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Intimate Partner Violence (IPV) is defined as a pattern of abusive and controlling behaviors that an individual perpetuates physically, psychologically, emotionally, spiritually, economically, and/or sexually against his or her intimate partner (World Health Organization, 2013b). More than 1 in 3 women in the United States have experienced IPV at some point in their lifetime (The National Intimate Partner and Sexual Violence Survey: 2010 Summary Report, 2010). Further, more than a third of women who have been impacted by Intimate Partner Violence (IPV) develop PTSD (DeJonghe, Bogat, Levendosky, & Von Eye, 2008; Van der Kolk et al., 2014).

Despite the high incidence of PTSD in women impacted by IPV, there seems to be a gap addressing the needs of this clinical population due to the ambiguity on the efficacy of current treatment interventions for PTSD. Serious limitations such as high drop out rates and nonresponse rates persist in studies of even well-established and heavily researched interventions such as Cognitive Behavioral Therapy (CBT) and Eye Movement Desensitization and Reprocessing (EMDR), suggesting that these interventions may not be effective for all trauma survivors (Schottenbauer et al., 2008). In recent years, neuroscientists such as Porges (2001, 2003) have shed new light and understanding on trauma by suggesting that social behavior has a neurobiological basis. It may be that until traumatized individuals increase physiological awareness of their body, conventional trauma treatment approaches that are cognitively oriented may have limited effectiveness (Emerson, 2011; Scaer, 2005).

Trauma-sensitive yoga (TSY), a structured body-oriented yoga practice, is one of the novel approaches specifically designed to help trauma survivors recover from trauma. Although research on TSY is in its infancy, several scholars have found evidence for its efficacy as an intervention for significantly reducing participants' PTSD symptoms (Dick, Niles, Street, DiMartino, & Mitchell, 2014; Mitchell et al., 2014; Van der Kolk et al., 2014). While this is useful information, these researchers have not yet considered *how* TSY facilitates trauma recovery beyond what is reflected in PTSD scores. However, identifying nuances in individual recovery is central to informing more tailored interventions specific to survivors' diverse trauma recovery needs (Dutton, 2009). To fill this gap in the extant literature, the purpose of this study was to study adult female IPV survivors' perceptions of trauma recovery as facilitated by TSY. In particular, the researcher sought to develop an in-depth and unique contextual understanding on five women's trauma recovery experiences using a collective case study research design.

Findings from this study revealed individual and collective themes across cases that support the use of TSY to facilitate trauma recovery in multidimensional ways. Themes from the benefits of TSY on women's trauma recovery included (a) physiological benefits, (b) emotional benefits, (c) spiritual benefits, (d) cognitive benefits, (e) enhanced perception of self and others, (f) shift in perspective on time, (f) self-care, and (g) application of positive coping strategies. The findings indicate that TSY offers a versatile approach to meeting the diverse needs of women impacted by IPV-related trauma. Contrary to the proposition that TSY is suited for all complex trauma survivors,

the findings also suggest that TSY classes may be contraindicated for certain complex trauma survivors.

TRAUMA-SENSITIVE YOGA: A COLLECTIVE CASE STUDY OF THE
TRAUMA RECOVERY OF WOMEN IMPACTED BY
INTIMATE PARTNER VIOLENCE (IPV)

by

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APPROVAL PAGE

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CHAPTER I

INTRODUCTION

Trauma is defined as “an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual’s functioning and mental, physical, social, emotional, or spiritual well-being” (SAMHSA’s Trauma and Justice Strategic Initiative, 2014). Further, trauma is an intricately complex condition that has wide-ranging repercussions. Individuals impacted by trauma may experience dysregulated emotions, focus issues, impulse control, self-destructive behaviors, dissociation from themselves and others, and difficulty communicating and expressing themselves (Van der Kolk, 2006b). Additionally, traumatized individuals not only perceive a disconnection within themselves and their bodies, but also often experience a disconnection from other people and decreased self-worth (Van Der Kolk, 2014).

Scaer (2005) redefined trauma as a spectrum of adverse life events that happen to an individual, which may include events that are considered normal in one’s cultural context. More importantly, Scaer (2005) emphasized the importance of understanding the unique meaning that the individual has ascribed to the traumatic experience, based on her or his cumulative life experience.

According to the Institute of Medicine (2012), posttraumatic stress disorder (PTSD) is a unique psychiatric condition that is connected to a specific traumatic event.

In the Diagnostic and Statistical Manual of Mental Disorders – 5th edition (DSM-V; American Psychiatric Association, 2013), PTSD is defined as: (a) the exposure to actual or threatened death, serious injury, or sexual violence; (b) the presence of intrusion and recurring symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred; (c) persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred; (d) negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred; (e) marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred; (f) the duration of the disturbances in criteria b, c, d, and e lasts for more than a month; (g) the disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning; (h) the disturbance is not attributable to the physiological effects of a substance or another medical condition. Examples of traumatic events that can trigger PTSD include combat, abuse or victimization, and accidental or natural disasters (Basile et al., 2004; Harrison and Kinner, 1998; Hoge et al., 2004; Neria et al., 2007; Punamaki et al., 2010).

