Mindfully Managing Life Experiences Together

by

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Abstract

Up to 69% of the general population will experience a traumatic event across the lifetime (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Of this population, only approximately 6.8% of people will go on to develop post-traumatic stress disorder (PTSD), while a larger subset will develop subthreshold symptoms of anxious, depressive, or post-traumatic stress disorders (Kessler, Berglund, et al., 2005; Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Romantic relationships and social support have proven to be a powerful buffer against psychological distress (van der Kolk, Perry, & Hermann, 1991; Johnson & Rheem, 2012). Mindfulness meditation, rooted in Buddhism, has been increasing in popularity as a mental health tool and is used to treat depression, reduce stress, reduce anxiety, enhance self-perception, and assist into integrating mindfulness into everyday life (Bauer-Wu, 2010; Ledesma & Kumano, 2009). Trauma tends to increase distress in both romantic partners which in turn can decrease relationship satisfaction. Lowering distress symptoms caused by trauma can help partners begin to rebuild relationship satisfaction. The present study examined couples and mindfulness in the context of trauma, looking to lower psychological distress while increasing relationship satisfaction and mindfulness behavior. Thirty-two (N=64) couples completed measures assessing relationship satisfaction, psychological distress, trauma history, and mindfulness behaviors. Couples completed a mindfulness psychoeducation and two meditations, then returned after a two-week period to complete a subset of the Time 1 measures. Overall, data did not support a significant relationship between mindfulness, relationship satisfaction, and psychological distress.

Chapter I

Introduction

Trauma

Traumatic experiences can leave people feeling socially isolated, numb, or overly sensitized and have been associated with symptoms of depression, anxiety, and psychological distress. Experiences such as assault, serious medical conditions, war, natural disasters, and violence can create a lasting impact on a person, even if the trauma occurs many years previously or during childhood (Sklarew & Blum, 2006). Research suggests that up to 69% of the general population will experience a potentially traumatic event (PTE)—such as sexual assault, a transportation accident, combat exposure, receiving a life-threatening medical diagnosis, or experiencing natural disaster--throughout the lifetime (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Despite such a large number of people experiencing PTEs, only around 6.8% of the population will develop Post-Traumatic Stress Disorder (PTSD) following a traumatic event (Kessler, Berglund, et al., 2005; Kessler, Chiu, Demler, Merikangas, & Walters, 2005), though people can also experience other types of psychological distress without reaching a diagnostic threshold. This means a PTE is a turning point, which considering other risk factors and individual diathesis, could lead the individual to develop psychopathology and increase their need for effective coping and stress management. Various clinical psychopathologies can develop following a PTE, and culminate into a number of symptoms related to depression, anxiety, or PTSD. Reactions to a trauma can range from symptoms of distress such as sleep difficulties, changes in appetite, or emotional changes such as irritability to clinical disorders

(Sayed, Iacoviello, & Charney, 2015). However, one of the most common disorders to occur following a PTE is PTSD.

PTSD

PTSD has a prevalence rate of 3.5% in the United States and encompasses 8.7% of the general population across the lifetime. People who develop PTSD can either witness or experience an event, learn of an event that happened to a close friend or family member, or be exposed to certain elements of a traumatic event (e.g. being a nurse in an emergency unit and often seeing critically injured patients; police officers repeatedly exposed to details of child abuse). Events associated with PTSD often involve threatened or actual death or assault, serious injury, or sexual violence (American Psychiatric Association, 2013; Monson, Resnick, & Rizvi, 2014). Following one of these PTEs, an individual who develops PTSD will experience symptoms within the four DSM symptom categories of diagnostic criteria: re-experiencing (Criterion B), avoidance (Criterion C), negative changes in cognition and mood (Criterion D), and hyperarousal (Criterion E). Symptoms must persist for a duration of at least one month and cause distress to the individual (American Psychiatric Association, 2013) to be clinically diagnosed as PTSD. It is important to note that PTSD can have "delayed expression", or symptoms may begin to occur months or even years after the trauma before diagnostic criteria can be met. Duration of symptoms may also vary, with some individuals recovering within three months—this happens in approximately one third of adults with PTSD—and other individuals maintaining clinically significant symptoms for several years. Other life events or PTEs can trigger a relapse of symptoms for the individual (American Psychiatric Association, 2013).

In general, despite the type of traumatic event, and regardless of gender or cultural background, PTSD is associated with significant disability and distress. However, women are at

higher risk of PTSD (American Psychiatric Association, 2013), and at higher risk of sexual abuse by an individual close to them. Women also tend to internalize symptoms of PTSD more than men, and can experience more of a change in global beliefs and self-perception. Men tend to externalize symptoms of PTSD through means such as violence and aggression (Friedrich, Urquiza, & Beilke, 1986).

A few theoretical models of PTSD that explain the way distress from a traumatic event can develop into a disorder such as PTSD, depression, or anxiety, as not everyone who experiences a PTE will develop psychopathology. Classical conditioning could explain the fear and distress in response to a traumatic event, and operant conditioning is a plausible cause for avoidant symptoms as well as negative changes in mood and cognition, the likelihood of certain emotions or situations causing fear arousal would prohibit people from engaging in activities that recreate that environment (Monson, Resick, & Rizvi, 2014). These ideas would also explain the relationship between trauma and anxiety as avoidance provides negative reinforcement, reducing anxiety following a stressor. According to Lang's information-processing theory of anxiety development, repetitive exposure to a traumatic memory or flashback in a safe environment heightens anxious arousal and heightens anxiety and the fear response in the individual's usual environment (Chemtob, Roitblat, Hamada, Carlson, & Twentyman, 1988). Also some social-cognitive studies theorize that a traumatic event completely changes an individual's assumptions and constructs about the world and oneself are destroyed (McCann & Pearlman, 1990). The individual attempts to assign new meaning to themselves and the world, which can understandably lead to anxiety and depression, as beliefs about things like safety, control, trust, and intimacy have now changed (Monson, Resick, & Rizvi, 2014).

Characteristics of PTSD

Pinpointing some of the personal and social problems that individuals with the disorder can experience can come with a deeper understanding of the symptom clusters involved in PTSD diagnosis. Each of the different criterion capture a different facet of PTSD that some people may experience. Not all of the criterion need to be present for a diagnosis, but multiple symptoms may occur.

According to Criterion B, individuals experience intrusive symptoms related to the event, which begin after the event occurred. These intrusions can involve dream content, flashbacks (in which the person acts or feels as if the event were recurring), or psychological distress to certain cues (both internal and external) associated with the event (American Psychiatric Association, 2013). Monson, Resick, and Rizvi (2014) note that re-experiencing symptoms can occur in a wide variety, from fear of a car backfiring or fireworks due to it sounding like gunfire in the case of a combat veteran, or a rape survivor fearing taking showers due to feelings of vulnerability, lack of visual and auditory cues from outside the bathroom, and no obvious escape routes. Victims of PTSD have no control over these reactions to triggers, and often experience strong negative emotions regarding both the trigger and the reaction to it (Resick & Schnicke, 1992; Monson, Resick, & Rizvi, 2014). These strong reactions range from intense feelings of distress (e.g. depression, terror), to physiological reactions such as sweating, increased heart rate, and perspiration (Monson, Resick, & Rizvi, 2014).

Criterion C of PTSD symptomology involves persistent avoidance of any sort of cues or stimuli associated with the traumatic event after the event occurs (American Psychiatric Association, 2013). Some research suggests that avoidance behaviors could be a product of re-experiencing symptoms (Buckley, Blanchard, & Hickling, 1998; Monson, Resick, & Rizvi, 2014). When overwhelming negative emotions are caused by reminders of the traumatic event,

people with PTSD can find themselves slowly narrowing their lifestyles and experiences—avoiding reminders such as people, places, conversations, activities, objects, and situations, which can lead to restricted, lonely lifestyles (American Psychiatric Association, 2013). These avoidance behaviors can provide a temporary relief from negative emotions or re-experiencing symptoms, but can come with a cost of overall well-being. This experiential avoidance however can come at a cost, especially when it results in decreased social interaction and decrease in intimacy due to severity of symptoms.

Criterion D refers to negative changes to mood or cognitions associated with the traumatic event, such as being unable to remember important details about the traumatic event, persistent and negative beliefs about oneself, others, or the world (e.g. “I am bad”, “The world is entirely dangerous.”), distorted cognitions about the cause or consequences of the event that result in self-blame or the blame of others, persistent negative emotional state, anhedonia, detachment or estrangement from others, or a persistent inability to experience positive emotions (American Psychiatric Association, 2013). Trauma survivors can often report feeling numb, or having a flat affect. This “emotional numbing” can itself be a symptom, or be part of avoidance to prevent any strong negative emotions or re-experiencing (Monson, Resick, & Rizvi, 2014). Detachment can harm or even dwindle social support for the individual, and can even affect the ability to relate to others, tasks of daily living, and being productive. These persistent cognitions, especially ones of self-blame and result in an individual feeling strong emotions of shame or guilt, and leave them feeling very isolated (Monson, Resick, & Rizvi, 2014).

Conversely, the individual can experience Criterion E symptoms of hyperarousal. These changes in arousal and reactivity must be associated with the event and occur only following the event, the same as with all previous symptoms. This can include irritability, angry outbursts,

reckless/self-destructive behavior, hypervigilance, exaggerated startle response, concentration problems, and sleep disturbances (American Psychiatric Association, 2013). This hyperarousal is suggestive of trauma survivors being in a constant state of "fight or flight" to be ready for any new instances of threats or danger. This becomes an issue when the individual is primed for danger even in safe environments, and sustained hypervigilance is exhausting. Being in states of prolonged stress is damaging to overall physical health (Monson, Resick, & Rizvi, 2014; Kulka et al., 1990). Prolonged physiological stress is damaging to the brain and body, and although it is beyond the scope of this paper to review this literature, it should be noted that without effective coping/intervention there is the potential for physiological damage to occur due to emotional distress.

Cognitive changes as a result of PTSD

One important consequence of PTSD or distress after a PTE is the change in cognition that individuals can experience. Specifically, individuals report more mental defeat, negative appraisals of emotions/symptoms, perceived negative responses from others, avoidance behaviors, and change in global beliefs from before the trauma. Researchers have identified that the overarching cognitive factor leading to symptom maintenance appears to be negative appraisals of an ongoing threat (Ehlers & Steil, 1995; Dunmore, Clark, & Ehlers, 1999). Individuals with PTSD see continued threats in everyday life, despite the traumatic event that caused the symptoms having occurred in the past. This sense of a threat perpetuates global beliefs that the world is not safe and the individual is not competent, cared for, or of any worth. When an individual does not see his or herself as competent or of worth, avoidance and anxiety can be becoming driving factors in decisions, and result in mental defeat as well as a fear or being able to handle any additional stressful or challenging situation. With such powerful

feelings of inadequacy, individuals with PTSD can often struggle with interpreting social interactions, and can even perceive positive interactions as negative, or of pitiful intentions, or seeing the individual as weak, rather than an attempt at kindness or compassion (Dunmore, Clark, & Ehlers, 1999). Due to avoidance, detachment, and negative appraisals of social interaction, many individuals with PTSD will experience isolation and a lack of social support, which again exacerbates psychological distress and PTSD symptomology (Johnson & Thompson, 2008; Gortst-Unsworth & Goldenberg, 1998).

PTSD comorbidity with other types of distress disorders

PTSD is comorbid with other psychological disorders up to 80%, often with disorders such as depressive disorders, panic disorders, anxiety disorders, and substance use disorders (Kessler, 1995). Past trauma can also predispose an individual to depression, suicidal behavior, substance use, fragile self-esteem, internalized aggression, somatic disturbances (i.e., insomnia or disordered eating), helplessness, pessimism, and dysregulation without meeting PTSD criteria (Sklarew & Blum, 2006). Some studies report that between 51-87% of people with PTSD also have major depressive disorder (MDD; Hankin, Spiro, Miller, & Kazis, 1999; Rytwinski, Scur, Feeny, & Youngstrom, 2013). Depressive symptoms are common following childhood traumatic events (Cloitre, Miranda, Stovall-McClough, & Han, 2005), and people who experience psychological trauma have significantly higher lifetime prevalence of MDD (Margo & McLess, 1991) especially when compared to psychiatric control groups (Saunders, Villeponteaux, Lipovsky, Kilpatrick, & Veronen, 1992). Depressive disorders and anxiety disorders are often comorbid. Patients with comorbid depression and anxiety as well as PTSD were more frequently hospitalized for their depressive episodes compared to non-trauma patients without PTSD. (Zlotnick, Warshaw, Shea, & Keller, 1997). PTSD in conjunction with MDD can present more

severe symptoms than either disorder alone and create worse overall functioning for the individual (Bedard-Gilligan, Jakob, Doane, Jaeger, Eftekhari, Feeny, & Zoellner, 2015). Additionally, a history of any psychological trauma results in longer and more recurrent depressive episode (Zlotnick, Warshaw, Shea, & Keller, 1997).

Risk factors.

The type and the number of PTE(s) experienced by an individual has been found to predict symptom severity and disorder development (Andrews et al., 2015). A 1995 survey of 5,877 people where a majority of the sample reported a traumatic experience, 65% of men and 46% of women reported rape as their most distressing trauma, 39% reported combat exposure, 24% reported childhood neglect, and 22% reported childhood physical abuse, and half of respondents also indicated hey they had experienced multiple traumatic events (Kessler et al., 1995). Factors that increase an individual's risk for PTSD prior to a trauma are a preexisting psychological disorder, gender (it is more prevalent in females), personality, low SES, low education, if an individual is a minority, if there is a previous traumatic experience, and if an individual has a family mental health history (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003).

Whether an initial exposure to assault or a subsequent event caused elevated psychopathology, or if a predisposition for psychopathology existed before the initial event is unclear, research shows that that polyvictimization—or experiencing multiple PTEs-- can grossly exacerbate psychopathology. Research on polyvictimization has found that certain types of trauma, specifically related to violence, increase symptomology of disorders such as depression and PTSD (Hodges et al., 2013). For example, rates of PTSD are are found to be higher among veterans--with the highest rates being among those exposed to combat or

captivity--and among individuals whose careers often expose them to trauma (e.g. firefighters, police officers, emergency medical personnel), as well as survivors of rape, ethnic/political internment, and genocide (American Psychiatric Association, 2013).

Non-Hispanic Black and Hispanic people report higher levels of polyvictimization (and of different types of traumas, rather than the same type repeatedly) and mental health symptoms compared to Caucasians (Andrews et al., 2015), though the percentage of races/ethical backgrounds that experience at least one traumatic event is fairly equal. (Read, Ouimette, White, Colder, & Farrow, 2011). There are also reports that different races/ethnic groups also experience different types of traumatic events more frequently, such as African-Americans being more likely than Hispanics to be exposed to violence, child maltreatment, and crime victimization while Hispanic-Americans are more likely to report child maltreatment, witnessing violence, and violence victimization than non-Hispanic Whites (Andrews et al., 2015).

