The Role of Trait Mindfulness, Perceived Stress, and Impulsivity in Understanding the Relationship between Stress Mindset and Psychological Intimate Partner Aggression

A Dissertation Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

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August 2023

Acknowledgements

I would like to thank my family for supporting me through this process. I would also like to thank Dr. Patricia Roberson, for her time and patience in assisting me to learn the statistical programming required for this project. I would also like to thank my advisor, Dr. Todd Moore and my committee for their suggestions, encouragement, and support.

Abstract

Perpetration of psychological intimate partner aggression is a pervasive health issue and has been estimated to occur in 60 to 90 percent of relationships. Effects of intimate partner violence on its victims has been demonstrated to have lasting physical and mental health issues. Psychological intimate partner aggression has been demonstrated to have particularly harmful effects, above and beyond those identified in physical intimate partner aggression. Psychological intimate partner aggression has been demonstrated to be impacted by impulsivity, stress-mindset, perceived stress, and mindfulness. The present study proposed to examine a path analysis model of the relation between stress-mindset and psychological intimate partner aggression, utilizing perceived stress and impulsivity as mediating variables. Further, the present study examined a potential moderating variable in trait mindfulness on the relation between stress-mindset and perceived stress. Participants were recruited from across the United States, using ads presented on a social media website and they were not compensated for their participation. Individuals 18 years and older responded to ads titled “Mindfulness in Romantic Relationships”. Individuals were asked to complete self-report questionnaires assessing key variables. We hypothesized that perceived stress and the negative urgency facet of impulsivity would mediate the relation between stress-mindset and psychological intimate partner violence. Data on other types of intimate partner violence was not collected. Additionally, we hypothesized that the relation between stress-mindset and perceived stress would be moderated by trait mindfulness, such that individuals with low trait mindfulness, stress-mindset will be more likely to contribute to psychological intimate partner aggression, via perceived stress and impulsivity. Results indicated that both perceived stress and negative urgency in series mediated the relation between stress mindset and PIPA. However, results did not implicate mindfulness as a significant moderator at

any point in the double mediation model described previously. Implications for clinical intervention and future research are discussed.

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Chapter One: Introduction

Aggression has been a focal point of literature and discussions of theory for the past four decades and has been defined as any intentional behavior that results in harm to another (Crowell, 1987; DeWall, Anderson, & Bushman, 2012). In the US, homicide rates have decreased since 1980, but are still alarmingly high at 5.1 per 100,000; aggravated assaults are also high, at 242 per 100,000; and non-fatal aggravated assaults requiring medical attention were assessed at 1.6 million in a single year (Sumner, Mercy, Dahlberg, Hillis, Klevens, & Houry, 2015). Aggression occurring specifically in intimate relationships has also been of significant interest in psychological literature. Indeed, intimate partner aggression (IPA) is particularly common in relationships, occurring at rates as high as one in three women and one in four men experiencing victimization by an intimate partner (National Statistics of Domestic Violence Victimization, 2015). While many studies focus primarily on physical or sexual aggression, recent research has suggested that psychological aggression is more common and perhaps more harmful (Coker et al., 2000; Odgers & Jaffee, 2013; Office for Victims of Crime on NCJRS, 2018). The present study aimed to examine psychological IPA (PIPA) perpetration and potential contributing and mitigating causes to this phenomenon. The following sections will summarize relevant research on PIPA and present a path model that examines the relation between stress mindset and PIPA that incorporates perceived stress, mindfulness, and impulsivity as mediating variables.

Intimate Partner Aggression (IPA)

Research focusing on IPA has contributed to a refined understanding of the various types of IPA and their respective definitions. Intimate partner aggression is broadly defined as physical, sexual, or psychological harm or injury caused by an intimate partner (Injury Center,

2010). IPA has been considered to consist of at least two higher-order forms: overt aggression and relational aggression (see Little, Jones, Henrich, & Hawley, 2003). Overt aggression consists of observable, behavioral or verbal actions (e.g., threatening, hitting, kicking, insulting), committed with the intent to harm another (Buss & Perry, 1992; Little, Jones, Henrich, & Hawley, 2003). A study conducted by Sumner and colleagues (2015) estimated that 12 million adults experience intimate partner aggression every year and that about 10 million children experience aggression perpetrated by a caregiver.

The second category of aggression consists of relational aggression, which has been considered a subcategory of psychological intimate partner aggression (PIPA; see Carroll et. al., 2010). This form of aggression has been estimated at rates as high as 70-90% in relationships (Cornelius, Shorey, & Beebe, 2010; Shorey et al., 2008a). PIPA includes actions committed with the intent to shame, humiliate, intimidate, or dominate one's partner (Follingstad, Coyne, & Gambone, 2005). Rather than focusing on physical injury, PIPA damages one's sense of self, or emotional well-being (see Munoz-Rivas, Grana, O'Leary, & Gonzolez, 2009). Other research has suggested that this kind of IPA also harms another's existing or potential relationships or towards damaging their social status (e.g., spreading gossip, withdrawing affection, purposeful exclusion, etc.; Archer & Coyne, 2005). Wright and Benson (2010) suggest that the aim of PIPA is to make the victim feel isolated or unloved, by damaging other relationships. Recent research on PIPA suggests that this type of aggression often begins in close relationships (e.g., sibling relationships) and can be transmitted to other relationships (e.g., social relationships; Stauffacher & DeHart, 2006). Additionally, recent research conducted by Coyne (2016) indicated that viewing media portrayals of psychological aggression longitudinally predicted future enactment of psychological aggression (Coyne, 2016). PIPA has been demonstrated to be associated with

impulsivity, depressive symptoms, anger, and delinquency (Espelage, Merrin, Hong, & Resko, 2017).

A number of studies have distinguished between various types of IPA. One type of aggression is associated with an impulsive/reactive form, characterized by "hot-blooded", angry, and hostile behavior, in response to a perceived threat and is related to failures in planful and deliberate cognitive processing (Centifanti, Frick, Kimonis, & Aucoin, 2008; Hubbard et al., 2002). Individuals who tend to espouse this form of aggression have been demonstrated to react with more intense anger and hostility responses (Miles, Menefee, Wanner, Tharp, & Kent, 2015). Additionally, this type of aggression has been associated with the majority of crimes and assaults, as reported in the US (Sumner, Mercy, Dahlberg, Hillis, Klevens, & Houry, 2015). Another type of IPA is represented in a proactive/instrumental aggression and is not associated with aggression in response to threat, but rather action in pursuit of a goal (Dodge and Pettit, 2003). Proactive IPA is most common in individuals who have witnessed violence (Fite et. al., 2012). Both proactive and reactive aggression have been demonstrated to be associated with impulsivity and irresponsibility and proactive aggression has been demonstrated to be associated with callous or unemotional traits; however, neither proactive or reactive aggression was associated with performance-based intelligence measures or measures of verbal intelligence (Jambroes et. al., 2018).

In recent research, PIPA victimization has been demonstrated to be associated with increased rates of substance use (Shorey, Rhatigan, Fite, & Stuart, 2011; Straight, Harper, & Arias, 2003), mood disorders (Shorey et. al., 2011; Simonelli & Ingram, 1998), and somatic symptoms (Kaura & Lohman 2007). PIPA has also been suggested to be the strongest predictor of later development of PTSD symptoms (Pico-Alfonso, 2005).

Psychological forms of aggression have been demonstrated to have negative effects on both the perpetrators of the aggressive action and on the victims. In perpetrators, aggression has been demonstrated to be correlated with subsequent crime, substance abuse, unemployment, relational issues, and mental illness (see Brook, Rosenburg, Brook, Balka, & Meade, 2004). According to US statistics from the Federal Bureau of Investigation (2013), aggression aimed at others contributed to 1.1 million crimes in a single year. The cost to taxpayers associated with interpersonal violence is estimated at $300 billion per year (Statistics on Violence and Peace, 2018). Perpetrators of aggression tend to struggle with impulsivity, negative affect, and emotion dysregulation and reactivity. Indeed, a number of studies have found significant positive correlations between these variables and subsequent aggression (e.g., Anderson & Bushman, 2002; Berkowitz, 2012; Dodge & Pettit, 2003, etc.), such that as an individual demonstrates higher levels of impulsivity, negative affect, and emotion dysregulation and reactivity, so they are likely to demonstrate higher levels of aggression. Recent research has demonstrated a relation between negative affect, feelings of alienation in relationships, and aggression in perpetrators (Farnicka & Grzegorzewska, 2015).