Further, gender is one of the risk factors associated with PTSD (Institute of Medicine, 2012). About 5 out of 10 women and 6 out of 10 men experience at least one traumatic event in their life (U.S. Department of Veterans Affairs, 2014). Of those who have experienced trauma, a smaller percentage of these individuals will continue to develop PTSD (U.S. Department of Veterans Affairs, 2014). Even though men are more likely to report experiencing a traumatic event in their life, women are more likely than

men to develop PTSD after experiencing trauma. Specifically, the probability of women experiencing PTSD is 10 percent, which is significantly higher than the probability of men experiencing PTSD (4 percent; Tolin and Foa, 2006; U.S. Department of Veterans Affairs, 2014). Furthermore, women carry PTSD symptoms four times as long as men (Breslau et al., 1998). That is, for reasons not yet clear, women are more likely than men to experience PTSD after a traumatic experience and are likely to experience PTSD symptoms longer than men diagnosed with PTSD.

Trauma type is another risk factor for PTSD (Institute of Medicine, 2012). Specifically, interpersonal trauma that occurs within the context of relationships is the most pernicious type of trauma to treat as it robs the survivor of power and control (Emerson, 2015). Taken together, these risk factors substantially predispose women who have experienced intimate partner violence to developing PTSD. Accordingly, it is important for researchers and counselors to focus on the population of women who have experienced intimate partner violence.

Intimate Partner Violence (IPV) and PTSD

Intimate Partner Violence (IPV) is operationalized as a pattern of assaultive and coercive behaviors in the physical, psychological, emotional, spiritual, economic, and sexual dimensions used by perpetrators of IPV against their intimate partners (World Health Organization, 2013b).

IPV is a highly prevalent social problem that impacts a large majority of women in the United States. More than 1 in 3 women in the United States have experienced rape, physical violence, and/or stalking by an intimate partner at some point in their lifetime

(The National Intimate Partner and Sexual Violence Survey: 2010 Summary Report, 2010). IPV poses an extensive range of mental and physical health risks and implications for women, including direct and immediate impact such as injury or death, longer-term harm such as disability, and indirect medical issues such as gastrointestinal problems (Plichta, 2004; Ting, 2010; World Health Organization, 2013b).

IPV is a highly extensive public, economic, and social health problem with high financial liabilities. The cost of IPV in the United States surpassed 8.3 billion dollars annually, and amounted to 1.2 billion dollars in lost lives, 460 million dollars for sexual assault, and 461 million dollars for stalking (Maz, Rice, Finkelstein, Bardwell, & Leadbetter, 2004). Additionally, IPV has major implications for women's employment, depending on how recently the victimization occurred (Reeves & O'Leary Kelly, 2007). Adams, Tolman, Bybe, Sullivan, and Kennedy (2012) found that IPV negatively impacted women's job stability by significantly reducing the amount of time women worked at any given job up to three years after the IPV relationship ended. Relatedly, women who experience IPV tend to have reduced job benefits such as retirement, medical leave, and health insurance (Adams et al., 2012). Further, IPV adversely affects women's economic well being, leading to women enduring more financial hardships and having a poorer outlook on their financial prospects (Adams et al., 2012). Other types of negative work outcomes resulting from IPV include a higher likelihood of being absent from work, and a higher tendency to be tardy and more distracted during work (Reeves & O'Leary-Kelly, 2007). On a larger scale, IPV negatively impacts IPV employees'

productivity and augments employers' organizational costs due to absenteeism and tardiness (Reeves & O'Leary-Kelly, 2007).

IPV has been clearly associated with PTSD and other related negative outcomes (Dutton, 2009), although much of this research is correlational and causation must be inferred. Researchers (Griffing et al., 2006; Rodriguez, et al., 2008) have found that women who experienced IPV were at a higher risk of developing PTSD symptoms, and reported higher levels of PTSD symptoms compared to women who did not experience IPV. More specifically, Tramayne's (2012) meta-analysis investigating the relationship between IPV and PTSD found a positive and significant correlational relationship between abuse (both psychological and physiological) and PTSD symptoms. The results of Tramayne's (2012) study suggest that women who experience psychological or physiological abuse have a higher propensity for PTSD symptoms. Thus, effective treatments for PTSD are critical for women impacted by IPV.

Review of the Efficacy of Current Treatment Interventions for PTSD

Over recent decades, the number of evidence-based psychotherapy treatment interventions designed to treat PTSD has been growing. The Institute of Medicine (2008) committee reviewed the empirical research and categorized these interventions into 6 categories: (1) exposure-type treatments, (2) eye movement desensitization and reprocessing treatment (EMDR), (3) cognitive restructuring, (4) coping skills training, (5) other psychotherapies, and (6) group therapy.

