shame and guilt quadratic effects were automatically included in models testing hypothesis 2 for that respective mood. To test for a significant quadratic effect for feeling negatively evaluated, its quadratic term was included as a predictor along with the interaction term with shame. Quadratic terms for feeling negatively evaluated were significant in predicting all three emotions, but the effects were negligible thus removed from the models. All interactions with quadratic terms (e.g., shame*shame*negative evaluation) were also nonsignificant thus excluded from final models.

Means, standard deviations, normality, and reliability estimates are shown in Table 1. The original dataset included 159 participants. Although MLM allows for missing and unbalanced data (Field, 2013), exploration of missingness patterns showed only 2% missing values within participants who provided data. Thus, raw data were used in analyses. Average number of diaries completed by each individual was 12.57 out of 15 possible entries (SD = 3.50). Zero-order correlations between study variables are displayed in Table 2.

Table 1

Descriptive Statistics and Reliability

Variable	Range		*M*	*SD*	α	Skew	Kurtosis
	Min	Max					
Level 2							
Shame Proneness	14	51	34.7	8.0	.79	-0.25	-0.43
Guilt Proneness	28	55	45.5	5.9	.75	-0.61	0.01
Level 1							
Negative Evaluation	0	100	34.2	35.4		0.59	-1.15
Submission	0	4	3.0	1.1		0.19	0.11
Disconnectedness	0	4	3.0	1.1		-0.88	-0.02
Depressed Mood	0	4	1.2	1.1		0.94	0.19
Anxious Mood	0	4	1.7	1.1		0.38	-0.77
Angry Mood	0	4	1.5	1.1		0.50	-0.67

Note. Negative Evaluation = perceived negative evaluation; Submission and Disconnectedness are viewing oneself as submissive and disconnected, respectively.

Table 2

Bivariate Correlations for Study Variables

Variable	1	2	3	4	5	6	7	8
1. Shame Proneness	–							
2. Guilt Proneness	.42***	–						
3. Negative Evaluation	.17***	-.08**	–					
4. Submission	-.03	-.03	-.29***	–				
5. Disconnectedness	.03	-.05*	-.10***	.50***	–			
6. Depressed Mood	.17***	-.06*	.54***	-.24***	.13***	–		
7. Anxious Mood	.13***	-.03	.52***	-.16***	-.12***	.73***	–	
8. Angry Mood	.10***	-.07**	.58***	-.33***	.06*	.66***	.50***	–

Note. Submission = view of self as submissive; Disconnected = view of self as disconnected. *$p < .05$. **$p < .01$. ***$p < .001$. Repeated measures variables (all except shame and guilt proneness) here reflect aggregated mean levels over time.

Analyses were first completed with covariates in the model (i.e., gender, guilt proneness). Gender was consistently not a significant predictor across models, therefore it was removed from final analyses to preserve degrees of freedom and statistical power. Guilt proneness was included irrespective of significance level in order to produce measures of guilt-free shame. Preliminary analyses showed significant variability in intercepts and slopes, thus random intercepts and slopes were used in all models.

Primary Analyses

***Hypothesis 1a:* Shame proneness will predict higher average daily depressed mood.**

The first model examined whether shame proneness prospectively predicted higher average daily depressed mood. Consistent with preliminary analyses, the guilt proneness

covariate included a linear and quadratic term. As expected, controlling for guilt proneness, shame proneness predicted depressed mood, such that those higher in shame, compared to the group mean, experienced higher average daily levels of depressed mood across time (see Table 3). Guilt proneness showed a non-significant linear but significant quadratic effect in predicting depressed mood; at higher levels of guilt proneness, the initially non-significant negative relationship with depressed mood became significant and more positive.

Hypothesis 1b: **Shame proneness will predict higher average daily anxious mood.**

The next model examined whether shame proneness prospectively predicted higher levels of anxious mood across time. Shame and guilt proneness both included quadratic effects. As expected, shame proneness predicted higher average daily levels of anxious mood when controlling for guilt proneness (see Table 3). Shame's linear but not quadratic effect was significant. Guilt proneness did not predict anxious mood at low levels of guilt but did at higher levels.

Hypothesis 1c: **Shame proneness will predict higher average angry mood.**

The third model in hypothesis 1 examined whether shame proneness predicted higher levels of angry mood across time. Contrary to expectations, guilt-free shame proneness did not predict angry mood despite a trend, nor did shame-free guilt proneness (see Table 3).

Table 3

Hypothesis 1: Shame Proneness Prospectively Predicting Higher Average Negative Moods Across 5 Weeks, Controlling for Guilt Proneness

	Depressed Mood			Anxious Mood			Angry Mood		
	b	*SE*	95% CI	*b*	*SE*	95% CI	*b*	*SE*	95% CI
Shame Proneness	**0.021****	**0.007**	**[0.007, 0.035]**	**0.019***	**0.009**	**[0.003, 0.036]**	0.016	0.008	[-0.001, 0.032]
Shame*Shame				0.002	0.001	[-0.001, 0.003]			
Guilt Proneness	-0.009	0.010	[-0.030, 0.011]	-0.002	0.012	[-0.026, 0.022]	-0.016	0.011	[-0.038, 0.006]
Guilt*Guilt	**0.003***	**0.001**	**[0.001, 0.004]**	**0.003***	**0.001**	**[0.001, 0.006]**			

Note. Shaded regions indicated non-significant quadratic effects therefore were excluded in the final model. Effects and standard errors were placed with three decimals due to small effects. *b* = unstandardized slope, *SE* = standard error, CI = confidence interval. Shame and guilt were grand-mean centered. Shame x Shame and Guilt x Guilt are quadratic effects.