In regards to gender, one study estimates that 66 million women in the United States alone have experienced a traumatic event, with 39% of those women experiencing physical assault, 32% experiencing completed rape, 31% experiencing sexual assault, 26% being the victim of a crime, 22% experiencing homicide of a family member or close friend, and 9% reporting natural or manmade disaster, accident, or injury (Resnick et al., 1993). However, Resnick and Kessler also found that natural disasters were less likely to be an antecedent to psychopathology compared to other PTEs (Monson, Resick, & Rizvi, 2014)

In a study conducted with Vietnam era veterans, 31% of male and 27% of female veterans reported having a PTSD diagnosis in their lifetime (NVVRS; Kulka, et al., 1990), while the average prevalence of PTSD in the general population is 6.8% (Kessler, 2005). However, Vietnam veterans and civilians with PTSD also report higher rates of exposure to traumatic

events than the general population (Breslau, & Peterson, 2010). Also in the Vietnam era veteran study, 11% of men and 8% of women veterans reported significant distress below the threshold for a PTSD diagnosis (NVVRS; Kulka, et al., 1990). In a study conducted on veterans from Iraq and Afghanistan in more recent years, a linear relationship was seen between how many firefights a solider had on duty and the severity of their PTSD. Being wounded or injured was also shown to produce more intense PTSD symptomology (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004, Hoge, Auchterlonie, & Milliken, 2006), supporting research that exposure to violence correlates to more severe psychopathology (Hodges et al., 2013).

Additionally, perceived severity of the trauma was found to be a maintenance factor, and was associated with symptom severity (Dunmore, Clark, & Ehlers, 1999). In a study conducted on veterans from Iraq and Afghanistan in more recent years, a linear relationship was seen between how many firefights a solider had on duty and the severity of their PTSD. Being wounded or injured was also shown to produce more intense PTSD symptomology (Hoge, et al., 2004; Hoge, Auchterlonie, & Milliken, 2006), supporting research that exposure to violence correlates to more severe psychopathology (Hodges et al., 2013), as well as that the perceived severity of the trauma—especially in life threatening situations—can lead to more severe symptomology.

Relationships and Trauma

Along with other factors such as social support in platonic relationships, spirituality, life satisfaction, coping skills, and responsibility to family and children (Posey, 2009), romantic relationships appear to be positive factors associated with better outcomes for someone with poor mental health (Posey, 2009). Couples based relationships research has shown that positive, supportive romantic relationships can be a protective factor against psychopathology (Ponder,

Aguirre, Smith-Osborne, & Granvold, 2012), and that a romantic partner's support is negatively correlated with PTSD symptoms (Pietrzak et al., 2009; Feder at al., 2013; Schumm, Brigg-Phillips, & Hobfoll, 2006). In the general population, married individuals have lower rates of suicide than those who are divorced or separated (Goldsmith, 2002), implying the positive impact and vital source of protection against mental health risks that a healthy romantic relationship possesses.

Closeness and intimacy in a relationship are integral to feeling accepted, secure despite vulnerabilities, and feeling ultimately protected, nurtured, emotionally stronger, and less likely to be unable to cope with stresses presented (Cordova, 2009). It has been suggested that greater intimacy in a relationship leads to higher overall life satisfaction, (Cordova, 2009) and that best predictive factor of optimal global functioning, especially following a traumatic event, is whether or not the individual has another person whom can comfort them (van der Kolk, Perry, & Hermann, 1991; Johnson & Rheem, 2012). In relationships where higher intimacy is reported, higher relationship satisfaction, higher self-esteem, higher sexual satisfaction, lower feelings of loneliness, lower rates of illness, and the ability to partake more frequently in forgiveness are also reported (Cordova, 2009).

After the emotional repercussions of trauma are considered, the need for safe emotional engagement with others, especially romantic partners, becomes additionally, urgently important. Romantic partner support is shown to reduce symptoms of PTSD, GAD, and depression in civilians in warzones as well as individuals exposed to a wide range of traumatic events (Mugisha et al., 2015; Neria et al., 2010; Kwako et al., 2011; Lian et al, 2014).

When spouses were unable to accurately perceive the distress the proband experienced due to their PTSD, stress levels were reported as higher than average (Renshaw, 2008) meaning

that when a spouse is unable to recognize the distress in their partner, the partner actually becomes additionally distressed, and the marital relationship may not be a protective factor, especially since in the case of veterans, marital relationships were reported to be the highest level of social support for the individual (Renshaw, 2010). With marital relationships being the highest level of social support, it is important that these relationships remain strong despite some occasional hurt that is a normal part of a relationship. As we tend to feel most vulnerable with this person, being hurt may cause us to respond in a vengeful or hurtful way, or by withdrawing emotionally. Being able to respond in a compassionate way when one partner is hurt, understanding both their emotions and your own but responding constructively helps build upon an intimate relationship (Cordova, 2009).

Emotional regulation and emotional display are essential, fundamental components of a healthy relationship (Johnson, 2004); however, these elements can be affected when one partner has experienced a trauma. As mentioned in the PTSD symptomology above, individuals who have experienced a trauma can become socially isolated and avoidant of emotionally arousing situations which can prevent emotional display or emotional engagement with a partner. If this safe emotional engagement is not possible, both personal consequences and relationship-related consequences can become even worse. Relationship problems and emotional isolation exacerbate post-traumatic distress and psychopathology, which feeds back into a relationship distress through an unfortunate, often escalating cycle, where the partner who did not experience a traumatic event can even begin to show psychopathology (Nelson & Wampler, 2000). Secure relationships allow individuals to be more attuned to their own distress and reflect upon it without feeling overwhelmed (Mikulincer, 1995; Mikulincer & Florian, 1995). Having a secure relationship and a source of emotional support can change threat perception and and assist with

reassuring or soothing during stressful situations. Also, having someone to soothe distress more easily helps an individual create their own self-soothing techniques (Neff, 2003) when they experience any distress.

Significant others of those who have experience PTE.

Despite the potential distress buffering role that significant others can play, romantic partners may inadvertently contribute to psychopathology. With disorder such as PTSD or depression, it could be easy for a partner to reinforce avoidance or maladaptive coping mechanisms as they may not have an adequate understanding of their partner's symptoms or psychopathology (Boeding et al., 2013; Monson, Fredman, & Dekel, 2010), so including the partner in therapy so they know which behaviors to look out for, how to avoid reinforcing negative behaviors, and how to emotionally support their partner could provide more global, insightful support that individual therapy alone could not. Chambless (2012) suggests that bringing a romantic partner into therapy could not only help relationship problems, but give a patient with anxiety or distress more drive to remain in therapy.

In cases of PTSD and trauma related distress, intimate partners living with an individual with the disorder also reports high levels of psychological distress (Lambert, Engh, Hasbun, & Holzer, 2012), as well as higher levels of distress, somatic and sleep problems, and hostility, and lower levels of happiness and life satisfaction (Calhoun, Beckham, & Boswarth, 2002; Dekel, Solomon, & Bleich, 2005; Jordan et al., 1992; Waysman, Mikulincer, Solomon, & Weisenberg, 1993; Westerink & Giarratano, 1999). Several studies found that intimate partners of Vietnam combat veterans with PTSD reported higher levels of depressive and anxiety symptoms than partners of Vietnam combat veterans who did not have PTSD (Calhoun, Beckham, & Boswarth, 2002; Manguno-Mire et al., 2007; Westerink & Giarratano, 1999). Couples where one member

either has PTSD or has experienced a trauma are more likely than non-traumatized couples to experience more crises and emotional aggression such as blaming or defensive distancing in therapy (Johnson & Rheem, 2012). So likely a therapy that incorporates the individual and their partner actively work toward creating a safe space such as mindfulness, would be beneficial for both individuals, as well as a type of therapy that could reduce PTSD, depressive, and anxiety symptoms overall.

Individual Treatment for PTSD

Many forms of individualized treatment for PTSD exist, and can be effective at treating PTSD. Four different types of therapy are predominant and empirically supported in treating PTSD: exposure-based treatment, skills-focused treatment, cognitive therapy, and combination treatments (Monson, Resick, & Rizvi, 2014).

For many individuals, exposure therapy is the first line of treatment as it has been shown to be an effective form of treatment for PTSD, and is effective across trauma types (Rauch, Eftekhari, & Ruzek, 2012). Exposure therapy began in the 1980s, and involves prolonged exposure (PE) to fear cues or the trauma memory itself (Monson, Resick, & Rizvi, 2014). PE can not only reduce PTSD symptoms, but reduce comorbid symptoms like anger, guilt, depression, and negative perceptions. PE involves psychoeducation, *in vivo* exposure, imaginal exposure, and emotional processing. PE often is conducted in 9-12 90-minute sessions that evolve through the treatment period. The first few sessions involve information gathering, or learning more about the client, the trauma, and the client's unique situation, breathing retraining, and creating a fear hierarchy. During this time, clients are instructed to confront fear cues for 45 minutes a day, working from the more innocuous end of their fear hierarchy as high as they are willing to go. Starting in the third session, clients begin to reimagine the trauma and describe it aloud, with

more details being included each subsequent time this task is completed. Descriptions of the trauma are audio-recorded and replayed in session, and clients are assigned "homework" of listening to the recording and participating in *in vivo* experiences (Monson, Resick, & Rizvi, 2014). PE works through conditioning processed of habituation, extinction, and emotional processing changes that slowly desensitize clients to negative stimuli associated with the trauma (Rauch, Eftekhari, & Ruzek, 2012).

Skills-focused treatment, also known as stress-inoculation training (SIT), began as a technique to help rape survivors feel control over their fear and helping them cope (Kilpatrick & Amick, 1985; Kilpatrick, Veronen, & Resick, 1982). SIT employs several phases of therapy: preparation/psychoeducation followed by coping skills training. The preparation phase uses social learning theory to explain that fear and anxiety operate through a series of channels, the physical, the behavioral, and the cognitive channels (Lang, 1968). In the coping skills training phase, skills, a rationale for the skill, and a demonstration of the skill are taught to the client using problem areas in their life, and then the client assesses how that skill worked for them. Muscle relaxation and breathing control are common coping mechanisms used. Overall, skills-focused treatment helps clients to manage overwhelming negative feelings, control negative beliefs and thoughts directed at the self, and have the confidence and mental preparedness to engage in feared behaviors (Monson, Resick, & Rizvi, 2014).

Cognitive interventions can take one of two routes, the first one employs homework, psychoeducation, and Socratic questioning to identify and challenge unrealistic or exaggerated thoughts using reasoning and evidence-based logic (Blanchard, Hickling, Devinei, Veazey, Galovski, & Mundy, 2003). The second route being Cognitive Processing Therapy (CPT) (Monson, Resick, & Rizvi, 2014). CPT is trauma-focused from a constructivist perspective,

examining how the trauma has reformed or confirmed their beliefs that the individual held prior to the trauma. In the case of CPT, the client has either changed details of the trauma to fit prior beliefs, or changed beliefs in a way that make sense in the context of their trauma (Resick, Monson, & Chard, 2007; Resick, Nishith, Weaver, Astin, & Feuer, 2002; Monson, Resnick, & Rizvi, 2014). Cognitive interventions help clients identify and challenge unrealistic thoughts and become more aware of emotions, thoughts, and events as well as their relationship between each other (Monson, Resick, & Rizvi, 2014).

Combination treatments for PTSD also exist such as cognitive-behavioral therapy (CBT), Skills Training in Affective and Interpersonal Relation (STAIR), Modification of Prolonged Exposure (MPE), and Eye Movement Desensitization and Reprocessing (EMDR). CBT is based on multiple things, such as the beliefs and behavioral mechanisms that are unique to specific disorders, as well as conceptualizing an individual client's idiosyncrasies and patterns of thinking and behaving so that modifications to a client's thinking and beliefs can create lasting emotional and behavior change that benefits them (Beck, 2011). STAIR and MPE go together in a two-phase treatment, with STAIR being a system that helps clients with affect regulation and interpersonal skills, skills required to benefit from a trauma-related intervention (Cloitre, Koenen, Cohen, & Han, 2002). Once a client has mastered these skills, they can then move on to MPE which includes components of imaginal exposure, post-exposure emotional management, and cognitive therapy. These two phases prepare clients for change, then provide them with a safe environment in which to confront their trauma and learn how to cognitively and emotionally cope with the repercussions (Monson, Resick, & Rizvi, 2014). EMDR is a controversial therapy that stemmed from personal observation rather than empirical evidence (Monson, Resick, & Rizvi, 2014). Shapiro developed EMDR under the premise that lateral eye movements assist in

cognitively processing a trauma (Shapiro 1995; Shapiro, 1989). During an EMDR intervention, clients recall a trauma while the therapist elicits negative emotions and clients rate overall distress. Following this, therapists elicit positive cognitions that could be associated with the traumatic memory and clients rate how much they believe these positive associations. Then the therapist moves their finger back and forth in front of the client, and the client tracks this movement with their eyes while recalling the traumatic memory and focusing on any negative thoughts or feelings. The client then is asked to clear their mind and take a deep breath, and the process is repeated until the client reports low distress in the first step (Monson, Resick, & Rizvi, 2014). These modalities focus on the individual and are empirically supported to improve outcomes, though it is important to consider that most individuals with PTSD feel very socially isolated, avoid emotional arousal, and withdraw from social situations (Monson, Resick, & Rizvi, 2014). Therefore, other modalities that focus on having others in therapy with the affected individual also show a lot of promise in reducing those distress symptoms.

Group Treatments for PTSD

Some studies have found that the best predictive factor of optimal global functioning following a traumatic event is whether or not the individual has another person whom can comfort them (van der Kolk, Perry, & Hermann, 1991; Johnson & Rheem, 2012), and social support is also shown to be negatively correlated with PTSD symptoms (Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009; Feder at al., 2013; Schumm, Brigg-Phillips, & Hobfoll, 2006). Therefore, group treatment, as opposed to individualized treatment, has several advantages (Koss & Harvey, 2011; Monson, Resick, & Rizvi, 2014). Being in a group setting with other individuals who have also experienced trauma can be very validating, create social support, build self-esteem, and provides a safe environment in which individuals can emotionally

engage and experience intimacy with others (Koss & Harvey, 2011). Social support is also shown to reduce symptoms of PTSD, GAD, and depression in civilians in warzones as well as individuals exposed to a wide range of PTEs (Mugisha, Muyinda, Malamba, & Kinyanda, 2015; Neria et al., 2010; Kwako et al., 2011; Lian et al, 2014). Having a group comprised of individuals who have also experienced a trauma and are growing together can be the first step towards increased positive outcome expectancies.

Relational problems and emotional isolation exacerbate post-traumatic distress and psychopathology, which feeds back into a relationship distress through an unfortunate, often escalating cycle (Nelson & Wampler, 2000). Emotional regulation and emotional display are essential, fundamental components of a healthy relationship and arguably one of the most important components of any relationship (Johnson, 2004), but may be very difficult for someone who has experienced a trauma. These difficulties may strain secure relationships, which often allow individuals to be more attuned to their own distress and reflect upon it without feeling overwhelmed (Mikulincer, 1995; Mikulincer & Florian, 1995). Group therapy can facilitate this. Having a secure relationship and a source of emotional support can change threat perception and assist with reassuring or soothing during stressful situations. Also, as noted above, having someone to soothe distress more easily helps an individual create their own self-soothing techniques (Neff, 2003) when they experience any distress. This research regarding relationships is indicative that intimate relationships where an individual feels safe and validated can play a powerful role in the healing process of individuals who have experienced a trauma. While individual therapy is undeniably effective, integrating other individuals into treatment can provide some additional benefits.