Based on a review of 52 empirical research studies using randomized clinical trials to assess the efficacy of the 6 categories of interventions, the Institute of Medicine

(2008) committee arrived at several conclusions. The first conclusion was that, despite the diversity of psychotherapeutic interventions for PTSD, the majority of these interventions are derived from aspects of cognitive behavioral therapy (CBT). The committee also concluded that out of all the interventions for PTSD, only exposure-type treatments were found to be clinically significant interventions with a positive effect on PTSD treatment. Due to inadequate studies or inconclusive evidence supporting the efficacy of eye movement desensitization and reprocessing treatment (EMDR), cognitive restructuring, coping skills therapies, other psychotherapies, and group therapy, the committee could not confirm the efficacy of these interventions for treating PTSD.

Other Issues with PTSD Treatment Research and Future Directions

Other than the lack of empirical support for the efficacy of conventional treatment interventions for PTSD, the Institute of Medicine committee (2008) found that definitions of trauma recovery were inconsistent. Since PTSD is a complex condition that impacts the entire human organism (mind, brain, and body), it is necessary for trauma treatment to involve the whole organism (Van der Kolk, 2014). Conventional treatment approaches for PTSD such as cognitive-behavioral therapy (CBT) fail to integrate the mind and body and this may explain why some individuals with PTSD either resist treatment or respond poorly (Institute of Medicine, 2008). Results on the lack of improvement for individuals who sought PTSD treatment were evinced in Bradley, Greene, Russ, Dutra, and Westen (2005)'s meta-analysis of PTSD treatments that were primarily cognitive and/or behavioral in nature. In their study, Bradley et al. (2005) found that less than half of the

clients who completed the treatment indicated significant improvement, while most post-treatment clients still indicated a substantial number of PTSD symptoms.

Inconsistent Definitions of Recovery

Given that PTSD is a complex condition impacting the entire human organism, it follows that the treatment focus for PTSD needs to be integrated (Van der Kolk, 2014). However, the Institute of Medicine committee (2008) reviewed existing research and failed to find a consensus definition of ‘recovery’ from PTSD. The inconsistent definitions of recovery render it challenging to determine the outcomes and efficacy of interventions for treating this pernicious and severe condition. This issue is further compounded by the lack of a consensus on what a satisfactory response to PTSD treatment entails. Based on the inconsistent definitions of a satisfactory response to PTSD treatment, the committee suggested that researchers consider PTSD recovery outcome measures in three key areas: (1) the absence of PTSD symptoms or loss of the PTSD diagnosis using DSM criteria, (2) an improvement in PTSD symptoms evinced by a reduction of two standard deviations in the Clinician-Administered PTSD Scale (CAPS) scores, and (3) end-state functioning which defines recovery using multiple domain measures, including a PTSD measure and another domain measure such as depression or anxiety. Although these recommendations guide researchers toward developing a more consistent definition of recovery, they do not seem to offer suggestions for conceptualizing recovery in consideration of the complex nature of PTSD.

Recommendations for Conceptualizing Traumatic Recovery

In keeping with Van der Kolk's (2014) recommendation that trauma treatment should involve the entire brain-mind-body human organism, and the problem of inconsistent definitions of recovery, it seems critical to address the notion of traumatic recovery. Allen and Wozniak (2010) proposed alternative ways of conceptualizing traumatic recovery. These authors postulated that healing from trauma and IPV involves the coalescence of traumatic experience into a more holistic conceptualization, including personal identity, social, spiritual, cultural, and psychological domains. In their study, Allen and Wozniak (2010) found that women with a history of trauma and IPV conceptualized trauma in ways that went beyond the emotional and biological domains of healing, which proffered a more elaborate and comprehensive picture of trauma recovery. Through a grounded theory analysis of themes based on women's narratives of healing from IPV and trauma, other dimensions emerged, such as self-concept and reconnection with the community (Allen & Wozniak, 2010). Hence, it is imperative that women's multi-dimensional conceptualizations of their trauma recovery and IPV be illuminated to offer a better understanding of how this healing process can be facilitated.

Integrating the Mind and the Body in Conceptualizing Trauma Recovery

Aligned with Allen and Wozniak (2010)'s holistic conceptualization of trauma recovery, recent approaches such as somatic psychology suggest that the mind and body are an integrated whole, where mental and physiological symptoms are interconnected (Caplan, Portillo, & Seely, 2013). The treatment of these disorders traditionally considered as psychological are increasingly acknowledged as being grounded in mind-

body phenomena (Caplan et al., 2013). Scaer (2005) went even further and proposed that individuals function along a body-mind-brain continuum, and likened this functional process to “a constant interactive dance” (p. 16). Based on his theoretical model, Scaer (2005) suggested that the brain, mind, and body are interconnected, and “the entire function of the brain/mind/body continuum will therefore be altered by the nature and quality of the sensory information that the body provides” (pp.15-16). These mind-body integrative conceptualizations of trauma recovery are consistent with neuroscience research advancements on trauma.