$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$. Bolded font indicates significance at $p < .05$.

Hypothesis 2a: **Negative evaluation will predict higher negative mood (depression, anxiety, anger).**

As expected, within-person fluctuations in feeling more negatively evaluated in specific situations consistently predicted higher average levels of depressed, anxious, and angry moods across time (see Table 4).

Hypothesis 2b: **Shame proneness will interact with negative evaluation stressors in predicting moods, such that the effects of negative evaluation on mood will be stronger for those higher in shame proneness.**

The same pattern of main effects was found for shame proneness predicting distressed moods across all hypothesis models thus are not reported further. Additionally, guilt proneness showed similar effects across moods and hypotheses unless reported otherwise.

As expected, perceived negative evaluation predicted higher in-situation depressed and anxious moods (see Table 4). However, contrary to hypotheses, there were no interactions between perceived negative evaluation and shame proneness in predicting these moods. In other words, shame proneness did not exacerbate the negative effects of feeling negatively evaluated via higher depressed and anxious moods.

As expected, perceived negative evaluation predicted higher subsequent angry mood. Also consistent with hypotheses, there was a significant interaction with shame proneness. At low levels of shame (1 *SD* below the sample mean), the effect of negative evaluation on predicting angry mood was $b = 0.005$ ($SE = 0.001$, $p < .001$, 95% CI = [0.003, 0.007]). At high levels of shame (1 *SD* above sample mean), the effect of negative evaluation on angry mood was $b = 0.01$ ($SE = 0.001$, $p < .001$, 95% CI = [0.008, 0.012]). Those with higher shame proneness

experienced angry moods twice as high following social stressors involving negative evaluation than those with low shame proneness. Table 4 displays results for all hypothesis 2 analyses.

Table 4

Hypothesis 2: Multilevel Modeling Examining the Interaction between Shame Proneness (Controlling for Guilt) and Feeling Negatively Evaluated in Predicting Negative Moods Across 5 Weeks

	Depressed Mood			Anxious Mood			Angry Mood		
	b	*SE*	95% CI	*b*	*SE*	95% CI	*b*	*SE*	95% CI
Shame Proneness	**0.019****	**0.006**	**[0.004, 0.034]**	**0.018***	**0.008**	**[0.002, 0.034]**	0.013	0.007	[-0.001, 0.028]
Shame x Shame				0.001	0.001	[-0.001, 0.003]			
Guilt Proneness	-0.007	0.009	[-0.025, 0.012]	0.001	0.012	[-0.022, 0.025]	-0.014	0.010	[-0.034, 0.006]
Guilt x Guilt	**0.002***	**0.001**	**[0.001, 0.005]**	**0.003***	**0.001**	**[0.001, 0.006]**			
Negative Evaluation	**0.007*****	**0.001**	**[0.006, 0.009]**	**0.006*****	**0.001**	**[0.004, 0.008]**	**0.007*****	**0.001**	**[0.006, 0.009]**
NegEval x Shame	0.001	0.001	[-0.001, 0.001]	0.001	0.001	[-0.001, 0.001]	**0.001****	**0.001**	**[0.001, 0.001]**

Note. Shaded regions indicated non-significant quadratic effects in the model therefore were excluded in the final model. Effects and standard errors were placed with three decimals due to small effects. NegEval = feeling negatively evaluated, *b* = unstandardized slope; *SE* = standard error; CI = confidence interval. Shame and guilt were grand-mean centered. NegEval was person-centered. Shame x Shame and Guilt x Guilt are quadratic effects. NegEval x Shame is an interaction.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. Bolded font indicates significance at $p < .05$.

Hypothesis 3a: **Perceived submission will predict higher depressed and anxious moods, but less anger.**

I hypothesized that viewing oneself as submissive following a stressful interaction would predict higher depressed and anxious but less angry moods. Self-perceived submission predicted higher depressed and lower angry moods within situations, as expected, but did not predict anxious mood, contrary to the hypothesis (see Table 5). Guilt proneness deviated from previous patterns in predicting distressed moods only for depression, which showed a non-significant relationship.

Hypothesis 3b: **Shame proneness will interact with perceived submission in stressor contexts, such that for those high in shame proneness, higher submission will predict higher depressed and anxious moods but less angry mood.**

Contrary to hypotheses, shame proneness and viewing oneself as submissive following a stressful interaction did not interact when predicting any of the distressed moods (see Table 5).

Hypothesis 3c: **Higher disconnectedness will predict higher depressed, anxious, and angry moods.**

As expected, stressful interactions resulting in viewing oneself as disconnected predicted more depressed and angry moods in the situation, but, contrary to hypotheses, not anxious mood (see Table 5).

Hypothesis 3d: **Shame proneness will interact with perceived disconnectedness, such that those high in shame proneness will exhibit higher distressed moods.**

Lastly, contrary to hypotheses, there was no interaction between perceived disconnectedness and shame proneness in predicting depressed, anxious, or angry moods (see Table 5).