Couples-based treatments.

Cognitive-Behavioral Couple's Treatments (CBCT) have been shown to work as well as individual psychotherapy in treating disorders such as depression and anxiety disorders and has been proven to increase relationship satisfaction (Daiuto, Baucom, Epstein, & Dutton, 1998; Jacobson, Dobson, Fruzzetti, Schmaling, & Salusky, 1991; O'Farrell & Fals-Stewart, 2000). Other methods of couples' therapy such as Emotionally Focused Therapy (Brown-Bowers, Fredman, Wanklyn, & Monson, 2012), also works to relieve PTSD, anxiety, and depressive symptoms while increasing relationship satisfaction. Behavioral marital therapy (BMT) a form of couples' therapy, helped treat wives' depression as well as relationship distress as well as CBT did in simply targeting the disorder (Jacobson et al., 1991). A meta-analysis of couples' therapy reports couples' therapy is comparable to individual psychotherapy in improving depressive symptoms and is actually more effective than individual treatment in improving overall relationship satisfaction (Barbato & D'Avanzo, 2008). Since romantic partners are a large source of social support for individuals with mental health problems and tend to spend significantly more time with partners than a therapist, it makes logical sense to have a partner in session, helping to improve relationship problems, which in themselves can cause additional psychopathology. With the factor of relationship distress removed from therapy as well as the psychological ramifications of it, patients gain a strong supportive social figure, and an emotionally safe relationship. Depressed patients are three times less likely to remit in a depressive disorder when relationship distress is present (Denton et al., 2010), and depressed patients who were measured pre- and post-treatment were less likely to see any improvement when they were in insecure or distressed romantic relationships (Beach & O'Leary, 1993). The implications that romantic relationships can have on treatment and psychopathology remission or improvement is astounding. Many individual forms of mental health treatment have little effect

on relationship distress, though they help psychopathology, and often do not affect the relationship directly (Baucom et al., 2014), implying that couples' therapy could potentially better increase relationship satisfaction, and in turn additionally decrease psychopathology.

In trials of CBCT specifically geared toward PTSD, results showed CBCT improved individuals with disorders' depressive and anxiety symptoms, but not PTSD symptoms (Monson, Schnurr, Stevens, & Guthrie, 2004; Forbes, Creamer, & Biddle, 2001; Van Etten & Taylor, 1998.) One study used cognitive behavioral couples' treatment (CBCT) therapy for PTSD and saw no significant outcomes differences between partner mental health in the control and experimental group (Shnaider, Pukay-Martin, Fredman, Macdonald, & Monson, 2014). Another controlled trial of CBCT for PTSD in a community sample additionally found no improvements in partner's depressive or anxiety symptoms at the conclusion of the study (Monson et al., 2011), meaning that to improve a partner's mental health, as well as an affected individuals PTSD, depressive, and anxious symptoms, a different empirically supported therapeutic approach may need to be taken. A new modality may be needed that more effectively improves both partners' psychological symptoms.

In EFT, an effective mode of therapy for partners where one has experienced a trauma, a good technique to create a safe space and help soothe clients when discussing emotionally heavy information is to reflect client emotions, speak in a soft, slow voice, use simple words, and repetition in speech (Johnson & Rheem, 2012), so a modality such as meditation may prove effective in soothing both partners while creating an emotionally safe environment.

Mindfulness therapy with couples has potential to help partners respond more effectively in the moment when an emotion-fueled argument occurs, so that partners can acquire the skills to prevent emotional dysregulation (Siegel, 2014). As mentioned above, when one partner is hurt,

being able to identify your emotions and your partners, and respond with kindness rather than vengefulness can build upon an intimate relationship. Research has even shown when one couple becomes withdrawn, which can happen when one is hurt, this withdrawal from vulnerability is strongly predictive of relationship not working out than even conflict. However, if withdrawal can be used to center yourself before engaging in an open, compassionate discussion, it can be more useful (Cordova, 2009).

Mindfulness helps partners better empathize with each other during an argument, understand their partner's experience and point-of-view, and comprehend their own emotions that they may not fully understand (Siegel, 2010). Mindfulness is especially useful in cases where one partner has rumination patterns that perpetuate high arousal (Siegel, 2014), symptoms consistent with both diagnoses PTSD (negative changes in cognition and mood; hyperarousal) and anxiety. In a randomized clinical trial of mindfulness and relaxation training, mindfulness led to significant decreases in ruminative thoughts (Jain et al., 2007). In a study with a sample of non-distressed, happy couples, mindfulness therapy increased couples' feelings of intimacy and satisfaction in domains such as closeness, acceptance of one another, autonomy, and relatedness while also increasing individual optimism, spirituality, and relaxation while diminishing stress. Couples also maintained these benefits three months following the mindfulness intervention (Carson, Carson, Gil, & Baucom, 2004). If this outcome is possible with non-distressed couples, there is likely to be an effect when following a sample of distressed participants, or participants experiencing some type of psychopathology.

Mindfulness-based Treatment

As discussed earlier, there are many empirically supported treatments that can improve PTSD and its associated symptoms of anxiety and depression that may result from a traumatic

experience; however, a treatment approach that is gaining attention and support in the literature is that of mindfulness. One study found PTSD symptoms were negatively linked to "acting with awareness" and nonjudgmental acceptance (Baer, 2004), which are part of the foundation of mindfulness, so it is clear mindfulness therapy could be very beneficial in teaching coping skills for these symptoms. Increases in psychological flexibility can help patients with psychopathology learn situations when rumination is okay versus when attention should be focused elsewhere (Vujanovic, 2009). Mindfulness helps individuals to feel more in control of their current life experiences and become more in tune with their own bodies and minds as well as their needs. In addition to improvement of the self, mindfulness is associated with not only better health, but also higher relationship satisfaction (Brown, West, Loverich, & Biegel, 2007).

Mindfulness is a theoretical construct that involves awareness of a person's current state of being, or being aware of a present reality. Mindfulness is composed of eight attitudes such as acceptance, compassion, letting it go, kindness, non-striving, trust, curiosity, and beginner's mind. The therapeutic benefits come through non-judgment of a person's experience and accepting that all parts of the human experience—good and bad—construct an individual's worldview and identity. Both client and therapist are accepting of all thoughts and emotions a mindfulness mediation may bring, and experience a willingness to be in the moment, experience a moment, whether painful or pleasurable, and work on identifying thoughts, emotions, and sensations that arise (Germer, 2005). Through this process, individuals can become less distressed by unpleasant experiences in their lives and become overall less reactive. Mindfulness also helps facilitate growth in positive appraisals, or appraising threatening or stressful events as meaningful rather than negative (Helgeson, Reynolds, & Tomich, 2006). Through mindfulness people accept that not all experiences can be positive, and negative experiences are not to be

avoided. This greater openness to all experiences helps prevent avoidance that is common in disorders such as depression and anxiety (Fulton, 2005).

Mindfulness meditation, rooted in Buddhism, has been increasing in popularity as a mental health tool and is used in Mindfulness Based Cognitive Therapy (MBCT) to help treat depression, reduce stress, reduce anxiety, enhance self-perception, and assist into integrating mindfulness into everyday life (Bauer-Wu, 2010; Ledesma & Kumano, 2009) through small awareness exercises, or through tasks such as practicing diaphragmatic breathing.

Mindfulness based therapy enhances better present-centered awareness and nonjudgmental acceptance of cognitions. Mindfulness involves attention on an object or thought and acknowledging and releasing distracting thoughts, emotions, and sensations (Garland, Gaylord, & Frederickson, 2011), for example through meditation. Meditation is a skill that individuals could practice at home, outside of a mental health clinic either alone or with their partner. In addition, mindfulness mediation is a safe form of treatment that has low risk, is inexpensive, and improves not only symptoms of stress and disorders but overall quality of life (Bauer-Wu, 2010). Mindfulness helps individuals to feel more in control of their current life experiences and become more in tune with their own bodies and minds as well as their needs.

One study examined self-compassion and the healing effect it has following trauma. Self compassion, or as the study explains, being kind and understanding toward oneself when facing distress, being mindfully aware of painful thoughts and feelings to prevent overthinking or rumination, and seeing your struggles as part of a much larger human experience (Neff, 2004), is negatively associated with depressive and anxiety symptoms (Neff, 2003). Self-compassion can also protect against psychopathology following a trauma, lowering symptoms such as depression, suicidal ideation, PTSD symptomology like avoidance and hyperarousal, and panic

symptoms (Zeller, Yuval, Nitzan-Assayag, & Bernstein, 2014; Thompson & Waltz, 2008). The mechanism of why self-compassion in conjunction with social support reduce psychopathology is still largely not understood (Maheux & Price, 2015), but this theory of self-compassion impacting mental health sounds similar to the attitude of kindness represented in mindfulness.

Combining mindfulness and group therapy for PTSD has been shown in initial trials to decrease depressive and PTSD symptoms and increase mindfulness (Baer, 2003; Kimbrough, Magyari, Langenberg, Chesney, & Berman, 2010). Mindfulness-based Stress Reduction (MBSR) has been shown to produce significant improvement in mental health and well-being, and arguably could be considered a form of exposure therapy (Baer, 2003). Mindfulness-based Cognitive Therapy (MBCT) has been shown to prevent depressive episodes, reduce depression recurrence for over 2 years, and improve GAD symptoms as well (King et al., 2013). MBSR for adults with a history of childhood sexual abuse lead to a self-reported decrease of depression and PTSD symptoms (Kimbrough, Magyari, Langenberg, Chesney, & Berman, 2010), and in veterans when combined with their other treatment plans (Kearney, McDermott, Malte, Martinez, & Simpson, 2012). An 8-week pilot trial of a mindfulness based group therapy for PTSD saw adherence to treatment, good engagement in session exercises, and reduced overall PTSD symptoms, especially avoidance-based ones (King et al., 2013). Overall, there is currently not much research on mindfulness group therapy in the context of PTSD, but the initial findings and overall implications seem very promising.

Summary and Conclusions

Couples therapy undeniably has benefits over individual therapy for individuals who have experienced a trauma and have residual psychological distress. Couples therapy can have additional motivation to remain in therapy over individual therapy, as well as create improve

upon relationship satisfaction and help increase social support. Mindfulness-based therapy can help increase empathy and foster healthier, less emotion-fueled communication between partners so there seems to be little doubt that a couple's mindfulness-based therapy treatment could diminish both psychopathology and existing or residual relational problems. Empathy is especially important considering research showing that a partner not adequately understanding the other's psychological distress actually produces additional distress (Renshaw, 2008). A partner understanding and empathizing—in the sense of being better at taking the perspective of their partner-- with the pain their partner is in could prove beneficial for both partners and help in both lowering distress and increasing relationship satisfaction.

As mentioned previously, when one romantic partner has a mental health disorder, it is likely that the other partner has developed anxious or depressive symptoms, while both partners have a lower quality of life. Mindfulness meditation could have a positive effect in all of these domains for both partners, reducing general psychological distress while also increasing relationship satisfaction. Little research has been conducted to examine the association between relationship satisfaction, mindfulness, and psychological distress, however. Trauma tends to increase distress in both romantic partners which in turn can decrease relationship satisfaction. Lowering distress symptoms caused by trauma can help partners begin to rebuild relationship satisfaction.

Therefore, the goal of the current study is to increase romantic partners' ability to be mindful in everyday living, help with perspective-taking and interpersonal sensitivity in relationships, and decrease psychopathology symptoms related to PTSD, anxiety, or depression when one partner has experienced a trauma. The expectation is that mindfulness will impact

psychopathology symptoms, and relationship satisfaction will act as a mediator between mindfulness and reduction in distress symptoms.

Chapter II

Methods

Participants

The sample was comprised of 64 undergraduate students and their romantic partner (N=64 individuals, 32 couples) in University of Michigan-Dearborn Introduction to Psychology courses who volunteer to participate in exchange for compensation. Eligibility criteria for the study included: being in a romantic relationship that has lasted a minimum of six months, both partners are over the age of 18, both partners must be willing to participate, both partners can read and write in English, and at least one partner must be a member of the SONA research participation system through the University of Michigan—Dearborn.

Measures

Demographics Form. (Appendix A) This 11-item form is a modified version of the 50-item UMB Comprehensive Demographics Questionnaire (Suyemoto et al., 2016). This modified demographic survey asks about age, sex, gender, relationship status, race, and experience with mindfulness and meditation while being considerate of individual complexities.

Dyadic Adjustment Scale (DAS). (Appendix B) The 32-item DAS is a self-report measure of relationship adjustment, assessing four main domains: partner agreement, relationship satisfaction, expression of affection, and activities completed together (Spanier, 1976). The range of the scale is from 0-151 with higher scores indicating greater relationship satisfaction. Some items on the DAS have been modified for use in this current study to reflect participants who

may not be married but are in committed relationships (e.g., changing handling family finances to handling finances). Psychometric tests report adequate reliability (Graham, Liu, & Jeziorski, 2006; Spanier, 1976). Alpha for the current sample was .80.

Center for Epidemiological Studies Depression Scale (CES-D). (Appendix C) The CES-D is a 20 item self-report measure assessing depressive symptomology of the general population with a possible score between 0-60 (Radloff, 1977). Scores above 16 indicate depression. Psychometric tests report adequate validity and reliability (Radloff, 1977; Eaton, Muntaner, Smith, Tien, & Ybarra, 2004; Murphy, 2002; Comstock & Helsing, 1976). Alpha for the current sample was .74.

Generalized Anxiety Disorder Questionnaire (GAD-7). (Appendix D) The GAD-7 is a seven item self-report questionnaire screening for severity of generalized anxiety disorder with a range of scores between 0-21, a score of 5 indicating mild anxiety, 10 indicating moderate anxiety, and 15 or above indicating severe anxiety (Spitzer, Kroenke, Williams, & Lowe, 2006). Alpha for the current sample was .88. (Swinson, 2006, Zhong et al., 2015).

The PTSD Checklist for DSM-5 (PCL-5). (Appendix E) The PCL-5 is a 20 item self-report questionnaire examining problems people can have in response to stressful experiences. Respondents report whether in the past month they experience symptoms from within a range of "Not at all" to "Extremely". Only four items (one from each DSM-5 symptom criterion scale) will be used for this study. (Weathers et al., 1994). The civilian version of this measure has also been used in college student populations with success (Price, Szafranksi, an Stolk-Cooke, & Gros, 2016). Alpha for the current sample was .78.