Neuroscience Research on Social Behavior and Trauma

From a neuroscience perspective, Porges (2001, 2003) developed Polyvagal Theory suggesting that social behavior has neurobiological bases. According to this theory, social behavioral responses are derived from the adaptive strategies informed by the nervous system, and these responses are linked to emotional regulation. In other words, stress-related responses such as PTSD are informed by the nervous system which, in turn, impacts the ability to regulate the physiological, emotional, and social-behavioral states, often causing a restricted range of emotional expression, decreased quality of communication, and even unconscious facial gestures (Porges, 2001, 2003).

Porges (2001) suggested that individuals whose lives are in jeopardy tend to use more primitive adaptive responses such as fight or flight responses, or are immobilized, in contrast to the communication strategies used in the more advanced social engagement system. Further, traumatized individuals have difficulty assessing safety and engaging their defenses in the face of danger (Van der Kolk, 2014). According to Van der Kolk

(2014), a leading trauma researcher, “a major challenge in recovering from trauma remains being able to achieve a state of total relaxation and safe surrender” (p. 5049). Porges (2001) also suggested that researchers design therapeutic interventions that create calm states and activate the neural regulation of the brainstem, which may help to prompt the regulation of the social engagement system. Since trauma memory is stored in the body (Van der Kolk, 2014) and messages sent from the body have a significant reign over the mind (Scaer, 2005), new healing approaches need to focus on bolstering the biological system and facilitating the connection between the mind, brain, and body to help regulate arousal and emotions, a significant part of the trauma healing process (Van der Kolk, 2014). Taken together, the polyvagal theory provides an explanation of trauma as a condition where the physiological, emotional, psychological, and social dimensions of an individual are intricately interconnected.

Unless traumatized individuals can first gain physical self-awareness with their bodily sensations, and connect these physical sensations to psychological events, they cannot recover (Scaer, 2005; Van der Kolk, 2014). Until traumatized individuals increase such body awareness, traditional trauma treatment approaches that focus on the cognitive processes may have limited effectiveness (Emerson, 2011; Scaer, 2005). Therefore, Van der Kolk (2014) recommended using emerging unconventional approaches such as yoga to create awareness of the mind-brain-body system. Stated another way, reconciling “bottom-up approaches” that promote physiological safety and calmness with “top-down approaches” (e.g., cognitive approaches) to forge interpersonal connections will optimize

recovery from trauma (Van der Kolk, 2014). Yoga is one such “bottom-up approach” that has begun to receive attention in the scholarly literature.

Yoga as a New Trauma Healing Approach

Yoga is an intricate practice comprised of diverse elements that include, but are not limited to, physical poses, breath work, meditation, spirituality, inward attention, knowledge of the self, and focus (Park, Braun, and Siegel, 2015). Yoga is growing rapidly in the United States, with over 36 million Americans practicing yoga in 2016 and an estimated consumption of yoga products and classes of over \$16 billion in 2015 (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). Over one-third (34%) of Americans find yoga appealing and more than 80 million Americans report that they are somewhat or very likely to practice yoga in the next year (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). Aligned with the emerging research on the need for new healing approaches that center on the body and mind (Institute of Medicine, 2012), complementary and alternative medicine (CAM) approaches are increasingly used by individuals with PTSD. Rapidly growing in popularity, yoga is one of several mind-body therapeutic approaches applied to help individuals recover from PTSD (Institute of Medicine, 2012).

Based on the emerging neuroscience research, a vital ingredient of trauma recovery is to develop sensory awareness (Van der Kolk, 2014). Yoga seems to be a good fit for traumatized individuals needing to develop such awareness as it invites them to notice and approach their body inquisitively. This developed sensory awareness helps traumatized individuals navigate a shift away from their traumatic experience and

redevelop a compassionate relationship to themselves and their inner world (Van der Kolk, 2014).

Trauma-Sensitive Yoga (TSY)

Despite the budding research reporting the diverse benefits of yoga, the various constituents of yoga as they relate to physical and mental health are still unknown (Park et al., 2015). Researchers (Mitchell et al., 2014; Park et al., 2015) have urged future researchers to examine the mechanics of yoga that effectuates its benefits to yoga practitioners, such as those that the founders of TSY (Emerson, 2015; Emerson & Hopper, 2011) claim as critical in facilitating trauma recovery. TSY is a recent program jointly developed by Bessel Van der Kolk, a psychiatrist and premiere trauma researcher, and David Emerson, a yoga teacher, with the intention of helping war veterans who have returned from war recover from trauma (Emerson & Hopper, 2011). Specifically designed to help complex trauma survivors who have endured multiple chronic traumatic events on an interpersonal level recover, TSY is a structured body-oriented yoga practice that serves the objectives of cultivating self-awareness, facilitating self-regulation, and developing a compassionate relationship with the body (Emerson & Hopper, 2011).

Emerson, Sharma, Chaudhry, and Turner (2009) identified five TSY principles that are specifically tailored to accommodate to the needs of complex trauma survivors, including (1) creating a welcoming environment, (2) demonstrating teacher qualities, (3) assisting (with postures), (4) utilizing inviting language, and (5) exercises or forms. Additionally, Emerson et al. (2009) and Emerson and Hopper (2011) developed four clinical themes, namely *being present*, *making choices*, *creating rhythms*, and *taking*

effective action. However, the research on the impact of these principles on PTSD scores and the trauma recovery process has not yet been discussed in the literature.