Experiencing PIPA has been demonstrated to be a contributing factor to later experiences of depression and anxiety (de Boer, Buwalda, & Koolhaas, 2016). Indeed, victimization contributes to increased rates of posttraumatic stress disorder (PTSD) and suicidality, as well as increased rates of victimization in the future (Ostrov, 2008; Stockman et al., 2015). Further, Dusing and colleagues (2018) found that harmful beliefs about aggression mediated the relation between experiencing violence in close relationships and later aggressive behavior. Similarly, Schwartz, Chang, and Farver (2001) found that peer-victimization of aggression was associated with poor academic functioning, lower assertion and prosocial behavior, increased submissive

and withdrawn behavior, and increased instances of future aggressive behavior. Aggressive behavior thus perpetuates a negative cycle of both poor psychological outcomes and increased risk for perpetration of aggression aimed at harming the self and others.

Theories of Aggression and Violence

Recent research has considered contributors to violence, not least of which is perpetually witnessing violence in childhood (Fite et. al., 2012). Relatedly, early research on aggression considered its origins to be via observational learning, reinforcement of aggressive behavior, aversive life changes, and symbolic reinforcement via media (Bandura, 1978). Indeed, much of Bandura's research concerned children's adoption of aggressive behavior after observing an older adult utilize aggression toward resolution of a problem. In his Social Learning Theory, Bandura (1978) hypothesized that aversive experiences and known incentives (e.g., avoiding punishments, prosocial consequences, etc.) influence systems of emotional arousal and anticipated consequences, respectively. This influence of the respective systems, in turn, results in one (or a few) of numerous possible responses to stimuli, including aggression. In the same article, Bandura asserts that frustrating stimuli only result in aggressive response in individuals who have learned to respond aggressively.

Since that time, other researchers have extended Social Learning Theory in important ways. Notably, Allen and Anderson (2017) extended Bandura's theory to include constitutional traits of personality and contextual traits. In their General Aggression Model (GAM), these researchers posited that the "inputs" of a given situation, the person involved and the current conflict, are influenced by more distal factors of personality (which they define as being comprised of biological and environmental modifiers). The inputs of person and situation are then mediated by internal states (e.g., affect, cognition, arousal), to contribute to an "outcome".

In order for an individual to provide a thoughtful action as an outcome, immediate appraisal resulting from the mediation of internal states must be reappraised, in light of sufficient cognitive resources for thoughtful action and consideration of the outcome as both important and potentially unsatisfying, if handled impulsively. However, if cognitive resources are insufficient to attempt reappraisal of mediated conflictual input, or if the reappraisal considers the conflict to be unimportant or generally satisfying, impulsive action influences social encounters, often including an aggressive response.

Additionally, the dual systems theory (Hofmann et al., 2009) may also provide explanatory power to how and why PIPA is perpetrated. This theory suggests the presence of two cognitive systems: an impulsive system and a reflective system. Hofmann and colleagues propose that the impulsive system is responsible for generating reflexive, impulse behavior. This system is strengthened by the occurrence of an external event in close temporal proximity to emotional arousal and behavioral activation. As this system is strengthened, individuals often experience “anticipatory activation”, as external events begin to signal automatic activation of emotional arousal and impulsive behavioral responses. According to Hoffman, the reflective system performs functions including long-term planning, strategic action, conscious decision-making, and is responsible for inhibiting and overriding impulsive action. In activating one system, the other is subsequently inhibited. Determining the activation of one system at any given time depends upon the strength of each system, relative to the other and, over time, this contributes to a dominate behavioral pattern in response to environmental stimuli. Consistent biasing of the impulsive system might lead to a dominate behavioral pattern of PIPA perpetration, for example. However, research by Finkel (2007) suggesting that individuals were

more likely to experience impulses toward IPA perpetration that they were to engage in this behavior demonstrates the importance and value of working to strengthen the reflective system.

The Risk Regulation Theory might also be assistive in considering violence specifically in the context of romantic relationships. This theory proposes that individuals, when faced with relationship conflict, are confronted with increased awareness of their dependency on their partner or relationship and much then must decide between either action aimed at greater connection with their partner or action aimed at self-protection from potential rejection or emotional injury (Murray, Bellavia, Rose, & Griffin, 2003; Murray et. al., 2006; Murray et. al., 2008). It may be that individuals with a tendency to take action toward self-protection might engage in PIPA perpetration, in an effort to protect themselves. For example, individuals who held lower levels of trust in their partner tended to treat their partner poorly and displayed higher levels of self-protective action, when faced with relationship conflict (Murray, Bellavia, Rose, & Griffin, 2003). It may also be the case that mindfulness, stress, and other factors might differentially bias individual tendency to act in self-protective ways (e.g., PIPA perpetration), when confronted with relationship conflict or increased awareness of their dependency.

Both the dual systems theory and the GAM are necessary to consider, in an effort to better understand the contributing factors of PIPA perpetration. Based on these theories, it is important to test models of PIPA that go beyond bivariate relationships and further examine the influence of multiple contributing factors. The present study proposes to examine the extent to which multiple mediating variables may explain associations between stress and PIPA.

PIPA and Stress Mindset

PIPA has been consistently correlated with stress, both in theory and in peer-reviewed research (Kimerling, Alvarez, Pavao, Mack, Smith, Baumrind, 2009; Pico-Alfonso, Garcia-

Linares, Celda-Navarro, Blasco-Ros, Echeburua, Martinez, 2006; Sullivan, Cavanaugh, Buckner, & Edmondson, 2009). Indeed, a recent study found that individuals with a high stress response to negative experiences also tended to demonstrate high levels of impulsive aggression and tended to engage in more impulsive and aggressive behavior, such as suicidality (Stanley, et. al., 2019). Indeed, stress has been demonstrated to have a positive correlation with depression (Dahlin, Joneborg, & Runeson, 2005) and negative affect and negative health behaviors (Kassel, Stroud, & Paronis, 2003). Additionally, Brown, Fite, DiPierro, and Bortolato (2017) found that stressful life event exposure (e.g., exposure to, witnessing of, or learning of stressful experiences) was associated with reactive aggression, but only witnessing stressful life events was associated with proactive aggression. Langer, Lawrence, and Barry (2008) found that changes in individual stress predicted changes in physical aggression, within the context of intimate relationships. Further, a number of studies have implicated stress as a causal factor in predicting aggressive behavior (Kreek, Neilson, Butelman, & LaForge, 2005; Lazarus & Folkman, 1984; Middlebrooks & Audage, 2008). Specifically, Gormley and Lopez (2010) found that significant life stress was a main predictor of PIPA perpetration. This study, which included undergraduate individuals in committed relationships, demonstrated that stress most strongly predicted PIPA perpetration, compared to measures of adult attachment orientation. Additionally, this study suggests that, among men, stress alone accounted for a great deal of the variance in PIPA, whereas, for women, stress appeared to account for a moderate amount of the variance in PIPA perpetration.

Specific to the GAM, stress may intercede at a number of different points in the model. For example, stress has been demonstrated to reduce cognitive resources (Barling & Frone, 2017; Bridger, Binder, & Kellezi, 2020), toward a thoughtful, rather than impulsive response.

That is, a stress-induced reduction in cognitive resources would, theoretically result in a more impulsive response. Additionally, stress may impact mediational routes between the input and the outcome of the GAM, as stress has been demonstrated to influence cognition (Deckers, Lobbestael, van Wingen, Kessels, Arntz, & Egger, 2015), affect (Stansfeld & Candy, 2006; Wilhelm, Kovess, Rios-Seidel, & Finch, 2004), and arousal (Bangasser, Eck, & Sanchez, 2019).