Life Events Checklist for DSM-5 (LEC-5). (Appendix F) The LEC-5 is a 17-item self-report questionnaire assessing stressful things that can happen to people, and respondents indicate their

relationship to the event, whether it “Happened to me”, “Witnessed it”, “Learned about it”, “Part of my job”, “Not sure”, or “Doesn’t apply” to them. Events include natural disaster, serious accidents, assault, and combat exposure. (Weathers, 2013). Alpha for the current sample was .79. There is no formal scoring system for the LEC-5 (Weathers, 2013). However, in the current study, an informal score was created for each participant. This score used a 0-5 rating for each traumatic event on the checklist. Higher scores indicated that the individual had more direct experience with the event, thus increasing the likelihood of symptom development for the experience of the PTE.

Five Facet Mindfulness Questionnaire (FFMQ). (Appendix G) The FFMQ is a 39-item self-report questionnaire that consists of five subscales that assess observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. Each item operates on a 5-point Likert scale of assessing if each scenario is rarely true to very often or always true. Higher scores indicate that an individual is more adept with mindfulness skills. Psychometric tests report adequate validity and reliability. (Bishop et al., 2004; Brown & Ryan,2003; Grossman et al., 2004). Alpha for the current sample was .87.

Interpersonal Reactivity Index (IRI). (Appendix H) The IRI is a 28-item self-report measure examining 4 subscales of 7 items, but only 2 subscales, Perspective Taking and Empathic Concern will be used for this study for a total of 14 items. Each item is on a 5-point Likert scale ranging from “does not describe me well” to “describes me very well”. Higher scores indicate higher skills in that subscale. Psychometric tests report adequate validity and reliability. (Davis, 1980; Davis 1983; Pulos, Elison, & Lennon, 2004). Alpha for the current sample was .59, which was fairly low. The highest possible alpha would have been .64, if item 2 had been deleted.

Separated by scale, alpha for the empathic concern scale was .25 and alpha for the perspective-taking scale was .44.

Brief Mindfulness Questionnaire (BMQ). (Appendix I) This measure contains four items and has not been validated or used in standard practice. The measure was created solely for use within this study to assess participants' engagement in mindfulness during the two-week period between Time 1 and Time 2 and operates on a 5-point Likert scale. Alpha for the current sample was .83.

Procedure

The study involved two parts. Part one was an in-person session completed by the couple and part two is an in-person follow up two weeks after the first session. At the Time 1 appointment, the participant and their romantic partner came to the laboratory on the University of Michigan – Dearborn campus and were asked to verbally express eligibility based on criteria listed on SONA as well as read and sign a written consent form. At this time, participants and their partners created a "unique identifier" comprised of their birth month and phone numbers to identify the couple and to link Time 1 and Time 2 data.

Participants and their partners then independently completed a series of self-report questionnaires while seated in a manner that prevented them from seeing each others' responses. Partners were also asked not to talk to each other during measure completion. Following the completion of the questionnaires was approximately A hour-long session comprised of psychoeducation about mindfulness with a pamphlet provided to each participant and two guided meditations. One mediation was completed individually and one was completed as a couple. The psychoeducation and mindfulness portions were conducted by the same individual for every pair of participants to ensure similar experiences between groups.

Two weeks after the couples' participation in Time 1 of the study, each couple member returned to the lab for Time 2, the second part of the study. Time 2 included a subset of the of the same pre-mindfulness intervention measures which will include whether they practiced mindfulness during the two-week period. Following completion of the measures, participants were debriefed and released.

Procedure was in place should a participant become visibly or unexpectedly distressed (e.g., uncontrollable tearfulness, visible symptoms of panic such as shaking, shortness of breath, or sweating) at any time during participation. If this occurred, the study was to be halted immediately, and the participants would have been debriefed and walked to the counseling services in the University Center. This withdrawal from the study would have come without penalty. In addition, if the couple members become agitated (e.g., raised voices, acts of aggression) the study protocol will be stopped.

Data Collection and Storage

Couples' Time 1 and Time 2 data were linked via eight-digit unique identifiers. The first four digits contained birth month of the participant followed by the last two digits of their phone number, and the last four digits will be the second participant's information in the same format. These unique identifiers were used for data entry in SPSS and were separated from identifying information to ensure responses remained anonymous.

Participants who registered to participate through SONA had to provide their name to receive SONA credits, but their names were not recorded anywhere that could be linked to their data. Participants who selected compensation via lottery and provided their name and email address on a slip of paper had this information kept separately from their measures and were destroyed following the drawing.

Couple members' unique identifiers were kept in a password protected file, on a password protected non-networked computer in a locked laboratory with limited access. All paper measures were kept in a locked cabinet and destroyed following data analysis. Electronic data without identifying information is stored on a secure computer.

Chapter III

Results

Prior to any data analysis, data were screened for missing data, outliers, and non-normalcy. In order to preserve sample size, outliers were left in the data set; however, analysis with and without these outliers showed similar findings. Means and standard deviations for the study can be found in Tables 1 and 2. Table 1 contains data comparatively by Partners A and B, and Table 2 contains data comparatively by race. Data analysis was conducted separately for each partner as the data was dyadic in nature and this helps reduce the non-independence of the data. It should also be noted that there were two lesbian couples who completed the study. Data from these couples were not statistical outliers so they were included in the split partner analysis. The data from the study includes 32 partner A participants and 32 partner B participants. Couples who did not return for Time 2 or who up between interventions were not included.

Examination of the demographics and study variables showed that couples were dating an average of 3.11 years (*SD* = 4.76 years). In the sample as a whole, only 25% (*n*=16) of the sample had experience with mindfulness and 34% (*n*=22) engaged in some meditation. Examination of the demographics and study variables showed that on average, couples were dating an average of 3.19 years (*SD* = 4.76 years). In the sample as a whole, only 25% (*n*=16) of the sample had experience with mindfulness and 34% (*n*=22) engaged in some mediation. The sample was ethnically diverse with only 31 participants (48.44%) indicating that they identified as White, 16 (25%) identified as Middle Eastern, 4 (6.25%) identifying as Back, and the remaining participants reporting other racial identities (e.g., Native American, Asian,

Multiracial). The majority of participants reported that they were dating 78.12% (N= 50), but interestingly some participants reported other relationship categories. A full demographic profile of participants can be found in Table 3.

Although not a specific hypothesis of the study, examination of the data from the BMQ was conducted to estimate how often participants independently engaged in mindfulness meditation throughout the intervention. On item 3 of the BMQ, which asked whether participation in the study impacted the participant's idea of what meditation/mindfulness is, participants responded with a means score of 2.81 out of 4, which indicates that even if participants did not consistently engage in mindfulness throughout the two-week period, they gained some knowledge about mindfulness and how it impacts them. This is especially important to consider as 75% of participants had no knowledge or experience with mindfulness prior to the study.

Given the study's focus on mindfulness, relationship satisfaction, and distress in the context of trauma, trauma history was dichotomized using a median split. Although there are inherent difficulties with median split, in order to preserve sample size for the groups, this was decided to be the best option. Separate analyses were then conducted, as described below to better understand how the intervention impacted those who had trauma history or not on variables of relationship satisfaction, mindfulness, and distress.

Hypothesis 1: *The study will increase romantic partners' ability to be mindful in everyday living and increase relationship satisfaction.*

This hypothesis was not supported. As can be seen from Table 1 there was not; however a statically significant difference in mindfulness as measured by the FFMQ or interpersonal

reactivity index (perspective taking or empathic concern). Moreover, there was not a significant difference in scores on relationship satisfaction.

When examining this hypothesis separately for those who had experienced trauma and those who have not, results showed that there was a significant increase in relationship satisfaction ($t(12)= -7.23\pm6.70$, $p <.05$) in partner A participants who had experienced trauma, but not in partner B participants (partner A participants were predominately male).

Hypothesis 2: *Symptoms of distress will be reduced between Time 1 and Time 2, particularly for those individuals who have experienced a trauma.*

Next, the examination of distress was conducted. Paired sample t-tests showed that for partner A participants, there was a significant decrease in PTSD symptoms (see Table 1) as measured by the PCL from Time 1 to Time 2. No other significant differences were found between scores on measures of psychological distress between Time 1 and Time 2.

When looking at those who have experience trauma and those who have not using the dichotomized trauma variable, the significant decrease in Partner A PCL symptoms remained significant. No other differences were noted.

Hypothesis 3: *Mindfulness will be associated with increases in relationship satisfaction and reduction in distress.*

Although there were not significant differences between Time 1 and Time 2 variables in general, it was possible that mindfulness could be influential in how variables of psychological distress changed. Therefore, a series of change scores were calculated between Time 1 and Time 2 scores as seen in Table 4. Although differences were not significant, change scores show that the changes were generally in the expected direction, except for the IRI. Again, these differences were not statistically significant however.

Bivariate correlations were then conducted with these change scores to examine their association to mindfulness (Time 2 as this was the most recent time point). Correlational analyses show that there were no significant associations between psychological distress and mindfulness. There was significant positive association between change in IRI and mindfulness for partner B participants; however all other associations to change scores were not significant.

Examination of the correlation between the change in variables from Time 1 to Time 2 between those who experienced trauma and those who did not can be found in Tables 5 and 6 respectively. These results show that in those individuals who experienced trauma, there was a significant negative correlation between mindfulness and the change in CESD for both partners (r = -.58, p < .05 and r = -.49, p = .05). These correlations were not significant for those who had not experienced trauma. Unfortunately, Fishers r to z transformations showed that the correlation for partner A between those who had experienced trauma and those who did not was statistically different (z=1.83, p<.05); the correlation coefficients from partner B were not statistically different.

Hypothesis 4: *Mindfulness will impact psychopathology symptoms and relationship satisfaction will act as a mediator between mindfulness and reduction in distress symptoms.*

The final hypothesis for the study involved the potential mediating role of relationship satisfaction. Change in relationship satisfaction and also change in distress variables did not appear to be associated with FFMQ consistently, which would have been required to run mediation analysis according to the criterion set form by Barron and Kenney (1986). Therefore, the mediation analyses could not be conducted.

Chapter IV

Discussion

Research suggests that up to 69% of the general population will experience a traumatic event during their lifetime (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). The type of event and number of events experienced by an individual has been found to predict symptom severity and disorder development (Andrews et al., 2015; Hodges et al., 2013). Following a trauma, distress symptoms such as post-traumatic stress, anxiety, and depression can develop (Sklarew & Blum, 2006; Hankin et al., 2013; Kessler, 1995) and interfere with an individual's life.

Meditation, a form of mindfulness practice, is a skill that individuals could practice at home, outside of a mental health clinic either alone or with their partner to decrease stress and negative emotion. Mindfulness meditation, has been increasing in popularity as a mental health tool and is used in Mindfulness Based Cognitive Therapy (MBCT) to help treat depression, reduce stress, reduce anxiety, enhance self-perception, and assist into integrating mindfulness into everyday life (Bauer-Wu, 2010; Ledesma & Kumano, 2009). Mindfulness based therapies can be especially effective in the context of traumatic events. These treatments have been associated with reduced PTSD symptom severity, anxious arousal, and anhedonia (Bernstein, 1986), and is also well-regarded as a mode of distress reduction (Garland, Gaylord, & Frederickson, 2011).

After the emotional repercussions of trauma are considered, the need for safe emotional engagement with others, especially romantic partners, becomes additionally, urgently important (Posey, 2009). Some studies have found that the best predictive factor of optimal global functioning following a traumatic event is whether or not the individual has another person whom can comfort them (van der Kolk, Perry, & Hermann, 1991; Johnson & Rheem, 2012). Moreover, romantic partner support is also shown to reduce symptoms of PTSD, GAD, and depression in civilians in warzones as well as individuals exposed to a wide range of traumatic events (Mugisha et al., 2015; Neria et al., 2010; Kwako et al., 2011; Lian et al, 2014).

A meta-analysis of couples' therapy reports couples' therapy is comparable to individual psychotherapy in improving depressive symptoms and is actually more effective than individual treatment in improving overall relationship satisfaction (Barbato & D'Avanzo, 2008). Since romantic partners are a large source of social support for individuals with mental health problems, and are particularly important in the context of trauma, it makes logical sense to use a coupes based approach to treatment of distress following trauma.

Despite the theoretical and empirical support between mindfulness based treatments and PTSD, there are only a few studies that examine this treatment modality in a couples format. Therefore, the current study looks to combine two existing and empirically supported therapy modalities to see if together they have a similar effect, or whether together they could have a more powerful effect. It was expected that a brief intervention would help not only improve relationship satisfaction, but also reduce distress in association to PTE. Overall, the results of the study did not support these hypotheses. Nonetheless the results can be examined for potential implications and provision of direction for future research.

Hypothesis 1

The study's first hypothesis predicted that couples would experience an increase in both mindfulness and relationship satisfaction between Time 1 and Time 2. Specifically, we expected to see increased levels of relationship satisfaction as well as increased scores on the FFMQ and IRI which examine mindfulness behaviors and characteristics. Unfortunately, there were not significant differences between Time 1 and Time 2 variables. Although change scores indicated that scores were at least moving in the expected direction, except for the IRI, results were typically not statistically significant. The IRI, as noted earlier, had a very low alpha even when separated by scale. This low-reliability scale may have impacted results, so the FFMQ was primarily used in analysis to assess mindfulness behaviors.

In addition to a small sample size, results may have been impacted by a restriction of range in some variables. For instance, couples self-reported a high level of happiness in the Time 1 measure, in fact they were actually happier than the statistical average presented for happily married couples on the DAS scale [DAS Time 1 *M*=117, average DAS for happily married couples is 114 (Graham, Liu, & Jeziorski, 2006)]. There may have been a ceiling effect for some of the interpersonal variables that were included as dependent measures.

When examining the results between those who had a trauma history and those who did not on relationship satisfaction, specifically partner A participants (who were predominately male), and who scored higher on the experience of trauma, had a significant positive change in relationship satisfaction. As noted in the literature, men tend to externalize symptoms of PTSD though aggression (Friedrich, Urquiza, & Beilke, 1986), which can prevent safe emotional engagement with a partner. Being mindful can lead to a reduction in aggression and hostile expression and better overall emotional regulation (Siegel, 2014). Additionally, if a romantic partner--often recognized as the strongest social support and indicative of best overall outcome

following a trauma (Posey, 2009)-- is trying to be more mindful, the relationship may more secure and there may be an increased opportunity for additional intimacy and vulnerability, which could increase overall relationship satisfaction (Cordova, 2009). There are many possible reasons for why this may have happened, but more research may need to be done to see what current literature exists for couples therapy when the male partner has experienced a trauma.

The results for this hypothesis were surprising as current literature currently supports the role of mindfulness in couples' therapy (Carson, Carson, Gil, & Baucom, 2004), so the factors above (sample size, homogenous sample, and brief intervention) may have had a significant effect on results. Albeit interesting, this finding should be interpreted with caution as when the sample was split in this way the same size was quite small and it may also be that this finding is simply due to Type 1 error.

Additionally, if participants were largely recruited for the study to receive course credit rather than to gain a new skill, there was little reinforcement for participants to consistently engage in mindfulness between interventions. Not only was the intervention a short introduction, but the majority of participants had no background in mindfulness (75% of participants had no knowledge/experience with mindfulness prior to the study). These aspects of the intervention may not have been sufficient, which would not result in a significant increase in mindfulness ability.