Given the inconclusive empirical evidence on conventional CBT-type treatment interventions for PTSD, except for exposure-based therapies, it is not surprising that many individuals either resist seeking treatment or respond poorly to it (Bradley et al., 2005; Institute of Medicine, 2008). With the emerging neuroscience research arguing for unconventional (i.e., “bottom-up”) treatment approaches, it seems germane to focus on TSY as a treatment intervention for women who are impacted by IPV and PTSD. Despite the growing number of empirical research studies on TSY, many questions about this treatment approach have yet to be explored empirically. For example, how can researchers understand trauma recovery beyond the mind-body dichotomy? Which TSY principles or factors are considered to be significant in facilitating trauma recovery? In moving the conversation on trauma recovery forward, it will be central to understand women’s multi-dimensional conceptualizations of their trauma recovery and IPV as facilitated by TSY.

Statement of the Problem

Globally, 35 percent of women have experienced intimate partner violence or non-partner sexual violence at some point in their life (World Health Organization, 2014). Nationally, approximately 27.3 percent of women have experienced IPV in the form of sexual violence, physical violence, or stalking by an intimate partner during their lifetime (Breiding et al., 2014). More than a third of women who have been impacted by Intimate Partner Violence (IPV) develop PTSD (DeJonghe, Bogat, Levendosky, & von

Eye, 2008; Van der Kolk, et al., 2014). Golding (1999) reported that the prevalence of PTSD among women impacted by IPV ranged from 31 percent to 84.4 percent, totaling a weighted mean prevalence of 63.8 percent. The high incidence of PTSD in women with a history of IPV indicates the exigency of focusing on PTSD in treating this population. Tramayne's (2012) meta-analyses of research on IPV and PTSD revealed that, regardless of whether women with a history of IPV sought help for domestic violence, women who had PTSD were not receiving treatment for PTSD. These findings suggest that PTSD may often be overlooked and neglected in the treatment plan for women who experience IPV. Overlooking the role of PTSD not only may circumvent the recovery of women with a history of IPV, but also may exacerbate other preexisting mental health issues (Dutton, 2009).

Trauma is a complex condition impacting all facets of human functioning, including the biological, psychological, social, and intra-psychoic dimensions (Herman, 1998; Jakovljević, et al., 2012; Levine, 2010). Based on avant-garde research on trauma recovery, researchers (Emerson & Hopper, 2011; Van Der Kolk, 2014) have claimed that trauma is a somatic-based condition that requires the individual to forge visceral connections in order to recover from trauma. Based on the understanding that trauma is multi-faceted, it seems pertinent for researchers to focus on the multidimensional facets of trauma recovery including the biological, psychological, social, and intra-psychoic dimensions. Unfortunately, however, there is limited literature detailing how trauma has impacted women on multiple dimensions, particularly related to the somatic and mind-body-brain connections.

TSY is a nascent and emerging body-based intervention for the treatment of complex trauma. To date, however, researchers investigating the efficacy of TSY on trauma recovery (Dick et al., 2014; Mitchell et al., 2014; Spinazzola et al., 2011; Van der Kolk et al., 2014) have primarily employed experimental quantitative methods and randomized controlled trials comparing PTSD scores of a TSY intervention group versus a control group. Consistently, these researchers have found empirical support for the efficacy of TSY in significantly reducing PTSD symptoms (Dick et al., 2014; Mitchell et al., 2014; Spinazzola et al., 2011; Van der Kolk et al., 2014). Although this is useful information, these researchers have not considered the women's subjective experiences and unique IPV and trauma contexts meaningfully to describe how women perceive their recovery from trauma. In other words, researchers have found TSY to be effective in complex trauma treatment, but only at a broad level, without an understanding of the subjective experiences of participants, and without considering that there may be nuances in individual recovery that would inform more tailored interventions.

Acquiring a deeper understanding of how IPV survivors experience a TSY intervention will provide researchers and counselors with a fuller understanding of how TSY impacts complex trauma recovery. Thus, it seems paramount to address this gap in knowledge by identifying specific factors in TSY that are integral to complex trauma recovery among female IPV survivors, as heard through the voices of these women.

Purpose of the Study

The purpose of the study was fivefold: (a) to explore women's initial (i.e., pre-intervention) conceptualizations of recovery from trauma and IPV, as it pertains to the

four trauma-sensitive yoga (TSY) themes (i.e., being present, making choices, taking effective action, and creating rhythms); (b) to determine women's pre- and post-intervention PTSD scores; (c) to explore how women's conceptualizations of recovery from trauma and IPV inform our understanding of the trauma recovery process (as it is facilitated by TSY), beyond what their pre- and post-intervention PTSD scores suggest; (d) to identify the factors in the TSY intervention that women with a history of IPV and trauma consider central to their recovery from trauma; and (e) to examine the likelihood of participants continuing their TSY home practice independently without the guidance of a TSY teacher, and consider what resources would increase their likelihood of continuing independently.