Indeed, stress may be very important in explaining the occurrence of PIPA perpetration, however, it is important to consider two different and distinct forms of stress. *Perceived stress* refers to the extent to which one feels that the circumstances of their life are uncontrollable, unpredictable, and overloading, contributing to consistently high levels of felt stress and anxiety (Golden-Kreutz, 2004). While perceived stress may be an important concept in explaining the occurrence of PIPA perpetration, recent research has suggested a second form of stress, *stress mindset*, as a contributor to perceived stress. Previous research (Crum, Salovey, & Achor, 2013) has indicated that stress mindset is perhaps a distinct concept from perceived stress. Perceived stress concerns evaluation of life experiences as generally overwhelming and stressful. Stress mindset, by contrast, considers one's evaluation of stress schemas as either helpful or harmful toward achieving one's goals. That is, a negative stress mindset is one in which individuals believe stress to be harmful and to be avoided, while a positive stress mindset is one in which individuals view stress as helpful in completing tasks.

In the only known study to examine stress mindset and aggression, Johnson and Moore (2020) found that stress mindset moderated the relation between mindfulness, impulsivity, and aggression specific to intimate relationships, such that for individuals with a negative stress mindset (e.g., viewing stress as harmful), impulsive behavior mediated the relation between trait mindfulness and aggressive behavior. This study also demonstrated that for individuals with a

positive stress mindset (e.g., stress is helpful), impulsive behavior no longer mediated the relation between trait mindfulness and aggressive behavior. Considering these studies together, it may be that it is stress-mindset, in addition to stress, that intercedes in the GAM, contributing to an impulsive and aggressive response, rather than a reflective, non-aggressive response. Therefore, the present study aims to examine the effects of stress mindset on impulsive PIPA perpetration. Perceived stress and stress mindset will both be considered in more detail in following sections.

Proposed Model

Indeed, recent research suggests that stress mindset may be important in identifying contributing factors toward perpetration of PIPA, however, it is likely that multiple factors contribute to this type of behavior in the context of romantic relationships. While the research might suggest an association between stress mindset and PIPA, the present study considers other influencing factors. Specifically, the present study aims to identify the contributions of perceived stress, trait mindfulness, and impulsivity in a moderated mediation model, toward a more complete understanding of the relation between stress mindset and PIPA perpetration. The present model is consistent with both the GAM (Allen & Anderson, 2017) and the Dual Systems Theory (Hofmann et al., 2009). The proposed model is depicted in Fig. 1 and subsequent sections will illuminate the proposed relationships between constructs.

Stress Mindset and Perceived Stress

As stress has been demonstrated as a contributing factor to PIPA (e.g., Gormley & Lopez, 2004), it is important to consider both the effects of perceived stress on PIPA and the effects of stress mindset on PIPA, as it may be a "higher order variable" to perceived stress. As described above, perceived stress is a consideration of the degree to which an individual finds their

circumstances unpredictable and uncontrollable, as well as an assessment of themselves as overloaded and their ability to address these circumstances as poor (Korten, Comijs, Penninx, & Deeg, 2017). On the other hand, stress mindset is an evaluation of the manner in which stress affects one's experience (e.g., is stress evaluated as helpful or harmful?). It is likely that both stress mindset and perceived stress are related to PIPA in a more complex and indirect manner. Stress is usually considered to be harmful and to be avoided, in order to maintain psychological health. However, recent research on stress demonstrates that ideas about stress might alter perception of it. Kilby and Sherman (2016) found that individuals considered a cognitive task "challenging", provided they held a positive stress mindset, but viewed the same task as "threatening" if they held a negative stress-mindset. Further, the research by Crum and colleagues (2013) suggest that stress is negatively associated with stress mindset, such that individuals believing stress to be helpful perceived less stress in their lives. Crum (2013) also noted that "appraisal" assessments of stress (such as the Perceived Stress Scale) are distinct from stress mindset variables but are none-the-less inversely correlated. That is, as individuals hold and an increasingly positive stress mindset, they tend to report lower perceived stress (Crum, 2013).

While the association between stress mindset and perceived stress is supported by the literature, it may be more complex than is implied by the current research. It may be that a discussion of the contribution of trait mindfulness to the stress mindset-perceived stress relationship may further elucidate the relation of these variables to each other.

Perceived Stress and Impulsivity

The relation between perceived stress and impulsivity is well established in the present literature. Impulsivity is often defined as behavior that can be described as "poorly conceived,

prematurely expressed, unduly risky, or inappropriate to the situation that often result in undesirable consequences" (Daruna & Barnes, 1993, pg. 23). Continuous impulsive responses to stress leads to difficulty inhibiting impulsivity and a general impulsive response set when an individual perceives high levels of stress (Sinha, 2008).

Cyders and colleagues (2014) consider impulsivity to be construed of subscales including negative urgency, lack of premeditation, lack of perseverance, sensation seeking, and positive urgency. However, a number of studies have specifically implicated negative urgency as a type of impulsivity that may have unique associations to PIPA (e.g., Cyders et. al., 2014; Johnson & Moore, 2020; Peters et. al., 2011, 2017). *Negative urgency* is a type of impulsivity which characterizes impulsive behaviors aimed at dispelling negative affect (Cyders & Smith, 2008). A study by Altan-Atalay, Ozarslan, and Biriz (2020) demonstrated that high levels of negative urgency were associated with high levels of anxiety and stress. Additionally, Johnson and Moore (2020) demonstrated that this type of impulsivity was related to stress mindset, where as other forms of impulsivity (e.g., lack of premeditation) were not associated with stress mindset. In this study, individuals were asked to complete self-report measures assessing mindfulness, negative urgency, stress-mindset, and relational intimate partner aggression. Results indicated that, for individuals who held a negative stress mindset, negative urgency was particularly likely to lead to be associated with aggression. While this study did not include an examination of perceived stress, in relation to previously mentioned variables, it is reasonable to expect, given the relation between stress-mindset and perceived stress, that negative urgency would also be related to perceived stress. A study conducted by Mooney and colleagues (2008) demonstrated that perceived stress was significantly associated with impulsivity, such that as individuals experienced higher levels of perceived stress, they were more likely to experience impulsivity.

Considering these two studies concurrently and the commonly found relationship between impulsivity and aggression (described below), it seems plausible that negative urgency may act as a mediator between perceived stress and PIPA.

Impulsivity as a Mediator of Stress and PIPA

Recent literature has identified impulsivity as a relatively strong predictor of PIPA (Tharp, Schumacher, McLeish, Samper, & Coffey, 2012). Denson and colleagues (2011) found that continuous rumination on past insults decreased self-control and increased impulsivity, which resulted in increased likelihood of relational aggression. Additionally, Finkel and colleagues (2009) suggested that individuals high in self-control over impulses were less likely to perpetrate IPA. Indeed, Shorey and colleagues (2011) suggest that PIPA is precipitated by "gut-level" impulsive actions resulting from failures in self-control. While much of the literature appears decisive concerning the relation of impulsivity to IPA, impulsivity has been suggested to be constructed of a number of different, more concise components. Negative urgency, described previously, might be the subtype of impulsivity most relevant to stress and PIPA. In a study conducted by Gratz and Roemer (2004), it was suggested that individuals who struggle to inhibit impulsivity were more likely to engage in IPA, in order to dispel negative affect. In light of this research, it may be that negative urgency is a key variable in explaining the relationship between stress mindset and PIPA.

While the literature concerning impulsivity as a mediator in the relation between perceived stress and PIPA is scarce, a few studies illuminate the possibility of such an association between these three variables. First, a number of studies have established a strong association between stress, impulsivity and IPA (e.g., Caetano, Ramisetty-Mikler, Vaeth, & Harris, 2007; Romero-Martinez, Nunes-Costa, Gonzalez-Bono, & Moya-Albiol, 2014; Sullivan,

Flanagan, Dudley, Holt, Mazure, & McKee, 2015). Moreover, a study conducted by Dugal, Belanger, Sabourin, Bates and Godbout (2018) examined the role of negative urgency in the relation between early life stress and PIPA. In this study, 241 individuals completed self-report questionnaires concerning experience of early life stress, negative urgency, and PIPA. Results indicated that negative urgency mediated the relation between early life stress and PIPA. The present study aims to extend this research, by examining stress, negative urgency, and PIPA in the context of other variables, toward a more complete understanding of the mechanisms contributing to PIPA perpetration.

Therefore, the present study proposes to examine impulsivity as a partial mediator of the relation between perceived stress and PIPA, within the context of a larger relation between stress mindset, mindfulness, perceived stress, impulsivity, and PIPA.