Hypothesis 2

The second hypothesis expected a reduction in symptoms of distress following the intervention, particularly for those individuals who have experienced a trauma. In examining the change scores, all distress measures progressed in the correct direction, but the only significant

reduction was symptoms of PTSD as measured by the PCL. This association also remained significant when those participants exposed to trauma were parceled out.

This finding is hopeful as mindfulness has been shown to be is effective in treating anxiety and PTSD (Bernstein, 1986; Garland, Gaylord, & Frederickson, 2011). This study's finding was in line with this literature and adds some support to the use of mindfulness based couples' treatments for individuals who have experienced PTEs. This may be particularly true for men, as this finding along with the relationship satisfaction changes were among the only significant changes noted as a result of the intervention.

It was interesting, however, that the other measures of distress were not impacted by the intervention. This is especially interesting to consider since the change scores between the depression and anxiety scales were correlated, though only the anxiety scales significantly decreased. The study examined a decrease in general distress in regards to trauma, but it should also be taken into consideration that at least half of the sample was comprised of undergraduates at the University of Michigan – Dearborn. In general, college students tend to have moderate levels of stress, and factors outside what the study considered may have contributed to overall distress and the perpetuation of it. Largely, the sample was homogenous in regards to age and academic status, so perhaps a larger or more varied sample would have provided a larger change in results, or further, participants who had a diagnosis of an anxious, depressive, or post-traumatic stress disorder would have seen a larger change in psychopathology than participants who endorsed diagnostically subthreshold symptomology.

In addition to the levels of distress themselves, an alternative reason why there may have not been notable change in distress across participants may be related to the intervention itself. Specifically, the intervention was short, with a brief explanation of and introduction to

mindfulness as well as a and short introduction to diaphragmatic breathing and meditation, which may not have been sufficient enough to prepare participants for engaging in the process independently.

Hypothesis 3

The study expected that there would be an association between mindfulness and changes in distress and relationship satisfaction. These analyses showed that there was a change in interpersonal reactivity and mindfulness, but only for partner B participants (entirely female). This result, however, should be interpreted with caution as the reliability for the IRI was quite low for this study and conclusions should be tentative in nature. In Hypothesis 1 it was noted that males/Partner A saw an increase in relationship satisfaction and a possible explanation was that when both partners are being mindful, men may feel more emotionally secure and more satisfied in their relationship. This finding could potentially imply that when female partners are more mindful, the relationship feels more emotionally secure, and males could be more satisfied in their relationship. This relationship between males' relationship satisfaction and females' mindfulness ability could be arbitrary, and findings may be independent of one another. Again, results should be interpreted with caution and more research would have to be conducted to examine this relationship.

When looking at these associations between those who had trauma and those who did not, results showed that in those individuals who experienced trauma, there was a significant negative correlation between mindfulness and the change in CESD for both partners ($r = -.58$, $p < .05$ and $r = -.49$, $p = .05$). These correlations were not significant for those who had not experienced trauma. Unfortunately, Fishers r to z transformations showed that the correlation for partner A between those who had experienced trauma and those who did not was statistically

different (z=1.83, p<.05); the correlation coefficients from partner B were not statistically different.

The effect sizes for these associations were quite strong and it may have been that with a larger sample size this effect could be teased out. Effect can be impacted by small sample size and due to this, any effect found may not be generalizable to the larger population. Due to small sample, any effects found may have clinical significance for the purpose of the study, but further examination with a larger sample and compared to a control would need to be conducted to examine statistical significance and validity.

Hypothesis 4

The final hypothesis of the study expected to find that mindfulness was a mediator between mindfulness and psychological distress and would increase mindfulness behavior while decreasing psychological distress. According to the Kenny and Baron (1986) criterion for using multiple regression to find a mediator, since the first two hypotheses were not supported, the analysis could not be run.

Based on research and the current literature, these findings do not support a significant relationship, however, it is could be that future research that addresses some of the limitations of the study shows the expected associations. Or again, the study could imply no relationship with subthreshold symptomology, and a study looking at the effect on true diagnoses may be called for.

Strengths and Limitations of the Study

Limitations. Several limitations to the present study may have impacted results. The sample size itself can be seen as a limitation for the study. The study originally projected to have 50 couples (N=100), which was determined to be the minimum number of students to fulfill an

achieve adequate statistical power. However, recruitment proved to be difficult as many participants who signed up did not realize that their partner was also required to attend and were subsequently dismissed. Many attempts were made throughout the course of data collection to remedy this issue. Specifically, the online instructions were changed to embolden the instructions that both partners needed to be present. Also, potential participants were sent an email prior to their appointment to reiterate the eligibility criteria. Nonetheless, these efforts did not appear to be helpful as numerous participants needed to be turned away for this reason. In addition to the small sample size, many participants were of homogeneous age (90% between the ages of 18-24) and comprised entirely of college students in Introduction to Psychology or lower-level psychology courses.

As noted above, only a few participants had exposure to mindfulness and meditation at the outset of the study. Given this limited experience the brief intervention in the study may have just been too short to accommodate for this general lack of experience or knowledge of mindfulness and adequately explain concepts and their integration into everyday life.

Lastly, the intervention contained no control group. A control comprised of individuals could have been used to compare whether the couple's component impacted results, or a control comprised of couples who did not complete a mindfulness intervention could have been used to compare the effect mindfulness on distress reduction and relationship satisfaction.

Strengths. To the author's current knowledge, the research on mindfulness and couples' therapy in the context of distress associated with PTEs is very scant. Overall, mindfulness is a newer treatment modality and the participants and overall intervention targets fit well with the symptom presentation of PTSD and trauma associated distress. Additionally, participants anecdotally enjoyed the study. Many participants expressed interest in the study and came to the

debriefing prepared with questions about mindfulness. One participant reached out to the author several weeks after the study to report that she and her husband still practiced mindfulness weekly and greatly enjoyed the study. Following the couple's meditation, many couples also visibly seemed closer and had moments of hugging or kissing and a few even became tearful.

Future Research and Implications for Treatment

Future research into how mindfulness and couples' therapy impact PTSD and distress symptoms should use a longer intervention, both in mindfulness education and time between sessions for participants to engage more fully in mindfulness. It may be helpful to have several sessions of mindfulness practice to ensure skill attainment and also to potentially increase the likelihood of participants using the skills at home.

A study designed with a control group and that followed up every two weeks throughout a longer intervention could track participants' improvement in relationship satisfaction, mindfulness behavior, and distress symptoms over a more longitudinal course. This would provide a timeline for not only whether the intervention works, but over what time period the intervention would be most effective.

Additionally, designing a study with more of an incentive or way to check progress between intervals may encourage more consistent engagement in mindfulness between interventions. If participants used a diary or tracker to select the mindfulness skill they engaged in, for how long, when throughout the day, alone or with their partner, and whether it helped, could enforce engagement and help figure out which introduced skills were most beneficial. This could be done via electronic technology such as an online survey or smartphone ap.

Relationship satisfaction may have also been a very rudimentary measure of couples functioning. Given the empathic skills stressed in mindfulness meditation, inclusion of more

nuanced measures of relationship dynamics. For instance, it may be that couples don't experience a change in satisfaction (especially if they are not distressed at the outset), but they experience a change in intimacy. Intimacy has been suggested as a hallmark feature in couples relationship that helps to drive variables such as stability, closeness, and general satisfaction (Cordova, 2009).

Using participants who have experienced more recent trauma or who have been diagnosed with PTSD may also be able to examine how mindfulness is a unique protective factor against distress symptoms. Again, monitoring this across a longitudinal study following the trauma could find a critical period for intervention and track how participants improve over time.

Lastly, using a larger and more varied sample size would also provide more valid and generalizable results. The currently literature review shows how mindfulness principles align with target PTSD symptomology, and further studies that involve these components as well as romantic partners could create a treatment modality that not only reduces distress but addresses relationship satisfaction and creates better mental health outcomes.

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Tables and Figures

Table 1.
Sample Characteristics and Study Variable Means/Standard Deviations.

Partner A	Mean ± SD	Partner B	Mean ± SD
Age (y)	21.44±7.01	Age (y)	21.16±6.57
DAS T1	114.52±13.56	DAS T1	119.43±17.08
DAST2	116.93±17.90	DAST2	119.33±12.60
CEDS1	11.66±7.60	CEDS1	15.23±9.79
CESD2	10.48±6.51	CESD2	16.40±9.99
GAD1	M (SD)	GAD1	M (SD)
GAD2	M (SD)	GAD2	M (SD)
PCL1	3.93±3.21	PCL1	4.86±4.27
PCL2	2.86±2.79	PCL2	4.62±3.75
FFMQ1	126.43±15.86	FFMQ1	125.17±17.21
FFMQ2	128.07±20.15	FFMQ2	127.55±19.36
IRI1	37.31±8.37	IRI1	41.63±7.95
IRI2	35.66±9.19	IRI2	43.07±6.03

Table 2
Means and Standard Deviations by Race

	Native American	Asian	Black	Latinx/ Hispanic	Middle Eastern	White	Multiracial
DAS							
Time 1	114.00	120.5±3.54	101.75±17.75	106.33±8.02	120.75±15.72	117.71±14.27	111.00±11.17
Time 2	128.00	122.50±6.36	117.75±14.93	107.00±14.93	107.53±35.56	110.71±32.31	118.00±6.25
CES D							
Time 1	N/A	21.00	18.00	13.50±0.71	17.00±8.60	15.50±6.17	N/A
Time 2	N/A	24.00	16.00	14.00	14.00	15.33	N/A
GAD							
Time 1	10.00	9.00±8.49	3.37±4.58	10.00±4.58	7.75±5.88	6.42±5.04	11.75±3.77
Time 2	5.00	6.00±1.41	5.00±4.08	8.67±3.79	4.86±5.30	5.97±5.12	5.33±3.21
PCL							
Time 1	3.00	6.00±7.07	3.00±2.16	5.67±3.21	4.40±4.47	4.16±3.72	7.00±4.69
Time 2	2.00	15.50±10.61	4.75±4.11	3.00±1.73	3.64±3.08	3.97±3.79	3.67±4.73
LEC	58.00	32.00±19.80	33.25±18.25	27.33±22.37	37.56±15.60	28.23±12.04	38.75±21.09
FFMQ							
Time 1	N/A	107.00±5.66	126.75±7.41	87.33±75.66	130.50±16.82	125.13±17.65	119.50±2.38
Time 2	84.00	109.50±2.12	138.00±33.12	122.67±14.84	120.33±37.62	119.97±37.50	123.67±4.73
IRI							
Time 1	30.00	42.50±3.54	45.75±3.50	33.33±2.52	39.50±10.04	39.71±8.10	41.25±5.06
Time 2	20.00	41.50±2.12	32.00±21.53	33.67±3.79	38.87±10.54	37.42±12.51	41.67±2.08
BMQ	15.00	10.00±5.66	12.25±4.72	10.33±3.51	10.57±4.22	9.81±2.56	10.00±1.00

Table 3
Demographic Characteristics

Characteristic	Total (N=64)	Mean±SD	Range
Age (y)		21.30±6.74	18-54
Sex			
Male	30 (46.87%)		
Female	34 (53.13%)		
Gender			
Male	29 (45.31%)		
Female	32 (50%)		
Transgender	2 (3.13%)		
Nonbinary/Fluid/Queer	1 (1.56%)		
Orientation			
Asexual	7 (10.94%)		
Bisexual	7 (10.94%)		
Gay or Lesbian	1 (1.56%)		
Heterosexual	45 (70.31%)		
Queer	1 (1.56%)		
Pansexual	3 (4.69%)		
Race			
Native American	1 (1.56%)		
Asian	2 (3.13%)		
Black	4 (6.25%)		
Latinx/Hispanic	3 (4.69%)		
Middle Eastern	16 (25%)		
White	31 (48.44%)		
Multiracial	4 (6.25%)		
No response	3 (4.69%)		
Status			
Single	2 (3.13%)		
Married	4 (6.25%)		
Civil Union	2 (3.13%)		
Cohabitating	5 (7.81%)		
Separated	1 (1.56%)		
Not Listed (Dating)	50 (78.12%)		
Time Spent Dating (d)		1163±1737.88 (d), 3.19 (y)	168-8043

Table 4.
Correlations between Mindfulness and Change in Psychological Distress

	FFMQ	**ΔDAS**	**ΔCESD**	**ΔGAD**	**ΔPCL**	**ΔIRI**
FFMQ	--	.147	-.196	-.118	.011	.367
ΔDAS	-.062	--	-.105	-.155	.042	.258
ΔCESD	-.315	-.246	--	.697**	.475**	-.291
ΔGAD	.009	-.309	.405*	--	.252	-.139
ΔPCL	-.087	.108	.179	.306	--	-.067
ΔIRI	.408*	.234	-.310	-.175	-.139	--

Note: Correlations above the diagonal are for partner A and below the diagonal are for partner B. * = p < .05, ** p< .01, *** p < .001

Table 5.
Correlations between Mindfulness and Change in Psychological Distress With Trauma Considered - Partner A

	FFMQ	**ΔDAS**	**ΔCESD**	**ΔGAD**	**ΔPCL**	**ΔIRI**
FFMQ	--	.100	.118	.178	-.041	.329
ΔDAS	.186	--	-.003	-.014	.114	.382
ΔCESD	-.576*	-.382	--	.822**	.474	-.281
ΔGAD	-.369	-.843**	.603*	--	.362	-.150
ΔPCL	.121	-.047	.441	.120	--	-.164
ΔIRI	.527	-.019	-.382	-.104	.160	--

Note: Correlations above the diagonal are for individuals below split median for trauma and below the diagonal are for individuals above the split median for trauma. * = p < .05, ** p< .01, *** p < .001

Table 6.
Correlations between Mindfulness and Change in Psychological Distress With Trauma Considered - Partner B

	FFMQ	**ΔDAS**	**ΔCESD**	**ΔGAD**	**ΔPCL**	**ΔIRI**
FFMQ	--	.100	.118	.178	-.041	.452
ΔDAS	.227	--	-.003	-.014	.114	.586*
ΔCESD	-.492	-.309	--	.822**	.474	-.294
ΔGAD	-.108	-.458	.420	--	.362	-.420
ΔPCL	-.385	.127	.321	.485	--	.073
ΔIRI	.392	-.125	-.265	.188	-.421	--

Note: Correlations above the diagonal are for individuals below split median for trauma and below the diagonal are for individuals above the split median for trauma. * = $p < .05$, ** $p < .01$, *** $p < .001$

Appendix A: Demographics Form

Participant #: _____ Partner (A/B)_____

Email address: _____

UMB Comprehensive Demographics Questionnaire

The following questions are to help us get a better sense of who is responding to this survey. Some of the questions may be related to the other things we ask about in this survey, but many of them we don't expect to be related to the other questions. We just want to be able to describe the people who filled out these questionnaires so that we can clearly see how our findings might relate to people from different backgrounds. We know that many of these categories may not fully capture the complexities of each individual's experience, however they are an attempt to reflect the diversity of people's identities. Remember that you are free to choose not to respond to any questions that you are not comfortable answering.