Need for the Study

The results of this study will provide mental health professionals with additional information on the efficacy of TSY as an intervention, including women's experience of TSY as a trauma intervention and the desire and commitment to practice TSY independently. Results will enable counselors to consider potential challenges to clients sustaining their TSY practice independently. Taken as a whole, this study paves the way for mental health professionals to consider incorporating TSY in their work with this population, or to consider ways to complement their clinical interventions for clients who are concurrently practicing TSY.

Inquiring about participants' perceptions of trauma recovery may further our understanding of how TSY facilitates recovery in multiple dimensions, including the spiritual, biological, psychological, and social dimensions, beyond what is reflected in

PTSD scores. The present study will extrapolate our conversations on the multifaceted nature of trauma and, correspondingly, trauma recovery, which can expand the scope of knowledge to include less discussed dimensions such as the spiritual and interpersonal realms. Furthermore, the complex relationship between IPV and PTSD necessitates a more thorough understanding of IPV survivors' trauma recovery, to allow clinicians to design personalized trauma intervention approaches specific to trauma survivors' diverse trauma recovery needs (Dutton, 2009). The findings from this study that contextualize participants' trauma recovery within their history of IPV may augment mental health professionals' understanding of trauma recovery, and also may enhance their clinical conceptualization and interventions for this population. Taken together, the inclusion of women's perceptions on recovery from trauma seems exigent to expand our knowledge base on how women with a history of IPV recover from trauma.

Since yoga is typically practiced over protracted periods of time and is an economically viable option for the treatment of PTSD (Van der Kolk et al., 2014), it is important to explore the likelihood of participants continuing the TSY practice on their own. Acquiring knowledge on women's desire and commitment to practice TSY between formal TSY sessions and beyond the 8-week TSY intervention can help mental health professionals better understand the perceptions and obstacles to home-based TSY practice, and enable mental health professionals to collaborate with clients to ensure the sustainability of the TSY practice.

In addition, the results of this exploratory study could inform future research. Based on this research study, researchers could draw upon the factors in TSY identified

by participants as central to their trauma recovery, and seek to empirically validate factors that significantly contribute to trauma recovery using quantitative research methods. These empirically validated factors could help to narrow the focus on specific mechanics of TSY that are central to the trauma recovery of participants and inform future research. Specifically, future prediction studies identifying specific TSY mechanics that are central to the trauma recovery of IPV survivors have important implications for further enhancing the TSY intervention and practice.

Research Questions

The following research questions were developed based on existing research literature and served as a guide for this case study:

Research Question 1: Prior to intervention, how do participants with a history of IPV conceptualize recovery from trauma, as it pertains to the 4 trauma-sensitive yoga (TSY) themes (i.e., being present, making choices, taking effective action, and creating rhythms)?

Research Question 2: To what extent do PTSD scores change among women IPV survivors who participate in 8 weeks of TSY?

Research Question 3: How do participants' conceptualizations about recovery from trauma and IPV inform our understanding about the trauma recovery process (as it is facilitated by TSY), beyond what their pre- and post- intervention PTSD scores suggest?

Research Question 4: What is the role of TSY in facilitating women's recovery from trauma? Three sub-questions have been developed to help us respond to this

research question. The first sub-question is “Can yoga help with trauma recovery?” The second sub-question is “What factors in the TSY practice do women consider as important to their recovery from trauma?” The third sub-question is “What are the benefits of TSY on women’s recovery from trauma?”

Research Question 5: Based on self-report, how likely are participants to continue their TSY home practice on their own time, independently, without the guidance of a TSY teacher?

Definition of Terms

There are several terms in this study for which definitions have not gained universal consensus in the literature. For the purpose of clarity, then, these terms will be defined as follows:

Yoga

Yoga is an abstract and multidimensional phenomenon that is derived from the roots of ancient Indian wisdom, and refers to the process of uniting the individual with the pure consciousness of the supreme self (Pankhania, 2005). Yoga consists of various elements, including physical poses, breath work, concentration, meditation, spirituality, attention inward, as well as increased self-knowledge (Park et al., 2015). Yoga offers a holistic and interconnected model of the self-development and well-being of the individual by integrating the physiological, psychological, emotional, and spiritual dimensions (Pankhania, 2005).

Exposure-Type Treatments

Exposure therapies were developed to reduce PTSD symptoms and related emotional and mood issues by helping individuals to address their avoidance of their traumatic triggers, memories, feelings, and related situations that debilitates their functioning (Institute of Medicine, 2012). Exposure-type treatments include imaginal flooding and implosion therapy. Although exposure-type treatments have been effective in reducing intrusive and anxiety symptoms, they are less effective in mitigating avoidance symptoms and may exacerbate negative symptoms (Van der Kolk, McFarlane, & Van der Hart, 2006).