Moderating Effect of Mindfulness on the Stress Mindset-Perceived Stress Relation

Stress and mindfulness have been consistently demonstrated to be associated in the recent literature (e.g., Baer, Carmody, Hunsinger, 2012; Bao, Xue, Kong, 2015; Cordon, Brown, & Gibson, 2009). Mindfulness has been defined differently in the literature as both inhibition of mind wandering and evaluation processes (Brown & Ryan, 2003; Kabat-Zinn, 1994) and a process by which mindsets might be evaluated and restructured (Langer, 2014). The present study most closely identifies with the Langerian definition of mindfulness. That is, the present study considers mindfulness as a manner in which individuals might pay attention to conceptual sets, or mind sets, in such a way as to create the mental awareness necessary to alter those mind sets (Crum, Lyddy, Ngnoumen, Ie, & Langer, 2014).

A number of studies have demonstrated that the facets of mindfulness differentially predict anxiety. For example, Deserosiers, Klemanski, and Nolen-Hoeksema (2014)

demonstrated that the Observing and Describing facets of mindfulness significantly predicted anxious arousal. Additionally, Brem, Khaddouma, Elmquist, Florimbino, Shorey, and Stuart (2019) demonstrated that distress tolerance mediated the relation between the mindfulness facets of nonjudging of inner experience and nonreactivity to inner experience and psychological assault perpetration, whereas other facets of mindfulness were not indirectly predictive of IPA. Lenger, Gordon, and Nguyen (2016) demonstrated that the nonjudgement factor of mindfulness predicted one's relationship satisfaction above and beyond other factors, while nonreactivity predicted one's partner's relationship satisfaction above and beyond other factors. Finally, Peters, Erisman, Upton, Baer, and Roemer (2011) demonstrated that the mindfulness facets acting with awareness, nonjudgement, and nonreactivity were associated with negative urgency, while the observing and describing facets were not. These studies suggest that different facets of mindfulness might be differentially related to key study variables.

Research conducted by Bullis, Boe, Asnaani, and Hofmann (2014) found that trait mindfulness predicted lower levels of stress reactivity and distress when suppressing anxiety. Additionally, research has demonstrated the potential moderating effects of mindfulness on perceived stress. For example, Shapiro, Brown, Thorenson, and Plante (2011) assessed the trait mindfulness of individuals before they were assigned to participate in either a MBSR program or a control group. This study found that individuals with higher trait mindfulness in pre-treatment demonstrated greater decreases in perceived stress, up to one year following completion of the program, compared to individuals with lower trait mindfulness. If interventions designed to improve mindfulness are effective in reducing perceived stress, trait mindfulness is likely integral to these variables and their relation in the absence of an intervention. Considering that a) stress mindset and perceived stress have a demonstrated association with mindfulness, b)

mindfulness interventions have been demonstrated to reduce perceived stress, and c) trait mindfulness has been identified as a moderator predicting lower levels of perceived stress, following mindfulness interventions, and d) that stress-mindset and perceived stress have been demonstrated to be related to each other, it may be that trait mindfulness moderates the relation between stress-mindset and perceived stress.

The observing and describing facets of mindfulness might be most relevant in the relation between stress mindset and perceived stress. Research indicates that the observe facet of trait mindfulness moderated the relation between life stress and ratings of distress, such that for individuals with high levels of observing tendencies, the relation between life stress and distress was significantly weaker (Neale-Lorello & Haaga, 2015). Additionally, changes in the describing facet of mindfulness have been demonstrated to predict changes in perceived stress (e.g., Hewett, Ransdell, Gao, Petlichkoff, & Lucas, 2011). While this study did not directly indicate the describing facet of trait mindfulness as a moderator, it may be that trait levels of ability to describe might also moderate the relation between stress mindset and perceived stress.

Concerning the relation between perceived stress and negative urgency, research has suggested that individuals with high levels of non-reactivity and non-judgment may be better able to perceive their emotions (e.g., stress) without getting lost in their experiences. It may be that the non-reactivity and non-judgement facets of mindfulness moderate this relation between perceived stress and negative urgency. A recent study by Song and Bae (2020) demonstrated that these facets of mindfulness moderated the relation between daily life stress and impulsive behavior due to negative affect. This study identified the non-reactivity and non-judgement factors of trait mindfulness as potential moderators, such that for individuals who were high in these traits, daily life stress was not likely to lead to impulsive behavior driven by negative

affect. Similarly, it may be the case that these two facets of trait mindfulness might moderate the relation between perceived stress and negative urgency, such that for individuals low in these traits, perceived stress is likely to lead to impulsivity in the form of negative urgency.

The non-judgement and acting with awareness traits of mindfulness might have particular relevance to the relation between negative urgency and PIPA perpetration. Recent research has suggested that mindfulness intervention aimed at increasing the non-judgment and acting with awareness facets of mindfulness decrease anger in police officers (Bergman, 2016). As anger has been demonstrated to predict psychological aggression (see Eaton & Struthers, 2006), it seems plausible that the non-judgment and acting with awareness facets of trait mindfulness might moderate the relation between negative urgency and PIPA. That is, for individuals with lower levels of non-judgment and of acting with awareness, negative urgency might be more likely to lead to higher occurrences of PIPA.

Current Study, Rationale, and Hypotheses

The present study aimed to analyze a model that examined both potential mediating variables and moderating variables in contributing to the perpetration of PIPA. Given previously described theory, a key study by Crum (2013), which demonstrated an association between stress mindset and perceived stress, and another study by Shapiro, Brown, Thorenson, and Plante (2011), which demonstrated the moderating effects of trait mindfulness on perceived stress, it seems plausible that trait mindfulness might moderate the relation between stress mindset and perceived stress. Further, Dugal, Belanger, Sabourin, Bates and Godbout (2018) found that negative urgency mediated the relation between stress and PIPA. Given these associations, it seems plausible to suggest that stress mindset may be predictive of PIPA indirectly through

perceived stress and impulsivity, and that the path between stress mindset and perceived stress may be moderated by trait mindfulness.

While these proposed associations are consistent with existing literature, the constructs have not been examined collectively. Therefore, based on theory and past research, it was hypothesized that both perceived stress and negative urgency, in series, will mediate the relationship between stress mindset and PIPA. In addition, it was hypothesized that this model would be moderated by trait mindfulness. Specifically, it was predicted that trait mindfulness would moderate the relationship between stress mindset and perceived stress, such that, for individuals with low trait mindfulness, the relation between stress mindset and perceived stress will be stronger than for individuals with high trait mindfulness. We hypothesized that different facets of mindfulness might moderate at different points in the model. For example, we proposed per previous research (see above), that the observe or describe facets might moderate the relation between stress mindset and perceived stress; that the Non-Judging or Non-Reactivity facets might moderate the relation between perceived stress and negative urgency; and that the Non-Judging, Non-Reactivity, or Acting with Awareness facets might mediate the relation between negative urgency and PIPA. Using one facet as a moderator for each path, eight total models were proposed, using different combinations of mindfulness facets. Finally, it was predicted that the construct of PIPA might be best represented by a latent construct, utilizing Relational Abuse, Threatening Behavior, and Verbal and Emotional Abuse as predictors (see previous section on PIPA; Follingstad, Coyne, & Gambone, 2005; Archer & Coyne, 2005; Munoz-Rivas, Grana, O'Leary, & Gonzolez, 2009; Wright & Benson, 2010). The present study hypothesized that all facets of the latent PIPA construct would load significantly but predicted that the Verbal and

Emotional Abuse subscale would be the best indication of PIPA and would, therefore load most highly.

Chapter Two: Method

Participants

Data for the present study were collected in 2018 as part of a larger study. This study initially included 604 individuals who were asked to complete a number of self-report questionnaires examining mindfulness, impulsivity, stress mindset, perceived stress, and IPA, among other variables. Participants were recruited from across the United States, using ads presented on a social media website and they were not compensated for their participation. Individuals 18 years and older responded to ads titled "Mindfulness in Romantic Relationships". Individuals were asked to complete self-report questionnaires assessing key variables. The larger study aimed to better understand how these variables contributed to IPA perpetration and victimization and resulted in one publication examining how some of these variables related to relational abuse. The current study examined a different model involving the relationships between some of these variables and PIPA.