1) What is your current age? (please write in answer) _____

2) What is your biological sex?

   _____Male _____Female _____Intersex ____Not listed (specify if you choose_____)

3) What is your gender identity?

   ____Male ____Female ____Transgender ____Nonbinary/Fluid/Queer/Gender Queer

   ____Not listed (please specify if you choose _____)

4) What is your sexual orientation?

   ____Asexual ____Bisexual ____Gay or Lesbian ____Heterosexual ____Queer

   ____Pansexual ____Not listed, please specify if you choose_____

Racial and Ethnic Background

We're interested in getting a complete picture of your racial and ethnic background. Because this information can be so complex, we are going to ask you several questions about your race and ethnicity in order to get as complete a picture as possible.

5) Racial categories are based on visible attributes (often skin or eye color and certain facial and bodily features) and self-identification. These groupings have social meanings that affect how people see themselves and are seen and treated by others. Race is not the same as ethnicity or culture. **In your own words, what is/are your racial identification(s)?**
   _____

6) Although categories listed below may not represent your full identity or use the language you prefer, for the purpose of this survey, please indicate which group below most accurately describes your **racial identification**? (check all that apply)

   ___Native American/American Indian/ Alaska Native/Indigenous

   ___Asian ___Black ___Latinx/Hispanic (Non-White)

   ___Middle Eastern/North African (Non-White) ___Pacific Islander/Native Hawaiian

   ___White ___Multiracial (*please specify* _____)

   ___Not listed (*please specify*___[1]_____)

   [For multiracial participants]

7) Multiracial people can identify in various ways, sometimes in relation to specific racial heritage, sometimes as "multiracial", or in various other ways. Which of the following best captures how you racially identify? Please choose one.[1]

___Mixed/both/multiple—you'll have a chance to tell us about your specific background in text.

___Multiracial generally—without reference to any particular race or races.

___Primarily Alaskan Native/Native American/Indigenous ___Primarily Asian

___Primarily Black ___Primarily Latinx/Hispanic (Non-White)

___Primarily Middle-Eastern/North African (Non-White)

___Primarily Pacific Islander/Native Hawaiian ____Primarily White

[1] These options are responsive to the multiple ways that racial identity may be experiences by multiracial people and to the historical marginalization experienced by multiracial people in research. They also enable the researcher to make decisions about whether or how to include multiracial people within racialized groupings.

___Primarily in a way not listed (*please specify)*:_____

7a) [*if the person chooses "Mixed/both/multiple" they should be asked "Given that you identify as Mixed/both/multiple, please tell us which of the following are part of your identity?" and the categories listed in question #6 should be offered.*]

8) What is your current relationship status? (*pick one*)

___Single ___Married ___Civil Union ___Cohabitating

___Separated ___Divorced ___Widowed ___Not listed (*please specify*):_____

Date of Beginning of Relationship (date you began dating your partner)

_____/_____/_____
(month) (day) (year)

9) Do you have a background in mindfulness? Yes No:

10) Do you practice meditating or yoga? Yes No

IF YES to Question 9 or 10, how often? (circle one)

1	**2**	**3**	**4**	**5**
Never/Rarely	Once every few months	A few times a month	A few times a week	Daily

Appendix B: Dyadic Adjustment Scale (DAS)

DYADIC ADJUSTMENT SCALE

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	Always Agree	Almost Always Agree	Occa-sionally Disagree	Fre-quently Disagree	Almost Always Disagree	Always Disagree
1. Handling family finances	O	O	O_	O	O	O
2. Matters of recreation	O	O	O_	O	O	O
3. Religious matters	O	O	O	O	O	O
4. Demonstrations of affection	O	O	O	O	O	O
5. Friends	O	O	O	O	O	O
6. Sex relations	O	O	O	O	O	O
7. Conventionality (correct or proper behavior)	O	O	O	O	O	O
8. Philosophy of life	O	O	O	O	O	O
9. Ways of dealing with parents or in-laws	O	O	O	O	O	O
10. Aims, goals, and things believed important	O	O	O	O	O	O
11. Amount of time spent together	O	O	O	O	O	O
12. Making major decisions	O	O	O	O	O	O
13. Household tasks	O	O	O	O	O	O
14. Leisure time interests and activities	O	O	O	O	O	O
15. Career decisions	O	O	O	O	O	O

	All the time	Most of the time	More often than not	Occa-sionally	Rarely	Never
16. How often do you discuss or have you considered divorce, separation, or terminating your relationship?	O	O	O	O	O	O
17. How often do you or your mate leave the house after a fight?	O	O	O	O	O	O
18. In general, how often do you think that things between you and your partner are going well?	O	O	O	O	O	O
19. Do you confide in your mate?	O	O	O	O	O	O
20. Do you ever regret that you married? (*or lived together*)	O	O	O	O	O	O
21. How often do you and your partner quarrel?	O	O	O	O	O	O
22. How often do you and your mate "get on each other's nerves?"	O	O	O	O	O	O

	Every Day	Almost Every Day	Occa-sionally	Rarely	Never
23. Do you kiss your mate?	O	O	O	O	O

	All of them	Most of them	Some of them	Very few of them	None of them
24. Do you and your mate engage in outside interests together?	O	O	O	O	O

How often would you say the following events occur between you and your mate?

	Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
25. Have a stimulating exchange of ideas	O	O	O	O	O	O
26. Laugh together	O	O	O	O	O	O
27. Calmly discuss something	O	O	O	O	O	O
28. Work together on a project	O	O	O	O	O	O

These are some things about which couples sometimes agree and sometime disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (Check yes or no)

	Yes	No	
29.	O	O	Being too tired for sex.
30.	O	O	Not showing love.

31. The circles on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please fill in the circle which best describes the degree of happiness, all things considered, of your relationship.

O	O	O	O	O	O	O
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

32. Which of the following statements best describes how you feel about the future of your relationship?

O I want desperately for my relationship to succeed, and *would go to almost any length* to see that it does.

O I want very much for my relationship to succeed, and *will do all I can* to see that it does.

O I want very much for my relationship to succeed, and *will do my fair share* to see that it does.

O It would be nice if my relationship succeeded, but *I can't do much more than I am doing now* to help it succeed.

O It would be nice if it succeeded, but I *refuse to do any more than I am doing now* to keep the relationship going.

O My relationship can never succeed, and *there is no more that I can do* to keep the relationship going.

Appendix C: Center for Epidemiologic Studies Depression Scale (CES-D)

Center for Epidemiologic Studies Depression Scale (CES-D)

Date: _____

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you've felt this way during the **past week**. Respond to all items.

Place a check mark (✓) in the appropriate column. **During the past week...**	**Rarely or none of the time (less than 1 day)**	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of time (3-4 days)**	**All of the time (5-7 days)**
1. I was bothered by things that usually don't bother me.				
2. I did not feel like eating; my appetite was poor.				
3. I felt that I could not shake off the blues even with help from my family.				
4. I felt that I was just as good as other people.				
5. I had trouble keeping my mind on what I was doing.				
6. I felt depressed.				
7. I felt that everything I did was an effort.				
8. I felt hopeful about the future.				
9. I thought my life had been a failure.				
10. I felt fearful.				
11. My sleep was restless.				
12. I was happy.				
13. I talked less than usual.				
14. I felt lonely.				
15. People were unfriendly.				
16. I enjoyed life.				
17. I had crying spells.				
18. I felt sad.				
19. I felt that people disliked me.				
20. I could not "get going."				

Source: Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*: 385-401.

Appendix D: Generalized Anxiety Disorder 7-item Scale (GAD-7)

Generalized Anxiety Disorder 7-item (GAD-7) scale

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all sure	Several days	Over half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it's hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3
Add the score for each column	+	+	+	
Total Score *(add your column scores)* =				

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

Not difficult at all _____
Somewhat difficult _____
Very difficult _____
Extremely difficult _____

Source: Spitzer RL, Kroenke K, Williams JBW, Lowe B. A brief measure for assessing generalized anxiety disorder. *Arch Inern Med.* 2006;166:1092-1097.

Appendix E: PCL-5

PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle the one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	**Not at all**	**A little bit**	**Moderately**	**Quite a bit**	**Extremely**
Repeated, disturbing, and unwanted memories of the stressful experience	0	1	2	3	4
Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
Feeling jumpy or easily startled?	0	1	2	3	4

Appendix F: Life Events Checklist (LEC-5)

LEC-5

Instructions: Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check one or more of the boxes to the right to indicate that: (a) it happened to you personally; (b) you witnessed it happen to someone else; (c) you learned about it happening to a close family member or close friend; (d) you were exposed to it as part of your job (for example, paramedic, police, military, or other first responder); (e) you're not sure if it fits; or (f) it doesn't apply to you.

Be sure to consider your *entire life* (growing up as well as adulthood) as you go through the list of events.

Event	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)						
2. Fire or explosion						
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)						
4. Serious accident at work, home, or during recreational activity						
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)						
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)						
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)						

8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)						
9. Other unwanted or uncomfortable sexual experience						
10. Combat or exposure to a war-zone (in the military or as a civilian)						
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)						
12. Life-threatening illness or injury						
13. Severe human suffering						
14. Sudden violent death (for example, homicide, suicide)						
15. Sudden accidental death						
16. Serious injury, harm, or death you caused to someone else						
17. Any other very stressful event or experience						

Appendix G: Five-Factor Mindfulness Questionnaire (FFMQ)

FFMQ

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

1	2	3	4	5
never or rarely true	rarely true	sometimes true	often true	very often or always true

_____1. When I'm walking, I deliberately notice the sensations of my body moving.

_____2. I'm good at finding words to describe my feelings.

_____3. I criticize myself for having irrational or inappropriate emotions.

_____4. I perceive my feelings and emotions without having to react to them.

_____5. When I do things, my mind wanders off and I'm easily distracted.

_____6. When I take a shower or bath, I stay alert to the sensations of water on my body.

_____7. I can easily put my beliefs, opinions, and expectations into words.

_____8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.

_____9. I watch my feelings without getting lost in them.

_____10. I tell myself I shouldn't be feeling the way I'm feeling.

_____11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.

_____12. It's hard for me to find the words to describe what I'm thinking.

_____13. I am easily distracted.

_____14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.

_____15. I pay attention to sensations, such as the wind in my hair or sun on my face.

_____16. I have trouble thinking of the right words to express how I feel about things

_____17. I make judgments about whether my thoughts are good or bad.

_____18. I find it difficult to stay focused on what's happening in the present.

_____19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.

_____20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.

_____21. In difficult situations, I can pause without immediately reacting.

_____22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.

_____23. It seems I am "running on automatic" without much awareness of what I'm doing.

_____24. When I have distressing thoughts or images, I feel calm soon after.

_____25. I tell myself that I shouldn't be thinking the way I'm thinking.

_____26. I notice the smells and aromas of things.

_____27. Even when I'm feeling terribly upset, I can find a way to put it into words.

_____28. I rush through activities without being really attentive to them.

_____29. When I have distressing thoughts or images I am able just to notice them without reacting.

_____30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.

_____31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.

_____32. My natural tendency is to put my experiences into words.

_____33. When I have distressing thoughts or images, I just notice them and let them go.

_____34. I do jobs or tasks automatically without being aware of what I'm doing.

_____35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.

_____36. I pay attention to how my emotions affect my thoughts and behavior.

_____37. I can usually describe how I feel at the moment in considerable detail.

_____38. I find myself doing things without paying attention.

_____39. I disapprove of myself when I have irrational ideas.

Appendix H: Interpersonal Reactivity Index (IRI)

INTERPERSONAL REACTIVITY INDEX

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE:

A	B	C	D	E
Does not describe me well at all		Describes me	very well	

1. I often have tender, concerned feelings for people less fortunate than me. (EC)

2. I sometimes find it difficult to see things from the "other guy's" point of view. (PT) (-)

3. Sometimes I don't feel very sorry for other people when they are having problems. (EC) (-)

4. I try to look at everybody's side of a disagreement before I make a decision. (PT)

5. When I see someone being taken advantage of, I feel kind of protective towards them. (EC)

6. I sometimes try to understand my friends better by imagining how things look from their perspective. (PT)

7. Other people's misfortunes do not usually disturb me a great deal. (EC) (-)

8. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (PT) (-)

9. When I see someone being treated unfairly, I sometimes don't feel very much pity for

them. (EC) (-)

10. I am often quite touched by things that I see happen. (EC)

11. I believe that there are two sides to every question and try to look at them both. (PT)

12. I would describe myself as a pretty soft-hearted person. (EC)

13. When I'm upset at someone, I usually try to "put myself in his shoes" for a while. (PT)

14. Before criticizing somebody, I try to imagine how I would feel if I were in their place. (PT)

Appendix I: Brief Mindfulness Questionnaire (BMQ)

Brief Mindfulness Questionnaire:

1) How often did you practice mindfulness over the 2-week period between study halves? (choose one)

1	Not at all
2	Once/twice
3	A few days
4	Every other day
5	Every day

2) If you practiced mindfulness during the 2-week period, how helpful did you find it in helping to reduce stress/anxiety/etc.?

1	Not at all
2	Once/twice
3	A few days
4	Every other day
5	Every day

3) Did your participation in this study impact your idea about what meditation/mindfulness is?

1	It did not impact my idea at all
2	It it impacted my idea a little bit
3	It impacted my idea a decent amount
4	It impacted my idea very much

4) Do you plan to continue practicing meditation/mindfulness in the future?

1	Not at all
2	Once/twice a week
3	A few days a week
4	Every other day

5	Every day

Appendix J: Consent Forms

GENERAL PARTICIPATION
CONSENT FORM

MINDFULLY MANAGING LIFE EXPERIENCES TOGETHER STUDY

The psychology faculty considers participation in experimental research by subjects to be an educational experience for the students as well as a most important service to the research of the University. This research project has been approved by the University of Michigan-Dearborn Institutional Review Board (IRB Dearborn). Participation is voluntary, if you choose **not** to participate as a research subject you may participate in another research related activity at no expense to your academic record or standing. The purpose of today's experiment is to better understand how mindfulness impacts well-being for an individual and his/her romantic relationships in the context of stressful life events.

Description of Subject Involvement:
The procedure in today's study (part one) involves filling out questionnaires that will ask you about your current relationship, personality traits related to mindfulness, as well as some symptoms of general psychological distress. Following this, you will be provided psychoeducation on mindfulness and will be asked to complete two mindfulness meditations: one individually and one with your romantic partner. Today you will need to create an eight-digit unique identifier which will contain the last 4 digits of yours and your partner's phone numbers. This number will be requested at Time 2 of this study to link yours and your partner's data.

The risks involved in participation in this study include becoming emotionally distressed which could be caused by current relationship distress and participating with your partner, reporting on psychological distress symptoms, and disclosure of experiencing a potentially traumatic event (i.e. sexual assault, natural disaster, etc.). There is also the risk of your partner seeing your responses to some sensitive questions on these measures. The researchers have taken steps to minimize risks in this study and will provide you with resources for follow-up care if necessary.