Eye Movement Desensitization and Reprocessing (EMDR)

EMDR is a neoteric intervention developed by Francine Shapiro that has been found to benefit clients with PTSD (Van der Kolk et al., 2006). Similar to exposure-type treatments, this treatment modality requires the client to visualize an image of the traumatic experience (Van der Kolk et al., 2006). The therapist tracks the client's rapid rhythmic eye movements as s/he elicits memories of the traumatic event and its accompanying emotions (Van der Kolk et al., 2006). One benefit of EMDR is that clients' PTSD scores were reduced without the need to fully articulate their traumatic experiences (Turner et al., 2006).

Cognitive Restructuring

Cognitive restructuring includes all therapeutic approaches developed to assist individuals diagnosed with PTSD to modify their personal meaning of their traumatic experiences (Institute of Medicine, 2008). For example, individuals with PTSD may be

invited to consider adapting their responses and the resultant sense of helplessness towards their trauma (Institute of Medicine, 2008).

Coping Skills Training

Coping skills training encompasses skills and techniques to manage one's PTSD symptoms (Institute of Medicine, 2008). Examples of coping skills are stress inoculation therapy, relaxation, and biofeedback (Institute of Medicine, 2008).

Other Psychotherapies

Because of the wide range of approaches to treating PTSD symptoms, researchers have included a category of "other psychotherapies" to include these diverse approaches. Examples of these diverse approaches are eclectic psychotherapy, hypnotherapy, psychodynamic therapy, and brainwave neurofeedback.

Group Therapy

Group therapy may provide several benefits that help to mitigate trauma survivors' feelings of alienation from their traumatized experiences (Turner et al., 2006). Additionally, trauma survivors benefit from developing interpersonally by forging a sense of solidarity with individuals who share similar trauma experiences, develop coping strategies, trust others, and support one another to buffer social isolation (Turner et al., 2006). Examples of group therapy approaches include trauma-focused group therapy, flooding-based exposure group therapy, group cognitive-behavioral therapy (CBT), and group dialectical therapy.

Brief Overview

The following research study is presented in five chapters. Chapter 1 was developed to introduce trauma and intimate partner violence, illuminate current gaps and issues in the empirical research on trauma recovery interventions, and suggest unconventional approaches such as yoga, supported by emerging neuroscience research, to address the body-mind-brain connection in individuals impacted by trauma. Chapter 2 provides a critical review of the research literature pertaining to trauma, the impact of various yoga styles and traditions. Chapter 2 also provides a thorough description of the empirical literature on trauma-sensitive yoga and its theoretical underpinnings. The proposed study is detailed in Chapter 3, complete with specific methodological procedures and considerations. In Chapter 4, the results of the study are described. Based on the results of the study, the limitations, implications and directions for future study are discussed in Chapter 5.

CHAPTER II

REVIEW OF LITERATURE

Trauma

Trauma is defined as “an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual’s functioning and mental, physical, social, emotional, or spiritual well-being” (SAMHSA’s Trauma and Justice Strategic Initiative, 2014). Trauma impacts all components of human functioning, including the biological, psychological, and social aspects (Herman, 1998; Jakovljević, et al., 2012). Levine (2010) described trauma as an intrapsychic, psychological, and visceral condition brought about by overwhelming stress that leaves one feeling paralyzed with fear and the experience of disconnection from the soul. Traumatized individuals not only perceive a disconnection within themselves and their bodies, but also experience a disconnection with others (Van Der Kolk, 2014). Despite the fact that trauma is a somatic-based condition, trauma has been conventionally treated using cognitive modalities instead of body-based healing methods (Emerson & Hopper, 2011; Van Der Kolk, 2014).

Trauma can be induced by multiple sources including wartime combat experiences, childhood physiological, psychological, and sexual abuse, victimization by crime, natural and manmade disasters, and critical medical illnesses (Scaer, 2005; Scaer, 2014). Scaer (2005) emphasized the centrality of subjective interpretation by

conceptualizing trauma as a spectrum of adverse life events that happen to an individual, sometimes including events that are considered normative in one's cultural context. Rather than determining the severity of trauma by interpreting the source of trauma, Scaer (2005) asserts the importance of understanding the unique meaning that the individual has ascribed to the experience, based on his or her cumulative life experience.

Complex Trauma

Complex trauma adds a layer of difficulty to trauma and is defined as chronically cumulative and ongoing exposure to traumatic events of an interpersonal nature that frequently involves early childhood exposure to trauma (Briere & Lanktree, 2012; Emerson & Hopper, 2011). Individuals impacted by IPV are highly likely to have experienced various types of trauma (Campbell et al., 2008) and are predisposed to complex trauma, which further complicates trauma recovery (Warshaw, Sullivan, & Rivera, 2013). Complex trauma presents numerous obstacles to successful treatment due to the complicated nature of the condition and often impacts individuals cognitively, physiologically, and spiritually (Emerson & Hopper, 2011; Van Der Kolk, 2006b). Additionally, individuals impacted by complex trauma commonly do not complete treatments for PTSD due to complicating factors such as dysregulated emotions and impulses (Van der Kolk, et al., 2014).