Table 5

Hypothesis 3: Multilevel Models Examining the Interaction between Shame Proneness (Controlling for Guilt) and Viewing Oneself as Submissive or Disconnected in Predicting Negative Moods Across 5 Weeks

	Depression			Anxiety			Anger		
	b	*SE*	95% CI	*b*	*SE*	95% CI	*b*	*SE*	95% CI
Submission									
Shame Proneness	**0.023****	**0.007**	**[0.008, 0.037]**	**0.021***	**0.009**	**[0.003, 0.038]**	0.015	0.008	[-0.001, 0.031]
Shame x Shame				0.002	0.001	[-0.001, 0.003]			
Guilt Proneness	-0.009	0.011	[-0.031, 0.012]	-0.003	0.013	[-0.027, 0.022]	-0.015	0.011	[-0.036, 0.006]
Guilt x Guilt	0.002	0.001	[-0.001, 0.005]	**0.003***	**0.001**	**[0.001, 0.006]**			
Submission	**0.090****	**0.027**	**[0.037, 0.143]**	-0.020	0.037	[-0.094, 0.054]	**-0.151*****	**0.027**	**[-0.205, -0.097]**
Submiss x Shame	-0.004	0.003	[-0.010, 0.003]	-0.002	0.003	[-0.009, 0.005]	0.001	0.003	[-0.005, 0.008]
Disconnectedness									
Shame Proneness	**0.019***	**0.007**	**[0.004, 0.033]**	**0.019***	**0.009**	**[0.002, 0.036]**	0.012	0.008	[-0.004, 0.029]
Shame x Shame				0.001	0.001	[-0.001, 0.003]			
Guilt Proneness	-0.010	0.011	[-0.031, 0.011]	-0.002	0.012	[-0.026, 0.023]	-0.014	0.011	[-0.036, 0.008]
Guilt x Guilt	**0.002***	**0.001**	**[0.001, 0.005]**	**0.003***	**0.001**	**[0.001, 0.006]**			
Disconnected	**0.100****	**0.027**	**[0.041, 0.150]**	0.028	0.035	[-0.042, 0.098]	**0.148*****	**0.027**	**[0.095, 0.200]**
Disconn x Shame	0.005	0.004	[-0.002, 0.012]	-0.001	0.001	[-0.008, 0.006]	0.004	0.003	[-0.002, 0.011]

Note. Shaded regions indicated non-significant quadratic effects in the model therefore were excluded in the final model. Effects and standard errors were placed with three decimals due to small effects. Submission = view of self as submissive; Disconnected = view of self as disconnected. *b* = unstandardized slope; *SE* = standard error; CI = confidence interval. Shame and guilt were grand-mean centered. View of self variables were person-centered. Shame x Shame and Guilt x Guilt are quadratic effects.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. Bolded font indicates significance at $p < .05$.

CHAPTER IV

Discussion

Purpose of the Study

The purpose of the study was threefold. First, this study sought to examine shame proneness as a transdiagnostic risk factor for dimensional levels of symptoms via depressed, anxious, and angry moods. The literature has shown robust associations between shame proneness (as measured by the TOSCA) and psychopathology across disorders (Cândea & Szentagotai-Tătar, 2013; Dearing et al., 2005; Hastings et al., 2002; Hawes et al., 2013; Rüsch et al., 2007). However, research has primarily been cross-sectional in nature and has not addressed the relationship with shame *proneness* (vs. state measures) for prospectively predicting subclinical levels of distressed moods. This paper added a unique contribution to the study of these relationships by applying experience sampling methods and a prospective design. Next, this study aimed to test whether shame-prone individuals are particularly at risk for distressed moods in the context of negative social evaluation stressors. Because shame is characterized as a social emotion, shame proneness may place individuals at increased risk for distress in social stressor situations compared to non-social stressors due to the theorized resulting fluctuations in self-perception in such contexts (Giner-Sorolla, 2013). However, research has not examined how shame proneness may interact with interpersonal stressors in prospectively predicting distressed moods in daily life. A third aim of this study was to test whether shame proneness would interact with situational shifts on the vertical and horizontal social cognitive dimensions. Given that shame is thought to be a self-conscious emotion, it is understandable that individuals higher in shame proneness would be more sensitive to shifts in these dimensions of self-evaluation following social interactions. However, this newer, integrative theory (i.e., Giner-Sorolla, 2013),

which states that shame is responsive to shifts in hierarchical standing (i.e., vertical dimension), has not been tested. Additionally, shame-prone individuals may be sensitive to shifts in self-perceived disconnectedness from society (i.e., horizontal dimension), according to the sociometer theory (de Hooge, 2014). The results of this study help clarify the role that changes in self-perception play in affecting distressed mood for individuals with higher shame proneness.

Major Findings

Hypothesis 1: Shame Proneness will Prospectively Predict Distressed Moods

Across models, (guilt-free) shame proneness predicted more depressed and anxious moods during stressful social interactions, as expected, but not angry mood, contrary to predictions. This study expanded upon research showing connections between shame proneness and psychopathology by measuring symptoms dimensionally across daily life situations in a mixed sample of individuals with clinical levels of depression and anxiety as well as non-clinical individuals. Results are consistent with studies correlating shame proneness with depression symptoms in non-clinical samples (Malinowski et al., 2017), as well as feelings of self-inadequacy and low worth (i.e., proxies for shame) correlating with depressed mood in clinical samples (Zahn et al., 2015). Additionally, in a meta-analysis that included both state and trait measures of shame, shame frequently co-occurred with depressive symptoms (Kim et al., 2011). These results also build upon research linking shame with anxiety by examining specific contexts (naturalistic stressors) or *if-then* patterns, which may help explain why the literature has shown mixed findings regarding the effects of shame proneness on anxiety as a dimensional symptom (most often cross-sectionally). For example, while shame proneness was strongly correlated with state- and trait-level anxiety in undergraduate students (Malinowski et al., 2017), it did not predict concurrent anxiety in non-clinical children (Rodriguez et al., 2019). The results

of this study build upon our understanding of shame *proneness* as a risk factor for prospectively predicting depressed and anxious mood states after specific stressful events, whereas other studies have largely been cross-sectional, such as the above studies, and only occasionally used stressful events to inform data. Additionally, this study used a mixed sample of clinical and non-clinical individuals. When sub-clinical distressed moods are experienced over time, this may lead to the development of clinical-level disorders. By including individuals with a range of transdiagnostic and dimensional symptoms, this study has the unique ability to examine the contribution shame proneness has towards vulnerability for psychopathology. By controlling for guilt proneness, it is unlikely that these associations are simply showing that shame proneness predicted negative moods in general.