Participants for this study were comprised of individuals who participated in the previous study. The majority of the sample (55%) reported that they were "seriously dating" their partner. A third of the present sample (33%) reported that they were married or partnered and 7% reported that they were dating but not serious. The remaining 5% of the same reported that they were engaged. The average age of individuals involved in the present study was 38.8 years, with an average reported relationship length of 6.5 years. The majority of the sample (86.1%) identified as Caucasian, 3.2% identified as African American, 4.9% identified as Hispanic, 3.4% identified as Asian American, and about 2% reported their ethnic demographic as Native American Indian/Middle Eastern/Other. Eighty percent of the sample identified as female. See Appendix for all study measures.

Measures

The Stress Mindset Measure (SMM; Crum et al., 2013) is an eight-item questionnaire examining attitudes towards stress. This measure asks participants to indicate the extent to which they view stress as helpful and positive (e.g., "experiencing stress enhances my health and vitality") or as harmful and negative (e.g., "the effects of stress are negative and should be avoided"). Items are rated on a 5-point Likert-type scale from 0 (not at all). The SMM has demonstrated good item and test-retest reliability (Johnson & Moore, 2020; Kilby & Sherman, 2016). The present study also found evidence of good reliability (Cronbach α= .823).

The FFMQ (Baer et al., 2006) is a 39-item self-report measure assessing one's ability to engage in mindfulness. Subscales include a) observing traits, b) ability to describe experience, c) tendency to act with awareness, d) tendency to hold non-judgmental attitudes, and e) non-reactive attitudes. This measure has been demonstrated to be negatively correlated with the Five Factor Personality Model trait neuroticism and positively correlated with openness to experience, agreeableness, conscientiousness, and extraversion (Baer et al., 2008). Items including "I watch my feelings without getting lost in them" and "In difficult situations, I can pause without immediately reacting" are rated on a 5-point Likert-type scale from 1 (never or rarely true) to 5 (very often or always true). The present study found good reliability across all subscales (Cronbach alpha range = .803-.902).

The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) is a 14-item self-report measure of the extent to which one's life and present experiences are evaluated as stressful. This measure has been demonstrated to be correlated with measures of stressful life events and has demonstrated good reliability (range = .84-.86). Items including "In the last month, how often have you felt nervous or "stressed"" and "In the last month, how often have

you felt that you were unable to control the important things in your life" are rated on a 5-point Likert-type scale from 0 (never) to 4 (very often). Higher scores on this measure indicate greater perceived stress. The present study found good reliability for this measure (Cronbach α= .892).

The Urgency, Premeditation (lack of), Perseverance (lack of), Sensation Seeking, Positive Urgency, Impulsive Behavior Scale-Short Form (S-UPPS-P; Cyders et al., 2014) is a 20-item measure assessing various types of impulsivity, including positive urgency, lack of premeditation, lack of perseverance, sensation seeking, and negative urgency, each with four items per subscale. For the purposes of the present study and in light of previous research (Johnson & Moore, 2020), only the negative urgency subscale will be analyzed. Participants were asked to rate items including "When I am upset, I often act without thinking" and "when I feel back, I will often do things I later regret, in order to make myself feel better now" on a 1 (agree strongly) to 4 (disagree strongly). The short form version of this measure was demonstrated to be comparable to the full-scale version (Cyders et. al., 2014) and the full-scale measure has demonstrated good reliability (Whiteside et al., 2005). The present study evidenced adequate reliability (Cronbach α = .789).

The Conflict in Adolescent Dating Relationships Inventory (CADRI; Wolfe et al., 2001) is a 35-item self-report measure of intimate partner aggression perpetration and victimization which includes physical abuse, threatening behavior, sexual abuse, relational aggression, and emotional and verbal abuse subscales. The present study utilized the perpetration items of Verbal Emotional Abuse subscale the Threatening Behavior subscale and the Relational Abuse subscale, as its items included content associated with psychological abuse. Physical and Sexual Abuse subscales were not included and therefore no data was collected for occurrences of physical or sexual abuse. The Verbal Emotional Abuse subscale is comprised of ten items, the Relational

Abuse subscale is comprised of three items, and the Threatening Behavior subscale is comprised of four items. Specifically, items include “I brought up something bad that my partner had done in the past” and “I blamed my partner for the problem”. Individuals are asked to rate the frequency at which they have perpetrated PIPA in the previous year on a 4-point Likert-type scale from *never* (1-2 times) to *often* (more than 6 times). The CADRI has demonstrated good reliability (Wolfe et al., 2001) and this was confirmed in the present study (Cronbach $\alpha = .867$).

Procedures

Participants were recruited from across the United States, via ads presented on a social media platform. The ad for the study was entitled “Mindfulness and Stress in Romantic Relationships”. Individuals 18 years or older were asked to be in the study, provided they had been in their current romantic relationship for one month or more. Participants were asked to complete online questionnaires. Participation was voluntary and all participants were provided an informed consent to review prior to completion of survey questions. After completing the informed consent, individuals completed measures previously described. All materials and procedures were approved by the institutional review board of the University of Tennessee.

Data Analysis

Data were cleaned to ensure that individuals who are greater than 18 years of age and have been in their current relationship for at least one month are included in final data analyses. Missing data were found to be significantly correlated with Age and Full Information Maximum Likelihood (FIML) estimation techniques were utilized to estimate missing data values. Six hundred and four individuals were included in final data analyses. To examine descriptive statistics and correlations between key study variables, the Statistical Package for the Social Sciences (SPSS; IBM Corp, 2017) were utilized. A Bonferroni correction was utilized at this

stage to ensure that correlations were measured against appropriate restrictions for significance, based on the number of tests being conducted.

The statistical software Mplus 8 (Muthén & Muthén, 2020) was utilized to complete missing data analyses. Data were determined to be missing at random and Mplus was used to complete all model testing analyses, using Age as a covariate to determine missing data with FIML.

A Confirmatory Factor Analysis was conducted to identify PIPA as a latent variable, via measures of Threat Behavior, Relational Abuse Perpetration, and Verbal and Emotional Abuse Perpetration. Factor loadings demonstrated appropriate loadings for Threat Behavior (.702, p=.000), Relational Abuse Perpetration (.844, p=.000) and Verbal and Emotional Abuse (.412, p=.000) subscales of the CADRI.

Mediation analyses were conducted to calculate direct and indirect effects using regression coefficients between stress-mindset, perceived stress, negative urgency, and the latent PIPA construct. A bootstrapping approach was utilized, in line with Preacher and Hayes (2008), to generate a 10,000 resample estimation technique. This bootstrapping technique has been demonstrated to be an appropriate measure of mediation effects (Hayes & Preacher, 2010). Results indicated partial mediation, utilizing Perceived Stress and Negative Urgency as mediators.

After conducting mediation analyses, moderated mediation analyses were conducted. Moderated mediation procedures outlined by Preacher and colleagues (2007) were utilized. The trait mindfulness variable was identified as the moderator, in the context of the previously outlined mediation model. These techniques have been demonstrated to appropriately measure moderated mediation effects (Preacher et. al., 2007). The Mplus statistical program was again

utilized to calculate direct and indirect effects with regression coefficients and the 10,000 resample bootstrapping technique described previously. It was hypothesized that trait mindfulness would moderate the relation between stress-mindset and perceived stress, such that, for individuals with lower trait mindfulness the relation between stress-mindset and perceived stress will be stronger and more likely to lead to high levels of negative urgency and high occurrences of PIPA.

Chapter Three: Results

Data from 604 individuals were utilized in the data analyses to test the proposed hypotheses. Average scores and standard deviations can be found in Table 1. All variables were normally distributed, with the exception of the relational abuse subscale of the Conflict in Adolescent Dating Relationships Inventory.

Pearson Correlations were conducted to assess associations between key study variables. Significant correlations were found between Stress Mindset, Perceived Stress, Negative Urgency, and all three facets of PIPA (Relational Abuse, Verbal Emotional Abuse, and Threatening Behavior). Further associations between variables are outlined in Table 2.