The benefits of participation in this study include a chance at gaining personal insight into your own well-being, your relationship, or how psychological research is conducted. In addition, you are being provided with several mindfulness meditations in which you could incorporate into everyday life. As thanks for your time, you will be entered into a raffle for a $50 VISA gift card, with later opportunities to be entered for additional prizes during part 2 of this study.

The researchers plan to publish or present the results of this study, but will not include any information that would identify you or your partner individually. There are some reasons why people other than the researchers may need to see information you provided as part of the study.

This includes organizations responsible for making sure the research is done safely and properly, including the University of Michigan, government offices.

Contact Information:
If you have questions about the study you may contact the PI, Devon Kardel (dkardel@umich.edu), or their faculty advisor (Dr. Michelle Leonard, PhD, LP, mtleon@umich.edu).
If you have questions regarding your rights as a research participant, or wish to obtain information, ask questions, or discuss concerns with someone other than the researcher(s), you may contact the Dearborn IRB Administrator in the Office of Research and Sponsored Programs, 2066 IAVS, University of Michigan-Dearborn, Evergreen Rd., Dearborn, MI 48128-2406, (313) 593-5468; the Dearborn IRB Application Specialist at (734) 763-5084, or email Dearborn-IRB@umich.edu.

Again, it is not expected that participation will require more than 90 minutes of your time. The purpose and procedure as well as the benefits and risks of the study have been explained to you and the results will be made available to you upon your request. By signing this document, you are agreeing to be in the study. You will be given a copy of this document for your records and one copy will be kept with the study records. Be sure that questions you have about the study have been answered and that you understand what you are being asked to do. You may contact the researcher if you think of a question later.

I agree to participate in the study.

Signature_____

Name: _____

Address: _____

Enrolled in: Psychology _____

Psychology Instructor_____

To be filled by experimenter:

Experiment: _____

Date: _____

Experimenter: _____

GENERAL PARTICIPATION
CONSENT FORM

MINDFULLY MANAGING LIFE EXPERIENCES TOGETHER STUDY

This research project has been approved by the University of Michigan-Dearborn Institutional Review Board (IRB Dearborn). Participation is voluntary, if you choose **not** to participate as a research subject you may participate in another research related activity at no expense to you or your standing. The purpose of today's experiment is to follow up on the time 1 portion of the study that seeks to better understand how mindfulness impacts well-being for an individual and his/her romantic relationships in the context of stressful life events.

Description of Subject Involvement:
The procedure in today's study (part two) involves filling out questionnaires that will ask you about your current relationship, personality traits related to mindfulness, as well as some symptoms of general psychological distress. We ask that you complete them **independently, without your partner**. You will need to provide your unique eight-digit unique identifier that generated when completing the time one portion of this study (the identifier contains the last 4 digits of yours and your partner's phone numbers).

The risks involved in participation in this study include becoming emotionally distressed which could be caused by current relationship distress and participating with your partner, reporting on psychological distress symptoms, and disclosure of experiencing a potentially traumatic event (i.e. sexual assault, natural disaster, etc.). There is also the risk of your partner seeing your responses to some sensitive questions on these measures. The researchers have taken steps to minimize risks in this study and will provide you with resources for follow-up care if necessary.

In exchange for participation, you will be entered into a raffle for a $50 VISA gift card. Following completion of this Time 2 portion your name will be entered into a raffle on a slip of paper, and a drawing will be conducted at the University of Michigan-Dearborn following the appropriate number of entries. The winners of all prizes will be notified immediately by email and provided with information on where to pick up that prize.

The researchers plan to publish or present the results of this study, but will not include any information that would identify you or your partner individually. There are some reasons why people other than the researchers may need to see information you provided as part of the study. This includes organizations responsible for making sure the research is done safely and properly, including the University of Michigan, government offices.

Contact Information:
If you have questions about the study you may contact the PI, Devon Kardel (dkardel@umich.edu), or their faculty advisor (Dr. Michelle Leonard, PhD, LP, mtleon@umich.edu).
If you have questions regarding your rights as a research participant, or wish to obtain information, ask questions, or discuss concerns with someone other than the researcher(s), you may contact the Dearborn IRB Administrator in the Office of Research and Sponsored Programs,

2066 IAVS, University of Michigan-Dearborn, Evergreen Rd., Dearborn, MI 48128-2406, (313) 593-5468; the Dearborn IRB Application Specialist at (734) 763-5084, or email Dearborn-IRB@umich.edu.

It is not expected that today's participation will require more than 1 hour of your time. The purpose and procedure as well as the benefits and risks of the study have been explained to you and the results will be made available to you upon your request. By electronically signing this document, you are agreeing to be in the study. If you want a copy of this document please email either Devon Kardel or Dr. Michelle Leonard. In addition, if you have questions about the study or what you are being asked to do, you may contact the researchers directly.

I agree to participate in the study.

Signature_____

Name: _____

Address: _____

Enrolled in: Psychology _____

Psychology Instructor_____

To be filled by experimenter:

Experiment: _____

Date: _____

Experimenter: _____

EXPERIMENTAL SUBJECT POOL PARTICIPATION
CONSENT FORM

MINDFULLY MANAGING LIFE EXPERIENCES TOGETHER STUDY

The psychology faculty considers participation in experimental research by subjects to be an educational experience for the students as well as a most important service to the research of the University. This research project has been approved by the University of Michigan-Dearborn Institutional Review Board (IRB Dearborn). Participation is voluntary, if you choose **not** to participate as a research subject you may participate in another research related activity at no expense to your academic record or standing. The purpose of today's experiment is to better understand how mindfulness impacts well-being for an individual and his/her romantic relationships in the context of stressful life events.

Psychology Subject Pool Subjects
As a part of your participation in an Introductory Psychology course at the University of Michigan- Dearborn, you agree to serve as a research subject for this experiment. You have had the opportunity to read the "Subject Pool Participation" description information that was provided when you registered on the SONA System website as a research participant. This study has two parts. Today's procedure is part one and you will receive 1.5 subject pool credits for your participation in today's study. This study will take approximately 90 minutes to complete. You may withdraw at any time from today's study without penalty or loss of research participation credit.

Upper Level Psychology Course Research Subjects
As part of your participation in an upper level psychology course at the University of Michigan-Dearborn you agree to serve as a research subject for this experiment. You have had the opportunity to read the "Subject Pool Participation" description information that was provided when you registered on the SONA System website as a research participant This study is two-part. Today's procedure is part one and you will receive class extra credit for your participation in today's study. Today's portion of the study will take approximately 60 minutes to complete. You may withdraw at any time from today's study without penalty or loss of extra credit.

Description of Subject Involvement:
The procedure in today's study (part one) involves filling out questionnaires that will ask you about your current relationship, personality traits related to mindfulness, as well as some symptoms of general psychological distress. Following this, you will be provided psychoeducation on mindfulness and will be asked to complete two mindfulness meditations: one individually and one with your romantic partner. As part of today's study you will be asked to create an eight-digit unique identifier which will contain the last 4 digits of yours and your partner's phone numbers. This number will be requested at Time 2 of this study to link yours and your partner's data.

The risks involved in participation in this study include becoming emotionally distressed which could be caused by current relationship distress and participating with your partner, reporting on psychological distress symptoms, and disclosure of experiencing a potentially traumatic event (i.e. sexual assault, natural disaster, etc.). There is also the risk of your partner seeing your

responses to some sensitive questions on these measures. The researchers have taken steps to minimize risks in this study and will provide you with resources for follow-up care if necessary. The benefits of participation in this study include being provided with several mindfulness meditations in which you could incorporate into everyday life.

The researchers plan to publish or present the results of this study, but will not include any information that would identify you or your partner individually. There are some reasons why people other than the researchers may need to see information you provided as part of the study. This includes organizations responsible for making sure the research is done safely and properly, including the University of Michigan, government offices.

Contact Information:
If you have questions about the study you may contact the PI, Devon Kardel (dkardel@umich.edu), or their faculty advisor (Dr. Michelle Leonard, PhD, LP, mtleon@umich.edu).
If you have questions regarding your rights as a research participant, or wish to obtain information, ask questions, or discuss concerns with someone other than the researcher(s), you may contact the Dearborn IRB Administrator in the Office of Research and Sponsored Programs, 2066 IAVS, University of Michigan-Dearborn, Evergreen Rd., Dearborn, MI 48128-2406, (313) 593-5468; the Dearborn IRB Application Specialist at (734) 763-5084, or email Dearborn-IRB@umich.edu.

Again, it is not expected that participation will require more than 90 minutes of your time. The purpose and procedure as well as the benefits and risks of the study have been explained to you and the results will be made available to you upon your request. By signing this document, you are agreeing to be in the study. You will be given a copy of this document for your records and one copy will be kept with the study records. Be sure that questions you have about the study have been answered and that you understand what you are being asked to do. You may contact the researcher if you think of a question later.

I agree to participate in the study.

Signature_____

Name: _____

Address: _____

Enrolled in: Psychology _____

Psychology Instructor_____

To be filled by experimenter:

Experiment: _____

Date: _____

Experimenter: _____

EXPERIMENTAL SUBJECT POOL PARTICIPATION
CONSENT FORM

MINDFULLY MANAGING LIFE EXPERIENCES TOGETHER STUDY

The psychology faculty considers participation in experimental research by subjects to be an educational experience for the students as well as a most important service to the research of the University. This research project has been approved by the University of Michigan-Dearborn Institutional Review Board (IRB Dearborn). Participation is voluntary, if you choose **not** to participate as a research subject you may participate in another research related activity at no expense to your academic record or standing. The purpose of today's experiment is to follow up on the time 1 portion of the study that seeks to better understand how mindfulness impacts well-being for an individual and his/her romantic relationships in the context of stressful life events.

Psychology Subject Pool Subjects
As a part of your participation in an Introductory Psychology course at the University of Michigan- Dearborn, you agree to serve as a research subject for this experiment. You have had the opportunity to read the "Subject Pool Participation" description information that was provided when you registered on the SONA System website as a research participant. This is the second part of a two-part study. You should have already completed part one, and today's procedure is part two. This study will take approximately 45 minutes and you will receive 1 subject pool credit for your participation in today's study. You may withdraw at any time from today's study without penalty or loss of research participation credit.

Upper Level Psychology Course Research Subjects
As part of your participation in an upper level psychology course at the University of Michigan-Dearborn you agree to serve as a research subject for this experiment. You have had the opportunity to read the "Subject Pool Participation" description information that was provided when you registered on the SONA System website as a research participant This is the second part of a two-part study. You should have already completed part one, and today's procedure is part two. Today's procedure is part one and you will receive class extra credit for your participation in today's study. Today's portion of the study will take approximately 45 minutes to complete. You may withdraw at any time from today's study without penalty or loss of research participation credit.

Description of Subject Involvement:
The procedure in today's study (part two) involves filling out questionnaires that will ask you about your current relationship, personality traits related to mindfulness, as well as some symptoms of general psychological distress. We ask that you complete them **independently, without your partner**. You will need to provide your unique eight-digit unique identifier that generated when completing the time one portion of this study (the identifier contains the last 4 digits of yours and your partner's phone numbers).

The risks involved in participation in this study include becoming emotionally distressed which could be caused by current relationship distress and participating with your partner, reporting on psychological distress symptoms, and disclosure of experiencing a potentially traumatic event (i.e. sexual assault, natural disaster, etc.). There is also the risk of your partner seeing your

responses to some sensitive questions on these measures. The researchers have taken steps to minimize risks in this study and will provide you with resources for follow-up care if necessary.

The researchers plan to publish or present the results of this study, but will not include any information that would identify you or your partner individually. There are some reasons why people other than the researchers may need to see information you provided as part of the study. This includes organizations responsible for making sure the research is done safely and properly, including the University of Michigan, government offices.

Contact Information:
If you have questions about the study you may contact the PI, Devon Kardel (dkardel@umich.edu), or their faculty advisor (Dr. Michelle Leonard, PhD, LP, mtleon@umich.edu).
If you have questions regarding your rights as a research participant, or wish to obtain information, ask questions, or discuss concerns with someone other than the researcher(s), you may contact the Dearborn IRB Administrator in the Office of Research and Sponsored Programs, 2066 IAVS, University of Michigan-Dearborn, Evergreen Rd., Dearborn, MI 48128-2406, (313) 593-5468; the Dearborn IRB Application Specialist at (734) 763-5084, or email Dearborn-IRB@umich.edu.

Again, it is not expected that participation will require more than 45 minutes of your time. The purpose and procedure as well as the benefits and risks of the study have been explained to you and the results will be made available to you upon your request. By electronically signing this document, you are agreeing to be in the study. If you want a copy of this document please email either Devon Kardel or Dr. Michelle Leonard. In addition, if you have questions about the study or what you are being asked to do, you may contact the researchers directly.

I agree to participate in the study.

Signature_____

Name: _____

Address: _____

Enrolled in: Psychology _____

Psychology Instructor_____

To be filled by experimenter:

Experiment: _____

Date: _____

Experimenter: _____

Appendix K: Recruitment Materials

MINDFULLY MANAGING LIFE EXPERIENCES TOGETHER

Seeking participants who are:

- -Over 18 years old
- -In a romantic relationship for a minimum of 6 months
- -Can read and write in English

UM-Dearborn students can earn SONA credit or extra credit, and romantic partners can earn $50 VISA giftcards.

Stressful life events are common and may lead to psychological distress for an individual. Mindfulness meditation has been shown to reduce general psychological distress symptoms, and can be beneficial in stress reduction. Participants and their romantic partners will learn about mindfulness and engage in mindfulness meditation. Participants and their partners will also complete measures on psychological distress, relationship dynamics, and life experiences.

If this study is of interest to you, please contact:
DEVON KARDEL at dkardel@umich.edu or view the study on SONA
to schedule an appointment.

Hello, my name is Devon Kardel and I am a second year graduate student in the clinical health psychology program here at UM-Dearborn. I am currently recruiting participants for my thesis study about how mindfulness meditation can impact couples wellbeing. Participants must be over the age of 18, read and write in English, and be in a romantic relationship for a minimum of 6 months. UM-Dearborn students can earn SONA credit or extra credit, and your partner can be entered into a lottery for one of two VISA giftcards. So students can earn extra credit, and your partner has two chances to win a VISA giftcard. If your partner is also a psychology student here, they can earn SONA credit or extra credit as well. If you are interested in participating please email me at dkardel@umich.edu if you have questions, or find it under Mindfully Managing Life Experiences Together on SONA.

Appendix L: Psychoeducation Script

Intro to Measures Script

Before we get started with the psychoeducation and meditations, there are a few measures that need to completed, though they shouldn't take long. The first will assess some basic demographic information that will remain confidential and will not be used to identify you specifically, in any way, as will your responses on all of these forms. They will ask you questions about personality traits linked to mindfulness, your ability to interact with others, your current relationship, and general psychological distress symptoms related to depression, anxiety, and PTSD. Please answer each question honestly and to the best of your ability, however feel free to skip any item that you do not feel comfortable answering. Please complete these on opposite ends of the table facing away from each other so that you do not see each other's forms. Do you have any questions?