Theories of shame may explain why shame proneness predicted depressed and anxious moods. Consistent with the self-behavior view (Tangney & Dearing, 2002), shame, depression and anxiety share similar cognitive attributional styles (i.e., internal, stable, global; Heimberg et al., 1989; Schleider et al., 2014; Sweeney et al., 1986; Tangney et al., 1992b) and the behavioral tendencies for social withdrawal and avoidance (Fernández-Theoduloz et al., 2019; Ottenbreit et al., 2014; Tangney, 1996). Additionally, shame, depression, and anxiety may operate similarly in terms of hierarchical standing. According to the hierarchical-reciprocal and integrative views (de Hooge, 2014; Fessler, 2007; Gilbert, 2007; Giner-Sorolla, 2013), shame is theorized to be an internalized acceptance of low social standing with resulting submissive behavior. Individuals with persistent depression were characterized by submissive behavior on the interpersonal circumplex (Locke et al., 2017), and both depression and anxiety symptoms were associated with higher mean submissive and quarrelsome behavior (Rappaport et al., 2014), indicating greater

movement along the vertical axis. These shared characteristics may explain why shame proneness predicted depressed and anxious moods.

On the other hand, there were largely no main effects of shame proneness predicting average daily levels of angry mood. This is surprising given that shame theorists described anger as the "second face of shame" (Tangney & Dearing, 2002) and observed a "shame-rage" cycle (Lewis, 1971; Tangney et al., 2007), as well as other associations linking state and trait shame with anger and aggression across samples (Bennett et al., 2005; Harper & Arias, 2004; Paulhus et al., 2004; Scott et al., 2015; Tangney & Dearing, 2002). It is possible that using different methodology produced different results: whereas the above studies used concurrent analyses and only one used event-specific (vs. general) measurements through behavioral observations (i.e., Bennett et al., 2005), this study used daily diaries across time for specific events. It is also possible that the types of clinical disorders or symptoms included in our sample (i.e., primarily depression and anxiety spectrum, internalizing symptoms) may have impacted the relationship we observed between shame proneness and anger. We may expect to find stronger associations with externalizing spectrum disorders (e.g., antisocial personality disorder or substance use disorders). Additionally, according to Giner-Sorolla's (2013) theory of shame, anger may only arise as a secondary reaction to defensive shame. In this case, anger would hypothetically only be expressed approximately 50% of the time, if split between unworthiness and defensive shame, in which case there may not be a consistent relationship in shame proneness predicting anger. Furthermore, since Giner-Sorolla defined anger as a secondary reaction, it may be unlikely that anger is experienced immediately during the interaction—when daily diaries are assessing for distressed moods—as opposed to being experienced at some point following the interaction. Therefore, more research is needed to examine the relationship between shame proneness and

anger to explain this contradictory finding. Future studies could parse out shame into defensive and unworthiness shame, or perhaps contrast those with internalizing and externalizing disorders and symptoms to observe how this may affect results.

Briefly, bearing relevance to theories of shame and guilt, guilt proneness in this study showed deleterious effects only at high levels. While low levels of guilt were not associated with distressed moods, higher levels of guilt proneness prospectively predicted higher depressed and anxious moods. This relationship was not seen for angry mood, where quadratic effects were not significant. These findings contradict the self-behavior view of shame and guilt, which depicts guilt proneness as an adaptive emotion leading to reparative behavior. The fact that guilt did not predict distress outcomes linearly fits past research finding no or inverse relationships of shame-free guilt to psychopathology. However, this study suggests that the highest levels of guilt proneness might in fact contribute to risk for psychopathology. Theories of shame and guilt may consider consequences of these moral emotions under low and high levels, which may result in different outcomes.

Hypothesis 2: Shame Proneness will Moderate the Relationship between Negative Evaluation and Distressed Moods

Negative evaluation predicted all three distressed moods, though there was only a significant interaction with shame proneness for predicting anger. The main effects of negative evaluation are consistent with literature indicating the inherently stressful nature of social evaluation for humans in general (Dickerson & Kemeny, 2004). The stronger association between negative evaluation and anxious mood, compared to depressed or angry moods, is not surprising given that social evaluative threat may be particularly salient for individuals with social anxiety (APA, 2013; Goldin et al., 2009). Given that anxious and depressed moods were

more closely correlated using daily diaries under circumstances of perceived rejection (Starr & Davila, 2012), the high comorbidity rate between anxious and depressive disorders (Richards, 2011) may be partially explained by negative evaluation stressors. This study adds to the understanding of negative evaluation as a contributor to distress and psychopathology.