Hypothesis 1 proposed that perceived stress and negative urgency would mediate the relation between stress mindset and the latent PIPA variable. A double mediation analysis was conducted in Mplus (Muthen & Muthen, 1998-2011) to test this hypothesis. Results indicated that both perceived stress and negative urgency mediated the relation between stress mindset and the latent PIPA construct (B = -.006, SEE = .003, $p < .05$; see Table 3 for path estimates and significance). Specifically, Stress Mindset was associated with Perceived Stress (*a* path; B = -.305, SEE = .051, $p < .05$), Perceived Stress was associated with Negative Urgency (*d* path; (B = .549, SEE = .042, $p < .05$), and Negative Urgency was associated with PIPA (*b* path; B = .195, SEE = .086, $p < .05$). Results did not indicate a direct effect of Stress Mindset on PIPA (*c'* path; B = -.050, SEE = .062, $p > .05$). While Perceived Stress was a mediator of the relation between Stress Mindset and PIPA by itself (*a*1*b*1 path; B = -.015, SEE = .006, $p < .05$), Negative Urgency did not mediate the relation between Stress Mindset and PIPA, without Perceived Stress in the model (*a*2*b*2 path; B = -.001, SEE = .006, $p > .05$).

For hypothesis 2, we tested how facets of mindfulness would moderate the previously tested double mediation model and specific points in this model (see Figure 2). Specifically, we hypothesized that the observe and describe facets of mindfulness would moderate the path between stress mindset and perceived stress (*a* path), that the non-reactivity and non-judging factors of mindfulness would mediate the path between perceived stress and negative urgency (*d* path), and that the non-reactivity, non-judging, and acting with awareness facets of mindfulness would moderate the path between negative urgency and PIPA perpetration (*b* path). Utilizing one moderator per path, combinations generated eight testable models (see Figure 2 for tested models). Results failed to demonstrate that any of these eight models evidenced sufficient fit with the data, even though some moderators had a significant effect. In all eight models with three moderators, results indicated a significant moderator on the path between perceived stress and negative urgency, regardless of the moderator (e.g., Non-Judging or Non-Reactivity). However, when the same moderators were included on the same path, excluding other moderators from the model, these moderators failed to demonstrate moderation effects.

Exploratory Analyses

Exploratory analyses were conducted to further consider the potential influence of key mediators and moderates on PIPA. This began by electing to change the PIPA variable from a latent construct to a manifest variable (i.e., average score of all items) because item factor loadings were not consistent across subscales (ranging from .421-.844) and Cronbach's alpha indicated poor internal consistency across the three subscales ($\alpha = .383$). However, Cronbach's alpha for the entire PIPA scale indicated good reliability ($\alpha = .877$). Thus, we conducted the triple-moderated, double-mediated analyses on an average manifest PIPA variable. However, results with the manifest PIPA variable further failed to support Hypothesis 2.

Next, analyses were conducted using the same triple-moderated, double-mediated model, using the highest loading PIPA construct subscale of *verbal and emotional abuse*. The eight models again demonstrated null findings. Given the high percentage of missing data, we next ran these models utilizing data from participants who had completed 100% of the questionnaires related to key study variables. Results again yielded null findings. Finally, moderators were removed from the model and tested individually (i.e., Observe or Describe facets tested on the *a* path; Non-Judging or Non-Reactivity facets tested on the *d* path; Non-Judging or Non-Reactivity or Acting with awareness tested on the *b* path). No individual moderators were demonstrated to have a significant effect. Additionally, we tested all combinations of two moderators included in the model. No doubly moderated double-mediation models emerged as significant.

Chapter Four: Discussion

Psychological intimate partner violence has been a pervasive mental health issue and has been demonstrated to represent a serious problem in the larger society. The present study attempted to identify potential contributing and mitigating factors toward a better understanding of the perpetration of PIPA. The present study first examined a mediation model for a relation between stress mindset, perceived stress, negative urgency, and PIPA, utilizing perceived stress and negative urgency, in series, as the mediators. Results confirmed the hypothesis and indicated that both perceived stress and negative urgency mediated the relation between stress mindset and PIPA. While perceived stress alone mediated the relation between stress mindset and PIPA, negative urgency did not mediate this relation, without the presence of perceived stress. That is, one's stress mindset influences PIPA, through its association with perceived stress. A positive stress mindset, or the way in which one understands stress as positive and helpful toward achieving one's goals, contributes to lower likelihood of PIPA perpetration, by reducing one's perception of harmful stressful experiences. This picture becomes even more informative when negative urgency is added to the model. While stress mindset is not directly associated with negative urgency, negative urgency is associated with perceived stress. Results indicated that stress mindset, operating on and reducing perceived stress, contributes to a decrease in the negative urgency facet of impulsivity. Reduction in negative urgency, in turn, contributes to PIPA perpetration. In this way, stress mindset acts through perceived stress and negative urgency, in series, to contribute to reduced PIPA.

The findings of the present study are in line with the General Aggression Model (GAM), which suggests that ideas about stress influence behavioral outputs, like PIPA perpetration. That is, ideas about stress as positive seem to be associated with perception of stress and behavioral

correlates like negative urgency-related action. In review, the GAM suggests that cognition influences behavior via internal affective states. Results of the present study support this model, in that they suggest that cognition, reflected in stress mindset, is associated with PIPA perpetration, via its association with internal affect states (e.g., perceived stress and negative urgency). The results are also in agreement with the Risk Regulation Theory, which posits that external factors might influence one's tendency to act in self-protective manners or in interpersonally connective manners. In the present study, we demonstrated support for the idea that one's stress mindset might be associated, via perceived stress and negative urgency, with one's tendency toward self-protective behaviors in PIPA perpetration.

These findings are also in line with previous research showing that stress mindset might contribute to PIPA as a "higher order" variable beyond the perception of stress (Korten, Comijs, Penninx, & Deeg, 2017). Additionally, as Crum and colleagues (2013) suggest, the present findings support the negative association of stress mindset with perceived stress. Indeed, the present study demonstrated that as one's stress mindset was more positive, the less perceived stress they reported. However, the present study contributes to the literature by identifying stress mindset as a higher order variable to perceived stress and contextualizing its role toward risk or protection from engaging in PIPA. In providing support for stress mindset as a "higher order" variable, the present study designates stress mindset as a potential variable for clinical intervention toward the reduction of PIPA perpetration. This is discussed in greater detail below.

Additionally, the present results are consistent with Mooney and colleagues (2008), who suggested that perceived stress was associated with negative urgency. Again, results of the present study suggest that as individuals demonstrated reductions in perceived stress, they also reported decreases in tendencies toward the negative urgency facet of impulsivity. However, the

present study asserted the importance of this association in the larger context of its association to stress mindset and PIPA. Finally, results are also in agreement with Dugal, Belanger, Sabourin, Bates and Godbout (2018) by demonstrating that negative urgency mediated the relation between stress and PIPA. The present study also demonstrated that the negative urgency factor of impulsivity was associated with stress and PIPA, such that as an individual perceived less stress, they were also less likely to engage in impulsive action, which contributed to a reduction in likelihood of PIPA perpetration. However, the present study demonstrated that perceived stress could, on its own, contribute to a prediction of PIPA perpetration, but when including stress mindset in the model, negative urgency could not explain its association with PIPA. That is, negative urgency explained the relation of stress mindset to PIPA, only through the association of negative urgency with perceived stress. This is likely due to the lack of proposed relations between stress mindset and negative urgency. That is, perceived stress is the necessary theoretical link between stress mindset and negative urgency. In concurrence with the GAM, perceived stress is necessary as an internal affective state, influenced by stress mindset and contributing to behavior (specifically, PIPA) enacted in an attempt to dispel negative affect (negative urgency).