Psychoeducation Script

As you know, this study involves mindfulness. I want to make sure that we are all on the same page I want to start this by talking a little bit about Mindfulness. You may have heard of mindfulness or even have some ideas on what mindfulness is, but put simply, mindfulness is simply being present, with yourself in the moment. Many studies in the field of medicine and psychology have shown that mindfulness can be useful for stress reduction and can be used to help improve things like concentration, sleep, or even chronic health issues.

[include like book about everyday mindfulness]

On the front of your pamphlet is a quote that embodies what mindfulness is. The quote reads, "Feelings, whether compassion or irritation should be welcomed, recognized, and treated on an absolutely equal basis because both are ourselves." At the very root of mindfulness is non-judgmental acceptance of ourselves, our thoughts, our feelings, and our sensations.

We can get more into that as we open our pamphlets and see that there are three pre-requisites to a successful mindfulness practice (intention, attention, and attitude). The first, intention, is setting a sort of goal, of what you are hoping to gain from practicing mindfulness. Are you looking for stress relief? Emotional balance? Or a better understanding of yourself? Second is attention, being more aware of your body and environment. It involves taking the time to identify emotions and sensations. It involves slowing down and focusing on your experiences one at a time. For example, you might notice your body is very tense. You might realize that tension is because of anxiety. You might then realize your teeth are clenched, the way you're sitting is

actually pretty uncomfortable, and thinking about that exam later is making you feel very anxious, that you might wish now instead of binging on Netflix last night you had studied a little bit more. Last is attitude, which involves one of the eight attitudes of mindfulness. You can think about these attitudes as different states of mind or things to aspire toward. Let's go over them a bit more in depth now so that you have a solid understanding of each.

First is the attitude of curiosity. This is characterized an active reflection in how you feel at a given time in your life experience. Curiosity involves exploring your thoughts and emotions as well as what sensations your body is experiencing in a given moment. Being curious means looking introspectively (within yourself) and exploring the inner workings of your mind and body. Once we become better at identifying our own emotional processes, we can become better at identifying the same emotions at other times in ourselves and even and others. When we are more familiar with these experiences we can be better equipped to constructively handle them.

The attitude of acceptance means accepting our thoughts, feelings, and experiences for what they are. We do not attempt to judge or control these aspects of our experience. Those emotions, thoughts, and experiences are neither good or bad, but just a part of us. We are capable of being good, kind people while experiencing what we may consider rude or mean thoughts, and once we accept that aspect of ourselves, we are able to move on to the next moment in our experience being authentic. Once we accept that we can be good people while experiencing negative thoughts and emotions, we can accept that other people can as well.

The attitude of kindness reflects bringing caring and compassion into our experience, both for others and for ourselves. Kindness embodies the idea that people are not perfect, including ourselves. When you are more aware of your body and mind, you can recognize when you're getting stressed out or frustrated, and can recognize it in others, so you are less likely to react to someone with anger or hostility. For example, if someone cuts you off in traffic, rather than angrily thinking about what a rude, horrible person they are you could act compassionately consider that maybe they are running late to an important meeting, they are exhausted and are a great driver but accidentally made one mistake.

The attitude of letting go is about not getting caught up worrying about the future, analyzing the past, and worrying what other people are thinking. This attitude focuses on learning how to tune out all of that and live in the now, the present moment. When we experience a thought, emotion, or sensation, we identify it, we understand it, and then we move on without getting clouded by our judgment or worry of others' judgment. In letting go, we know the past is the past and that we cannot control the future, so it is best to understand events in the context of the situation at present.

Non-judging involves observing your experience with an open-mind rather than trying to classify it or make judgments about our experience. Your experience is just that, your experience; it is not good or bad, right or wrong, it just is. Any sensation, thought, or emotion is a part of our experience, part of us, and only sometimes in our control. To give you an example think about pain, if you feel pain, we tend to think of pain as bad or scary or we fear being hurt but when you really think about it, pain is simply a sensation of our body letting us know something needs tending to.

Non-striving means experiencing your life as is and not trying to create a goal and working to attain a different experience. This means that you work to just lets things happen as they do, realizing many aspects of life are out of your control. Things happen in their own time and people have a tendency to be impatient with themselves. We often find ourselves agitated waiting for things to happen, or feeling as if we need to always have something to do or strive for, but we do not have to fill each moment with an activity. Things will happen in their own time. In today's world we can often get caught up believing that we need to graduate high school, go to college, study abroad, get a career right out of school, move out of your parent's house, get married, start a family…but each person's timeline is different. Each person has a unique experience and things will unfold as they are meant to for each person, so comparing your goals or timeline to someone else's may not match the timeline you are intended to follow.

The attitude of trust is about having confidence in yourself and your abilities to engage in the mindfulness process. Have a sense of self-assurance that you will be guided through your experience, and trust yourself and your feelings. Trust your own intuition and authority even though you make mistakes. If you trust your own self, it will be easier to trust others.

The final attitude of a beginner's mind is about recognizing that everyone must start somewhere. The quote listed on the pamphlet states "in the beginner's mind there are many possibilities, in the expert's mind there are few." We often let our thinking and beliefs and what we "know" prevent us from seeing things at face value. With a beginner's mind we are more receptive to new possibilities rather than get stuck in what we think that we know or what we expect from others and our situation.

On the last panel are some ways to practice mindfulness in everyday life. Concentrations and mantras involve meditation, as you relax the mind, repeat soothing words or phrases to aid in concentration. Do a body scan, which takes anywhere from 15-30 minutes and is usually done laying down. Close your eyes, breath deeply, and slowly scan your body from head to toe, noticing any thoughts, sensations, tension, and relaxation in your body. By the end your whole body should be relaxed. Mindful communication is being more aware of the way you present yourself, in body language, tone of voice, any facial displays, the cadence or rhythm of your voice. And once you are more attentive to your own you can be more attentive to others and have better, more effective conversations. If you find yourself thinking more of what to say next instead of listening or your mind wandering, focus your attention back on the conversation. In mindful walking, be aware of your body and your surroundings, your breath, your feet hitting the ground, your gait or how fast or slow you walk, how you're walking, where you are, what you hear and smell and see. Be present in the moment. Be accepting of others. This goes along with the kindness and compassion attitude of mindfulness, realize that people make mistakes. Accept apologies and forgive others, but also accept your limitations and forgive yourself. Lastly, live in the moment. Stop worrying about the past and future and be present in the now.

This list is a bit of a whirlwind introduction to several mindfulness practices, but you can keep this pamphlet, so that you can try to practice mindfulness outside of this session, as it helps your overall well-being. The back panel of the pamphlet also includes some mental health resources in the event you or a friend may ever need them.

Are there any questions?

If not, we're going to move on to the meditation portion, so if everyone could get comfortable in their seats, we're going to do two short, guided mindfulness meditations. The first will be as individuals to relax and get into the mindset of meditation, do a little meditation practice, and the second will be completed with your partner.

End of Session Script:

Thank you for coming in and participating in this study. Throughout the next two weeks I encourage you to incorporate mindfulness into your life, and try to practice meditation or deep-breathing when you can feel yourself getting stressed. Remember to place one hand over your chest and one over your stomach and take a few diaphragmatic breaths. As you walk or eat, try to take the time to really be aware of your surroundings and the perceptions of all of your senses—what you can see, hear, taste, touch, and smell. Notice your thoughts, and recognize them as part of your present experience. Try to be curious and explore your thoughts and emotions, and try to be more aware of your partner's as well. Any questions?

Appendix M: Mindfulness Pamphlet

3 Aspects of Mindfulness

Intention

What are you hoping to gain from practicing mindfulness? Is it stress relief? Emotional balance? Understanding yourself?

Attention

Attending more fully to your inner experiences and environment.

Attitude

Paying attention to one of the eight attitudes of mindfulness such as curisosity, acceptance, and kindness.

University of Michigan–Dearborn

Additional Resources:

UMD Counseling Services
2157 University Center
(313) 593-5430

National Suicide Prevention Lifeline
(800) 273-8255

SAMHSA Hotline for crisis counseling and mental health referrals
(877) 726-4727

Mindfulness

"Feelings, whether of compassion or irritation, should be welcomed, recognized, and treated on an absolutely equal basis because both are ourselves." -Hanh Nhat Tich, *The Miracle of Mindfulness*

8 ATTITUDES *of mindfulness*

1. Curiosity

How do you feel emotionally? What kind of thoughts run through our head? What does your body feel like at the moment?

2. Acceptance

Accept thought, feelings, sensations, and urges without attempting to control or judge them. Acceptance does not mean tolerance, and you do not have to like a thought to accept it.

3. Kindness

Bring caring and compassion to your experience.

4. Letting Go

Do not hold on to only pleasant experiences and ignore unplesant ones. Engage in what you are doing rather than getting lost in your thoughts. Live in the present moment.

5. Non-Judging

Observe what it is you are experiencing rather than try to classify or make sense of it.

6. Non-striving

Experience whatever you experience rather than creating a goal and trying to attain a different experience.

7. Trust

Yourself! Have confidence in mindfulness and yourself that you will be guided through your experience.

8. Beginnger's Mind

Everyone must begin somewhere. "In the beginnger's mind there are many possibilities, in the expert's mind there are few."

Mind Full, or Mindful?

Ways to Practice *MINDFULNESS* in Everyday Life

Concentrations/Mantras

Repeat soothing phrases or sounds to aid in concentration in meditation.

Body Scan Meditation

Take 15-20 minutes to scan your body. Are you anxious? In pain? Is your heart racing? How are you feelings? Be in tune to every part of your body from head to toe, in a mindful way. This is usually practiced laying down.

Mindful Communication

When speaking or listening, be aware of your body language, tone of voice, and cadence of speech as well as the other person's. When your mind wanders off, guide your attention back to the conversation.

Mindful Walking

Next time you're walking outside, notice the sense of your feet on the ground, your gait, and scents and sounds in the air. Be present in the moment.

Be Accepting of Others

Realize that people (including yourself) are human and make mistakes. Accept apologies and forgive others.

Live in the Moment

Take a break from worring about the future and ruminating on the past. Put your attention on the here and now.

Appendix N: Meditation Scripts

Guided Meditation Scripts

Individual meditation:

This first meditation is for you to complete on your own (not something that you and your partner will do together). The goal is for you to become more aware of your sense of self and ongoing inner experiences you have. I would like you to get comfortable in your chair, place your hands on your legs with palms up. Take a deep breath, and when you exhale, close your eyes. Take a few more deep breaths and rest there for a few moments.

With your eyes closed, notice that your ears tend to open. Take a few moments and listen to what you hear.

Listen to your breathing, and follow it as you slowly inhale and exhale. Focus on the air moving in and out, noticing the sensations and sounds of your breath. Allow yourself to just breathe and be.

In this busy world, we often struggle to keep track of all of our responsibilities, all of our obligations, and these things can clutter our minds, and leave us with less time to ourselves, and less time to care for ourselves. So take a series of ten deep breaths, breathing in deeply, and exhaling until every bit of air is released from your lungs. As you exhale, imagine all of those things cluttering your mind, all of those worries you have, flowing out of you with your breath. 1…2…3….4....5….6….7….8….9….10.

As you begin to be more aware of your breath, start to become aware of your inner thoughts and feelings. Simply observe each new perception as it arises and comes into your awareness for the next few minutes. Notice the you that continually senses, feels, and thinks. Let each new feeling or thought arise, observe it, then be aware of the next. Remember that each experience is neither good nor bad, but is just your perception in that moment. If you lose focus, for example if you find yourself thinking about your plans later, an upcoming test, or even judging your experiences, refocus and start again with your deep breaths, and allow yourself to breathe and be.

Now I would like you to return to your breathing, and spend the next few moments focusing on the rise and fall of your breath. When you are ready, open your eyes and return your attention to the room.

Couples meditation:

This meditation is for both of you. Please sit cross-legged in front of your partner and take a moment to get comfortable. Keep your back as straight as you can while still being comfortable.

Place your hands on your knees, with your palms touching your partners with opposite palms up. Take a deep breath and when you exhale, let your eyes close.

As you shift your attention from your breathing and let the breath breathe for you, take note of any inner experiences you have such as a sensations, thoughts, or emotions. Be aware of each of these and observe them as they come and go.

One moment you may be aware of the warmth of your partners hands, the next moment you may feel some anxiety, the next could be a feeling of peace or comfort, and the next an awareness of your partner's breath. There is no one right experience to have, you are simply taking note of various perceptions. You are in a quiet, safe, space in which to be aware of your body and mind, and be present with your experience. Time moves forward, and with each passing moment, a new awareness, a new experience arises.

Try to focus now on your heartbeat. Place a hand on your chest if you need help focusing on it. With each breath, be aware of your heartbeat. With your eyes closed, breath in deeply, and as you exhale, breath out with gratitude for your heartbeat and the energy it pulses with each beat.

Now envision someone special in your life, your partner. Focus your attention on that person and your feelings of fondness and gratitude for them. As you breathe in, imagine telling them that you know they are there and, as you breathe out, imagine thanking them for their support. Feel the warmth in your heart that you carry for that person.

Notice the strength of your breath. When you breathe in think about telling them that you are here for them, when you breathe out feel your heart open, to allow space for love, space for their love, and space for self-love.

Take your hand from your heart and reconnect it to your partners. Take a few deep breaths, and focus on the connection between you and your partner. Focus on the warmth, the support, the strength, the feeling of openness.

Take a few more deep breaths, in and out. And when you are ready, quietly, gently, open your eyes and come back to this room, back to your present experience, and your partner. Take a few moments to ground yourself.

Look at your partner. Take a few moments to really look at them. Don't worry about speaking to them, but just notice what is unique about them, the color of their eyes, the way their hair falls, the shape of their mouth, their beauty.

Free from distraction, and after this experience, if you have any thoughts or ideas you've had with this meditation, feel free to quietly share them with your partner now.

Appendix O: Debriefing Form

Debriefing Form
University of Michigan – Dearborn
POST PARTICIPATION INFORMATION

Thank you for your participation in the preceding study. The study team needs to include some important information regarding your decision to be in this study.

You now have the choice of either having your data included in the research study, or to be withdrawn from the research study. If you choose to withdraw from the research study, your data will be disposed of in your presence.

It is also requested that you not talk about your participation with other students or potential participants. As you can surely appreciate, if other participants know the full details of the study prior to participation, this may influence their response to components of this study and therefore invalidate the data. To ensure the success of the study, it is therefore requested that participants in this study do not tell anyone about the methodology or purpose of the study.

During this study you also disclosed a history of any potentially traumatic experiences as well as some potentially upsetting personal information. If any of the content of this session was particularly stressful to you, we have provided some resources for you below.

The research assistant will be very willing to discuss any concerns that you have about the study. If you have any continued concerns, you are welcome to contact Dr. Michelle Leonard or the University of Michigan – Dearborn IRB.

If you feel you need to speak with a professional concerning any uncomfortable feelings from your participation in this research, you may contact any of the agencies listed below.

UM-D Counseling and Support Services (UM-D students only)	313-593-5430
Henry Ford Medical Center- Fairlane for Students, Faculty, and Staff (UM-D Students only)	313-982-8495

Please feel free to contact either of these agencies, and once again thank you for your participation.