While shame proneness was predicted to exacerbate the effects of negative evaluation on distressed moods, and shame predicted all distressed moods except anger, it was surprising to find that there was a significant interaction only in predicting anger. While negative evaluation predicted all three distressed moods, individuals with high shame proneness were at increased risk for experiencing only angry mood, not depressed or anxious moods, in the context of social evaluative threat. These results suggest that individuals with high shame are particularly sensitive towards the effects of negative evaluation and that this distress is expressed via anger rather than depression or anxiety. These findings on increased reactivity via anger extend previous research showing associations between interpersonal rejection and anger/aggression (Leary et al., 2006) and may help explain the increased expressions of anger in highly shame-prone individuals, or those with BPD (Kockler et al., 2020; Rüsch et al., 2007; Scott et al., 2017). These results are particularly consistent with those of Scott et al. (2017), who found greater anger and shame reactivity in response to perceived rejection stressors using EMA in women with more BPD symptoms, a group that tends to have high shame proneness (Ritter et al., 2014; Rüsch et al., 2007; Wiklander et al., 2012). Additionally, the results of this study are in line with the social rank theory, which states that individuals with an inferior self-view respond with quarrelsomeness when criticized (Fournier et al., 2002). Therefore, shame-prone individuals may be at increased risk for angry mood following negative evaluation stressors.

On the other hand, individuals higher in shame proneness were not more vulnerable to experiencing depressed and anxious moods in response to negative evaluation stressors. This is surprising given the effects of negative social evaluation on mood and shame. Being negatively evaluated implies having lower social rank, an evolutionary perspective that has been used to explain mechanisms of depression (Price et al., 1994). Depression frequently co-occurs with anxiety (Richards, 2011), implying similar underlying mechanisms, and socially anxious individuals may be particularly sensitive to negative evaluation (DSM-5; APA, 2013) and social threat stressors (Goldin et al., 2009). With theories of shame generally holding shame to be a socially evaluative emotion, one would expect there to be an interaction between negative evaluation and shame proneness in predicting increased depressed and anxious moods. However, this study only found main effects for both. It is possible that anger plays a more prominent role in shame's interaction with negative evaluation, wherein individuals with more shame proneness are as likely as those with less shame to react with depressed or anxious moods following negative evaluation but are more likely to react with anger following the same stressor. It is unclear why this may be the case, though it is possible that shame may be so "painful" (Lewis, 1971) that individuals with higher shame proneness are less likely to accept (or even acknowledge) a submissive, inferior social stance relative to the other (via depressed and anxious moods). Instead, they may object, in a sense, to this placement or verdict by reacting with anger, though this "humiliated fury" reaction may be specific to Western cultures (Kirchner et al., 2018). Therefore, on days when individuals felt more negatively evaluated, they may have been more reactive to this state by way of anger expression. If this is the case, then these results may be at least partially consistent with Giner-Sorolla's (2013) integrative theory, which describes shame as being composed of defensive and unworthiness qualities. Defensive shame, in which

the individual rejects his lowered placement, may be more readily experienced by shame-prone individuals, whereas unworthiness shame (i.e., an acceptance of low social evaluation) may be experienced less frequently, under infrequent and specific circumstances, or perhaps is less characteristic of shame than defensive shame.

Or, given the dimensional inclusion of symptoms in this study, it is possible that anger may be initially experienced but over time may lead to subsequent depression and/or anxiety after repeated negative evaluations and an increased propensity towards internalizing of this social rank. For example, coping with or regulating anger by expressing it inwardly (e.g., suppressed, withheld) instead of outwardly (e.g., verbal or physical aggression) may be associated with avoidance behavior consistent with the behavioral inhibition system (Daniel et al., 2009), though those authors' prospective study did not show an association between higher levels of inwardly expressed anger and suicidal behavior or major depressive disorder. On the other hand, internalized anger predicted depressive and anxiety symptoms in regression analyses (Bridewell & Chang, 1997). Further research using longitudinal designs can seek to explain why shame proneness is more likely to place individuals at increased risk for experiencing anger rather than depressed or anxious moods following negative evaluation stressors. This study contributes to the body of research on shame proneness and its theories by implementing daily diaries in naturalistic contexts to assess event-specific emotions following interpersonal stressors.

Hypothesis 3: Shame Proneness will Moderate the Relationship between Self-View (Submission and Disconnectedness) and Distressed Moods

First, consistent with hypotheses, there were main effects for submission predicting higher depressed and lower angry moods, and main effects for disconnectedness predicting

higher depressed and angry moods. Surprisingly, there were no main effects for either social dimension predicting anxious mood. This may be consistent with some theories of anxiety, such as the interpersonal pathoplasticity model of Generalized Anxiety Disorder (GAD; Przeworski et al., 2011). Research has shown support for a mutually influential relationship between interpersonal factors (e.g., social dimensions within the interpersonal circumplex) and GAD psychopathology, with different clusters of personality being spread across the interpersonal circumplex for these individuals. Additionally, worry has been associated with higher self-perceived affiliative (i.e., lower disconnected) behavior, while social anxiety has been associated with higher submissive behavior (Erickson et al., 2016), showing different patterns of interpersonal functioning across anxiety symptom spectrums. With heterogeneity in interpersonal behavior, one would not expect to see a consistent relationship between submission or disconnectedness and anxiety symptoms, thus possibly explaining the nonsignificant main effects for submission and disconnectedness. Given that the sample in our study consisted of GAD as the second most common disorder diagnosed (only approximately 1% less than the most common, social anxiety disorder), it is possible that heterogeneity in interpersonal functioning resulted in a non-unified relationship between submission and anxious mood.