Secondly, the present study considered the potential moderating effects of various facets of mindfulness on the associations between stress mindset, perceived stress, negative urgency, and PIPA. We hypothesized that the observe or describe facets of mindfulness would moderate the relation between stress mindset and perceived stress, that the non-judging or the non-reactivity facets would moderate the relation between perceived stress and negative urgency, and that the non-judging, non-reactivity, or acting with awareness facets would moderate the relation between negative urgency and PIPA. Additionally, we hypothesized that one moderator would

moderate each path of the mediation model (*a* path; *d* path; and *b* path), contributing to eight possible models. Results failed to support any of the models with mindfulness as a moderator of any of the paths of the mediation model. This is in contrast to much of the findings in the current body of literature concerning stress and mindfulness. For example, Shapiro, Brown, Thorenson, and Plante (2011) found that trait mindfulness moderated decreases in perceived stress, following an MSBR induction. These authors utilized the Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003), a measure of trait mindfulness which focuses on individual ability to "attend to present moment experiences" (pg. 269; Shapiro, Brown, Thorenson, & Plante, 2011). This assessment of mindfulness might be more closely in line with other understandings of mindfulness than that hypothesized by the present study in Langerian mindfulness. Additionally, Nesset, Lara-Cabrera, Bjorngaard, Whittington, and Palmstirna (2020) demonstrated that induction of an MSBR program reduced instances of intimate partner violence for as much as a year. It may be that the presence of these inductions of MSBR contributed to alterations in concepts other than ability to observe one's experience, describe one's experience, to not react or judge one's experience, and to act with awareness that explains the moderating effect of mindfulness demonstrated by Shapiro, Brown, Thorenson, and Plante and Nesset, Lara-Cabrera, Bjorngaard, Whittington, and Palmstirna. It may also be that aspects of mindfulness associated with paying attention to the present moment are responsible for the reported moderating effects of mindfulness in the previously mentioned study, rather than the ability to observe, describe, not judge, not react, and act with awareness toward conceptual sets, proposed in the present study. Additionally, mindfulness was not implicated as a moderator in the relation between perceived stress and negative urgency or in the relation between negative urgency and PIPA. Perceived stress and negative urgency primarily involve affective

components and PIPA facets primarily involve behavioral components. It may be that, by including stress mindset as a "higher order", cognitive variable, variance related to other, primarily cognitive variables of mindfulness was limited in its ability to contribute to a moderating effect of mindfulness. This might explain the lack of support demonstrated by the present study in identifying mindfulness as a significant moderator of the relations between stress mindset, perceived stress, negative urgency, and PIPA perpetration.

Additionally, it may be that utilizing the highly correlated subscales of the FFMQ may have contributed to lack of availability of explainable variance in the model. Indeed, it was occasionally the case that adding a facet of mindfulness as a moderator to the model contributed to the negation of a previously present and significant moderator. The scoring of the MAAS, on the other hand, generates a single, overall score for mindfulness. It may be that utilizing subscales of the FFMQ to create a total mindfulness score, moderating a single path in the mediation model, could have contributed to a stronger and more concentrated explanation of variance. However, this was outside the scope and purpose of the present study.

Study Limitations

While the present study constitutes a meaningful contribution to the present body of research concerning stress mindset, perceived stress, negative urgency, and PIPA perpetration, it is not without limitations. First, the present study was a correlational study design and did not involve an experimental/longitudinal design. Therefore, the results of the present study cannot be said to constitute causal data and, as such no causal inferences can be drawn from them. Future research should consider including an induction aspect, to examine the potential for the reduction of PIPA perpetration, as a result of alterations in stress mindset, or trait mindfulness. Future

research might also consider a longitudinal design to examine if these variables and alterations in them via intervention might predict PIPA over time.

Additionally, despite the fact that the present study concerns a cross-sectional study population, the majority of the participants were Caucasian and female. Considering such a high percentage rates of these two demographic variables, the results of the present study cannot be said to be widely generalizable. Future studies could consider different sampling methods by which to acquire participants, in order to ensure a more representative sample. This might address concerns about generalizability of results.

The present study also neglected to measure key study variables at various time points. Therefore, temporal connections between variables cannot be confirmed in the present study. While Bell and Naugle (2008) have asserted the necessity of considering PIPA perpetration in the context of a larger network of contributing variables, the present study did not draw temporal, contextual understandings from the participant base. Future studies should consider including an examination of these contextual factors contributing to increased PIPA perpetration, in order to provide a more complete understanding of this phenomenon. Additionally, future studies should seek to conduct analyses with non-skewed variables, corresponding to all measures. It may be the case that the skewed nature of the relational abuse facet of PIPA influenced the overall model in a manner not indicative of common experience.

Research and Clinical Implications

Despite its limitations, this study still provides a meaningful contribution to the current literature base on the occurrence of PIPA. These findings provide a mechanism by which we are able to better understand factors leading to PIPA perpetration. Specifically, this study suggests that a positive stress mindset would contribute to decreased perception of stress, decreased action

toward negative urgency, and ultimately, decreased PIPA perpetration. Conversely, a negative stress mindset would contribute to increased identification of stress, greater likelihood of impulsivity via negative urgency, and increased chance of perpetrating PIPA against one's partner. It will be important to consider these variables as part of the contextual landscape predicating PIPA perpetration.

The present study considers an under-researched concept in stress mindset and its relation to PIPA. These findings present a myriad of various options for clinical intervention toward the reduction of PIPA perpetration. Perhaps most importantly, the present study offers stress mindset as a potential point of intervention to reduce occurrences of PIPA. Considering previous research that stress mindset can be altered to produce a more positive and constructive idea of stress (Crum, 2017), this might be an appropriate target for clinical intervention toward the reduction of PIPA. Specifically, Crum demonstrated that stress mindset could be altered by providing participants with a short (3-minute) psychoeducational video about the enhancing properties of stress. These participants then evinced a more positive stress mindset. By altering one's stress mindset in this way, the present study offers support for the possibility that the likelihood of PIPA perpetration might be reduced, via reduction in perceived stress and negative urgency.

Additionally, the present study considered the role of various facets of mindfulness, as they relate to stress mindset, perceived stress, negative urgency, and PIPA. The findings of the present study offer the suggestion that aspects of trait mindfulness, other than observe, describe, non-judging, non-reactivity, and acting with awareness might be responsible for previous findings supported by the literature concerning the moderating effects of trait mindfulness. It may be that clinical interventions aimed at increasing other facets of trait mindfulness, such as

attending to the present moment, might contribute to the model in a meaningful way and reduce the likelihood of PIPA perpetration.

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Appendix

Table 1. Mean and Standard Deviations of Key Study Variables.

Variable	***M***	**SD**
Age	39.22	13.36
Mindfulness		
Observing	28.88	5.17
Describing	29.15	6.36
Acting with Awareness	25.78	5.80
Non-Judging	26.29	7.16
Non-Reactivity	21.47	4.73
Stress Mindset	13.31	5.82
Perceived Stress	25.53	9.31
Negative Urgency	8.64	3.20
PIPA		
Relational Abuse	3.15	.57
Verbal Emotional Abuse	17.07	5.86
Threat Behavior	4.66	1.51

Table 2. Bivariate Correlations Between Key Study Variables.

Variable	2	3	4	5	6	7	8	9	10	11	12
Age	.121**	.161**	.213**	.252**	.185**	-.005	-.211**	-.134**	.041	.051	-.033
Observing	-	.265**	.276**	.152**	.352**	.032	-.190**	-.227**	-.077	-.078	-.054
Describing	-	-	.375**	.321**	.277**	.173**	-.339**	-.394**	-.130*	-.159**	-.090
Acting with Awareness	-	-	-	.444**	.349**	.139**	-.478**	-.538**	-.101	-.187**	-.153**
Non-Judging	-	-	-	-	.507**	.206**	-.528**	-.508**	-.137**	-.182**	-.185**
Non-Reactivity	-	-	-	-	-	.248**	-.534**	-.529**	-.115*	-.231**	-.158**
Stress Mindset	-	-	-	-	-	-	-.311**	-.205**	-.115*	-.139**	-.118*
Perceived Stress	-	-	-	-	-	-	-	.564**	.170**	.332**	.246**
Negative Urgency	-	-	-	-	-	-	-	-	.149**	.350**	.145**
Relational Abuse	-	-	-	-	-	-	-	-	-	.342**	.292**
Verbal Emotional Abuse	-	-	-	-	-	-	-	-	-	-	.562**
Threat Behavior	-	-	-	-	-	-	-	-	-	-	-

*sig at .05
**sig at .01

Table 3. Estimated Model Effects of the Stress Mindset, Perceived Stress, Negative Urgency, Latent PIPA Construct.

Predictor	Estimate	SEE	p	95% BCLL	95% BCUL
PSS on SMQ (a path)	-.305	.051	.000	-.384	-.217
NegUrg on PSS (d path)	.549	.042	.000	.474	.614
PIPA on Neg Urg (b path)	.195	.086	.023	.043	.342
Direct effect (c' path)	-.050	.062	.419	-.151	.075
Indirect effect via PSS (a1b1 path)	-.015	.006	.020	-.028	-.007
Indirect effect via NegUrg (a2b2 path)	-.001	.002	.490	-.006	.001
Indirect effect via PSS and NegUrg (a1d1b2 path)	-.006	.003	.041	-.011	-.002
Total Indirect Effect (a1b1 + a2b2 + a1d1b2 path)	-.002	.006	.000	-.033	-.014
Total effect of PIPA on SM (a1b1 + a2b2 + a1d1b2 path + c' path)	-.032	.012	.007	-.052	-.013

Table 4. Estimated Model Effects of the Stress Mindset, Perceived Stress, Negative Urgency, PIPA construct, using Describe, Non-Reactivity, and Acting with Awareness as Moderators.