Next, individuals with higher shame proneness did not experience greater depressed and anxious but lower angry moods when perceiving themselves as submissive in interpersonal stress contexts (i.e., no moderation effects). Despite the expected sensitivity toward downward shifts in social ranking according to the integrative theory (Giner-Sorolla, 2013), these individuals were not more sensitive to perceived submission relative to lower-shame peers. These results contrast findings where perceived inferiority resulted in submission (Fournier et al., 2002), and where there were associations between submission and social anxiety disorder (Weisman et al., 2011)

and higher depression and anxiety levels (Rappaport et al., 2017). However, it is not surprising that depressed and anxious moods showed similar patterns of non-significant interactions with shame proneness given their frequent comorbidity (Richards, 2011) and likely shared transdiagnostic mechanisms (Barlow et al., 2016).

Despite a main effect consistent with the literature showing that submission predicted less angry mood, having higher levels of shame proneness did not exacerbate this effect by resulting in even lower anger reactions. A nonsignificant interaction is inconsistent with prior research showing that individuals who felt inferior to the 'other' submitted more readily but were more quarrelsome when they were in positions of higher authority (i.e., perceived dominance), and that those without a self-view of inferiority did not display quarrelsomeness as often (Fournier et al., 2002). In other words, perceived inferiority was characterized by either less or more frequent anger expressions, depending on the ranking status of the other, showing evidence for larger contrasts in anger compared to those without this self-evaluation. Other studies have also shown exacerbated anger responses in highly shame-prone individuals, such as BPD (Kockler et al., 2020; Rüsch et al., 2007; Scott et al., 2015). Of course, it is also possible that the current study was simply underpowered to detect small interaction effects.

The results of this study do not support newer theories of shame (e.g., de Hooge, 2014; Giner-Sorolla, 2013), which place shame along a vertical axis of perceived social hierarchy and ranking. According to these theories, shame-prone individuals would be expected to be more sensitive toward shifts in social status, which would theoretically result in emotional shifts paralleling those for increased submission (i.e., higher depressed and anxious moods, lower anger). However, perceived submission did not more strongly predict depressed or anxious moods or decreased anger for those higher in shame proneness. It is possible that a more

pathological sample is needed to demonstrate these effects. However, this is unlikely to explain the nonsignificant results. The measure of shame proneness used in this study captures shame in its most dysfunctional form (i.e., experienced in response to relatively minor incidents and resulting in rigidly avoidant behavior) and is correlated with psychopathology (Cândea & Szentagotai-Tătar, 2013). Individuals scoring higher on this measure would then be expected to show similar dysfunctional patterns with distressing moods. To my knowledge, no study has examined shame proneness as a risk factor for these distressed moods following interpersonal stressors in daily life, particularly those involving downward shifts in social rank. This study had the unique ability to examine shifts in mood following specific interpersonal contexts that included changes in hierarchical standing. It is possible that results supporting the above theories were not observed if the interpersonal stressors did not include an evaluative component. For example, an individual could experience a stressful interaction where he felt more submissive than the other but with the interaction being devoid of important elements that would activate a shame-prone individual's shame response. In this sense, it is important to note that this study did not directly test the above theories but rather has overlapping concepts to enable some extrapolations towards them. It is also possible that our relatively simple (one-item) measures of social cognitive dimension were not able to capture enough variability in the targeted constructs. Future studies can more directly assess these relationships by utilizing more robust diary surveys and by controlling the type of interpersonal stressor experienced, although this may be at the cost of naturalistic observations (i.e., daily diaries) if difficult to obtain an adequate dose of specific stressor types.

Next, contrary to expectations, shame-prone individuals were not more at risk for experiencing distressed moods associated with interpersonal stressors involving perceived

disconnectedness (horizontal axis). These results are inconsistent with the author's hypotheses and de Hooge's (2014) sociometer theory. This suggests that shame may not operate along a continuum of how close the individual feels to others (i.e., communality). Puzzlingly, negative evaluation, characterized by cold-dominant behavior involving both vertical and horizontal axes, showed a significant interaction with shame proneness when predicting angry mood, whereas both sets of interactions when parsing out vertical from horizontal axes were nonsignificant. As stated above, it may be that a more specific type of interpersonal stressor is needed for shame-prone individuals to be more reactive towards. In particular, there may need to be a perceived evaluative component beyond just a perceived shift in hierarchical ranking or communal status. On the other hand, it may be that shame is insensitive to shifts in these axes. Although possible, this is less likely to be the case given the inherent disconnectedness likely felt when an individual is perceiving negative evaluation. Therefore, future studies can examine specific types of stressors that include "all of the above" stressful components that shame-prone individuals may be sensitive towards, including negative evaluation, perceived submission, and perceived disconnectedness. By allowing for variation in the types of stressors used in this study, there may have been interactions that involved perceived disconnectedness, for example, but not an evaluative component, thereby not activating a shame-prone individual's shame response. Determining to what extent an individual's response may or may not be explained by submission, disconnectedness, or the combination of both (i.e., negative evaluation) in negative evaluation stressors may help deconstruct which components trigger changes in distressing emotions using only instances that shame-prone individuals are more reactive towards.

Implications

Clinical Implications

The results of this study may suggest potential implications with regard to interventions. First, shame proneness as a general risk factor for distressing moods indicates the necessity for reducing the tendency of an individual to experience shame when experienced too frequently, too intensely, or not appropriately. While there may be a benefit to and rationale for experiencing shame in general (e.g., evolutionary perspectives on the function of shame; (Fessler, 2007; Gilbert, 2007; Giner-Sorolla, 2013), shame proneness, as measured by the TOSCA-3, has shown consistent associations with psychopathology (e.g., Cândea & Szentagotai-Tăta, 2018). Given the potentially adaptive functions of shame, one should be cautious not to brand all shame as dysfunctional. The TOSCA-3 consistently defines shame as having only withdrawal/avoidance behavior and does not assess for approach behavior in response to shame. Additionally, this measure captures shame in its most dysfunctional form – i.e., experienced in response to relatively minor incidents. Therefore, with these precautions in mind, the following clinical implications are indicated.

First, when not taking into account specific stressor contexts, shame proneness prospectively predicted depressed and anxious but not angry moods. Shame-prone individuals may be at increased risk for experiencing depressed and anxious moods, which, over time, may contribute toward the development of clinical disorders. These associations indicate the necessity for implementing interventions to reduce shame if an individual scores highly on the TOSCA-3 or is observed to respond with shame and related behaviors (e.g., consistent avoidance) that are out of proportion to the seriousness of the event. Having a propensity to feel shame under circumstances when this emotion is not warranted, or is warranted but at a smaller intensity level, is considered maladaptive and, with repeated instances, may contribute towards psychopathology. For example, in Linehan's (2014) Dialectical Behavior Therapy (DBT),

emotions that are ineffective for the individual or are out of proportion to the reality and facts of the situation are grounds for a skill called “opposite action,” or completing behaviors that are opposite to those called by that emotion. Instances of doing so may include self-disclosure regarding what the individual is shameful about rather than hiding it, or assuming a confident body posture (e.g., head up, shoulders back) as opposed to a shrinking one (e.g., avoiding eye contact, slumped shoulders). In fact, research supported short-term effectiveness for an opposite action intervention in reducing state shame in BPD for a specific event (Rizvi & Linehan, 2005). By persisting in these opposite actions, the individual’s emotions would follow the behavior and over time become less shame-prone. Thus, interventions such as this one may be done in order to change the emotion, its intensity, and/or to increase the individual’s effectiveness in managing the situation.

Furthermore, frequently feeling shame as described by the self-behavior view, such as by evidencing negative internal, stable, and global attributions, may be another clue for providers to implement interventions for reducing the individual’s propensity to experience and express shame, particularly if there are concerns for depression or anxiety. For example, cognitive restructuring in cognitive behavioral therapy may aid in uncovering and challenging the attributions to be more in line with the realities of the situation. Alternatively, if an individual is already headed towards a trajectory of internalizing disorders, the provider may assess whether shame proneness is contributing towards this pathway and intervene accordingly. Therefore, shame proneness may be an important consideration when assessing for factors contributing toward internalizing psychopathology or if wanting to intervene early to prevent this trajectory when observing frequent depressed and anxious moods.

Several treatments have been shown to be effective in reducing shame according to a systematic review, including CBT, compassion- and mindfulness-based approaches, DBT, and trauma-focused therapy (Goffnett et al., 2020). Both individual and group formats produced reductions in shame, and changes remained at 2- to 12-month follow-up. Moreover, there were reductions in shame even when not the primary aim of the treatment. This review highlighted that the aspects of treatment likely accounting for these reductions were cognitive restructuring and improved emotion regulation skills. Cognitive reframing was helpful for shame-inducing perceptions, social stigma, and traumatic events, while improved emotion regulation followed treatments involving mindfulness, Acceptance and Commitment Therapy (ACT), DBT (particularly cognitive reframing and mindfulness components), and interpersonal psychotherapy. Despite these effective treatments, the authors pointed out that treatment dismantling research is needed to identify the active ingredients for these interventions to further specify which type of treatment is effective for which group or situation. This study contributes to the literature by beginning to examine which interpersonal contexts are particularly stressful for highly shame-prone individuals, thus informing potential routes for treatment.

On a related note, it is important to recognize the specific *if-then* situation-behavior patterns that place shame-prone individuals at increased risk for distressing moods. Awareness of the contexts or interpersonal stressors may help focus and target treatment towards those particularly troublesome scenarios. Providers with shame-prone clients who are struggling with anger can assess for negative evaluation stressors as these may be contributing to their recurring angry moods. Treatment may include coping skills or cognitive restructuring for those perceived negative evaluation stressors to decrease the likelihood, frequency, or intensity of anger experienced as a result, and instead moving the client towards adaptive emotional and behavioral

responses. Taken together, interventions aimed at reducing shame proneness as a general risk factor or enhancing the ability to cope with negative evaluation stressors may help to reduce angry moods in those with higher shame proneness.