Predictor	Estimate	SEE	p	95% BCLL	95% BCUL
PSS on SMQ (a path)	-.272	.274	.391	-.685	.211
PSS on DES	-.351	.127	.006	-.376	-.248
PSS Int 1 (DES*SMQ)	-.005	.009	.589	-.020	.008
NegUrg on PSS (d path)	.242	.082	.003	.137	.396
NegUrg on NONR	-.313	.039	.000	-.376	-.248
NegUrg on Int 2 (NONR*PSS)	.005	.001	.000	.003	.007
PIPA on NegUrg (b path)	.118	.097	.223	-.045	.273
PIPA on AWA	.018	.032	.558	-.003	.009
PIPA on Int 3 (AWA*NegUrg)	-.002	.004	.624	-.008	.004
Direct effect (c’ path)	-.010	.012	.391	-.030	.009
Indirect Effects at Low DES and Low NONR	-.006	.013	.641	-.044	.004
Indirect Effects at Low DES and Med NONR	-.007	.014	.626	-.046	.005
Indirect Effects at Low DES and High NONR	-.008	.015	.614	-.050	.005

Table 4. Continued.

Predictor	Estimate	SEE	p	95% BCLL	95% BCUL
Indirect Effects at Med DES and Low NONR	-.007	.012	.562	-.042	.003
Indirect Effects at Med DES and Med NONR	-.008	.013	.553	-.045	.003
Indirect Effects at Med DES and High NONR	-.009	.014	.546	-.048	.003
Indirect Effects at High DES and Low NONR	-.008	.011	.487	-.040	.001
Indirect Effects at High DES and Med NONR	-.009	.012	.483	-.042	.002
Indirect Effects at High DES and High NONR	-.009	.013	.480	-.046	.002

Note: Low= -1 SD, Med= Mean, High= +1 SD

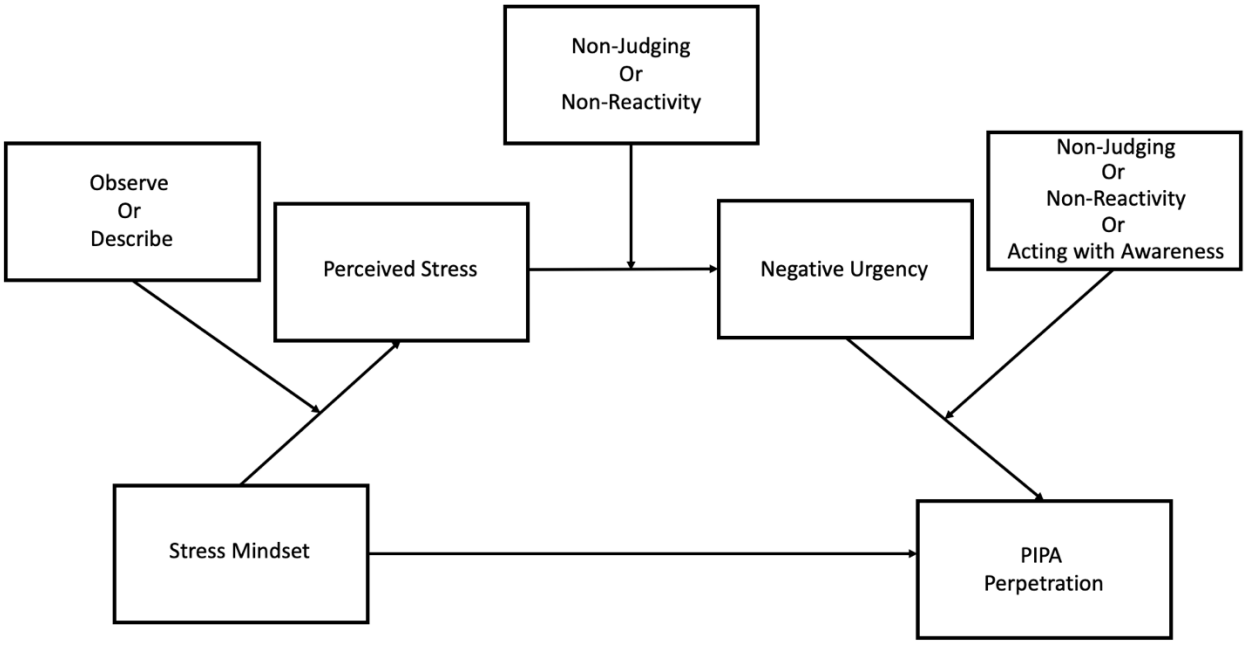


Figure 1. Conceptual Model of Triply Moderated Double Mediation.

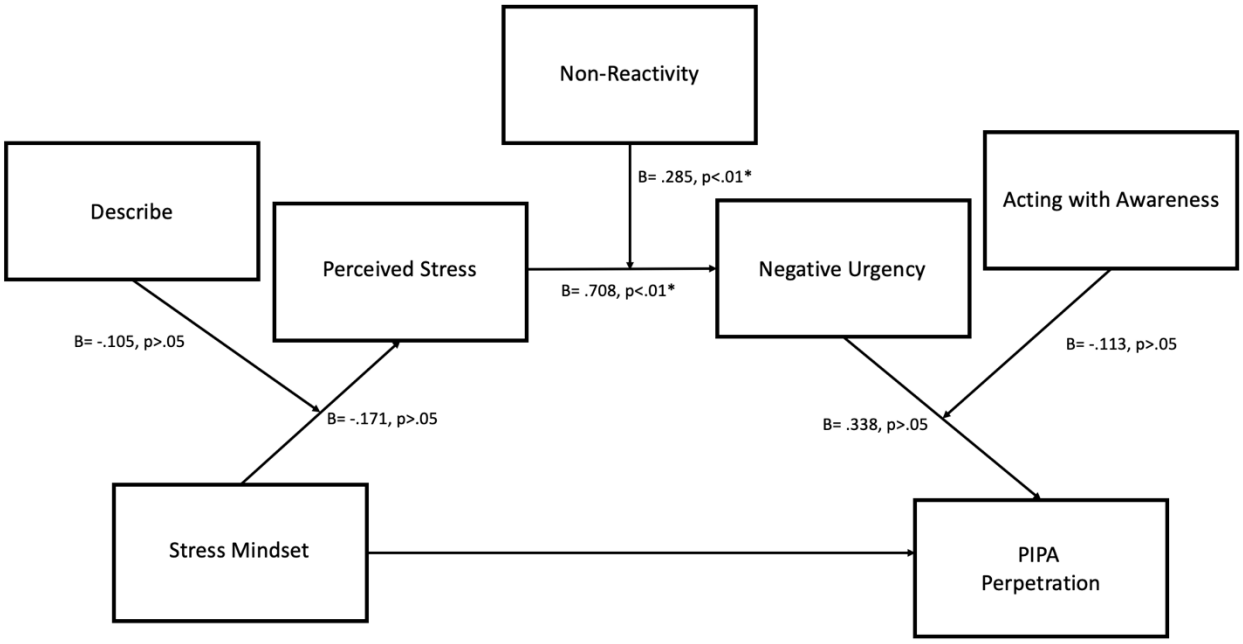


Figure 2. Triply Moderated, Doubly Mediated Model using the Describe facet on the *a* path, the Non-Reactivity facet on the *d* path, and the Acting with Awareness facet on the *b* path.
Estimates and p values given for moderators indicate interaction terms. Significant paths indicated with *.

Vita

Sarah Johnson is a clinical psychology doctoral student at the University of Tennessee. She received her B.A. and M.A. in Psychology from the University of North Carolina Wilmington. Her research interests include risk factors for perpetration of intimate partner aggression, clinical use and understanding of psychological defense mechanisms, and the use of language and metaphor in understanding defensive functioning.