Limitations and Future Research

Several limitations of this study warrant mentioning. First, I did not include statistical corrections for conducting multiple tests, although models were consistent with both results of data screening (e.g., adding quadratic terms based on scatterplots) and theory-driven effects. Second, notable qualifiers for drawing conclusions from this study are the measure of shame proneness used and the complexity of the construct definition for shame (beyond the self-behavior conceptualization). The TOSCA-3 has been the prominent measure of shame proneness used in the clinical psychology literature and has shown associations with psychopathology. However, the items within the TOSCA-3 limit how shame is portrayed by the items that participants may endorse or choose from. If the TOSCA-3 only assesses for negative self-evaluations associated with shame (and subsequent maladaptive responses) but no prosocial emotions or behavior, then participants can only endorse the maladaptive aspects of shame. The theory behind the development of the TOSCA-3, which is centered on the self-behavior view, captures shame proneness in this manner, which depicts shame as being pathological and associated with avoidance. It also captures a dysfunctional aspect of shame where individuals may respond with such emotional and behavioral responses in response to relatively benign incidents. Not surprisingly, studies conducted using this measure will show associations with psychopathology. Indeed, Giner-Sorolla et al. (2011) have criticized that the TOSCA-3 measures *feelings* of shame while capturing only the *behaviors* of guilt. This limitation with measurement is related to a larger issue with disagreement on definitions of shame across disciplines. For

example, researchers in the social psychology literature have identified adaptive, prosocial, or approach-oriented functions of shame and related behavior (e.g., de Hooge's sociometer theory), resulting in a different perception or view of shame, whereas, as stated above, researchers in the clinical psychology literature have primarily portrayed shame as maladaptive (e.g., Tangney's self-behavior view). Differing views on shame will lead to use of different assessment instruments based on the researcher's understanding of shame. Consequently, this will produce different results and conclusions regarding shame proneness, further perpetuating a non-unified construct and understanding of shame. In their systematic review of shame interventions, Goffnett et al. (2020) noted 17 different measures of shame, some contextual and others general, with very few studies providing a clear definition of shame. Not surprisingly, they called for an operationalization of shame and its construct. In short, results from this study, which uses the TOSCA-3 and its associated understanding of shame, may not be generalizable to other contexts where shame is understood differently or may show different patterns and associations. Readers should be aware, then, that there may be other forms of shame that are less pathological or experienced and expressed differently (e.g., via approach behavior) that are not captured by this study. Nonetheless, these results are beneficial in understanding how shame proneness, as depicted by the TOSCA-3, may prospectively predict distressed moods following interpersonal stressors to inform theories of shame. Future studies can use broader measures of shame proneness to evaluate these associations and inform theory or our understanding of shame. Relatedly, it is possible that the findings of main effects of shame proneness on distressed moods may be explained by general poor emotion regulation as opposed to shame-specific effects. However, given that shame proneness only predicted depressed and anxious, but not angry, moods, this is less likely to be the case. Future studies could aim to better understand the

mechanisms of shame or explicitly test whether emotion dysregulation, or more interpersonal processes, mediate the relationship between shame proneness and distressed outcomes.

A third limitation is the potential for recall bias when retrospectively assessing for moods and interpersonal stressors. The use of daily diaries in this study called for participants to complete three recordings per week for 5 weeks. Information regarding the stressful interactions and associated moods may have been unintentionally altered or forgotten, affecting the individual's interpretation of the event or its outcome thus introducing error. However, emotional ratings involving a retrospective design may be more accurate if the mood is linked to a specific moment or personal example (Eisenhower et al., 2004), as was used in this study. Future studies could decrease the potential for recall bias by having participants complete recordings immediately, or within a specified timeframe, following a stressful interaction, reducing this risk.

Fourth, although an advantage of this study is the inclusion of participants across symptom levels and diagnoses in order to capture a dimensional, transdiagnostic representation of risk factors for psychopathology, there are limitations to this approach as well. A minority of the sample met criteria for clinical threshold disorder (i.e., approximately 35% and 16% for anxiety and depressive disorders, respectively). It is possible that having a higher percentage of clinical-level diagnoses, or clinical-only sample, would produce different results. Having a sample with a greater severity of symptoms may produce varying results if this sample consisted of too few clinical-level symptoms to detect associations with mood or interactions with interpersonal stressors. Similarly, these associations may vary according to diagnosis or nature of problems experienced. Our sample majority was more characterized by those with social anxiety and generalized anxiety disorders, thus potentially limiting generalizability to other diagnoses. For example, individuals with internalizing vs. externalizing disorders may show different

patterns in their emotional expressions, such that those with externalizing symptoms are more likely to experience angry mood whereas those with internalizing disorders may feel depressed mood more frequently. Or, moving beyond broad categories of symptoms, individuals with BPD may show different patterns of associations compared to individuals with social anxiety disorder. On the other hand, these differences may be explained by the internalizing vs. externalizing classification. By examining populations with a greater severity of symptoms (i.e., reaching clinical threshold), clearer associations and interactions may surface, and researchers could then examine whether these relationships hold with subclinical populations. Future studies could examine these relationships in clinical vs. non-clinical samples and across disorders. Still, the transdiagnostic inclusion of dimensional symptoms is a strength of this study that enhances generalizability broadly.

Conclusion

This study offers a novel perspective on how shame proneness may act as a vulnerability factor for psychopathology cutting across diagnoses and symptom levels. Few studies in the shame literature have used daily diary methods, and this study used situational contexts to assess for *if-then* patterns where individuals with higher shame proneness may be more susceptible to reacting towards with distressed moods, thus providing greater specificity in these relationships. Additionally, the nature of the study design allowed for examination of how changes in levels relative to the individual's own personal mean may influence distress levels. This study provided support for the idea that shame proneness may prospectively act as a general risk factor for distressing moods, particularly depression and anxiety, and that there may be certain interpersonal stressor instances that shame-prone individuals are more likely to react towards with more anger. Further, these findings shed light on theories of shame and its functioning, such

that shame proneness may place individuals at increased risk of changes in distressed moods when there are particular components activated by that interpersonal stressor (e.g., negative evaluation) beyond solely shifts in vertical or horizontal status. More research is needed to elucidate shame as a construct, in terms of its theorized function, measurement, and role in psychopathology.

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