Manifestations of Trauma

Trauma is a complex condition that has wide-ranging repercussions on the individual. Trauma symptoms are multi-faceted and commonly includes: (1) self-

dysregulation; (2) self-destructive behaviors; (3) dissociation; (4) communication limitations; (5) somatization; and (6) internalization of trauma.

Self-dysregulation. Since the limbic system or the emotional realm of the brain primarily operates traumatic memories, trauma survivors may experience difficulty regulating their emotions, staying focused, and exercising impulse control when aroused by specific stimuli (Van der Kolk, 2006b). Therefore, trauma survivors tend to be highly sensitive and aroused by stimuli in their environment, including sounds, graphics, and thoughts associated with the traumatic experience (Van der Kolk, 2006b). Due to difficulties compartmentalizing traumatic memories as a separate category from the rest of their memories or experiences, trauma survivors often interpret apparently neutral stimuli as potential threats (Van der Kolk, 2006b). In the same vein, trauma survivors have difficulty separating negative emotions from the traumatic experience and are predisposed to generalizing these emotions to events outside of their traumatic experiences, leading to the experience of repeated re-traumatization (Van der Kolk, 2006b). Since trauma survivors lack the ability to accurately harness their emotions to inform their decisions, they tend not to assess the situation before responding (Van der Kolk, 2006b). To avoid being overwhelmed with emotions and the experience of being re-traumatized, trauma survivors may sporadically cope by emotionally numbing themselves or shutting down (Van der Kolk, 2006b). While emotional numbing is a psychobiological experience of a reduced responsiveness to environmental stimuli, shutting down is a conscious behavioral act where one avoids stimuli associated with the trauma (Van der Kolk, 2006b).

Self-destructive behaviors. To counteract challenges regulating their emotions and to reassert control, trauma survivors may engage in self-destructive behaviors (Van der Kolk, 2006b). Commonly, such behaviors are an effort to manage difficult feelings of alienation, fear, disappointment, and abandonment (Van der Kolk, 2006b). Examples of self-injurious behaviors are biting, self-burning, self-cutting, self-starving, and head banging (Van der Kolk, 2006b). Other self-destructive behaviors consist of abnormal eating habits such as anorexia, bulimia, and bulimia nervosa (Van der Kolk, 2006b). Added to eating disorders, trauma survivors commonly turn to abusing substances to cope (Van der Kolk, 2006b). Trauma survivors choose from substances that have the intended psychotropic effects they desire to cope with overwhelming experiences, such as heroin to sedate and numb aggressive feelings (Van der Kolk, 2006b). These habitual urges to self-injure help trauma survivors cope with their anguish as they often find relief in these behaviors and reignite feelings of being alive (Van der Kolk, 2006b).

Dissociation. Repeated and chronic exposure to intense stress may induce dissociation in individuals (Van der Kolk, 2006b). Dissociation is a phenomenon that can be understood as a separation of the self into disparate parts, namely, the observer of the event who distances from the body and the self that experiences (Van der Kolk, 2006b). According to Scaer (2014), specific parts of the body are associated with the perception of threat of painful traumatic memories that are selectively dissociated. Dissociation functions to safeguard the individual from the full extent of the pain and arousal triggers arising from the trauma (Scaer, 2014; Van der Kolk et al., 2006b). As a result of detaching from these distressing emotions, the trauma survivor unwittingly disconnects

from the self and from others, resulting in the impediment of daily functioning even after the cessation of trauma (Van der Kolk et al., 2006b). Accordingly, many trauma survivors encounter challenges in their interpersonal and intrapersonal relationships (Van der Kolk, 2006) because of this dissociation.

Communication limitations. Added to a fragmented sense of self, trauma survivors may experience great difficulty identifying and verbalizing their feelings (Van der Kolk, 2006a; Van der Kolk, 2006b). From a neuroscience perspective, Broca's area, a part of the left hemisphere of the brain that manages one's ability to express and relate personal experiences to others, is impacted during trauma and traumatic triggers (Van der Kolk, 2006a; Van der Kolk, 2006b). As a result of the loss of words and ways to express themselves, trauma survivors may develop psychosomatic reactions and these subdued emotions may be manifested viscerally (Van der Kolk, 2006b). Accordingly, from a treatment perspective, creative modalities may provide more avenues for trauma survivors to express themselves without a heavy reliance on words. Thus, Van der Kolk (2006b) suggests that trauma survivors may be able to advance their ability to communicate their affective states through creative mediums such as physical movements, psychodrama, and drawings.

Somatization. Added to communication limitations, traumatized individuals are predisposed to experience somatization (Scaer, 2014). Somatization is operationalized as the propensity to express distressing emotions in the form of physiological symptoms. This may be attributed to one's inability to express his or her traumatic memory verbally and a tendency to deviate from painful memories associated with the trauma (Scaer,

2014). According to Scaer (2014), traumatized individuals frequently report physiological conditions and symptoms that share similar traits that involve vacillating between the sympathetic and parasympathetic systems in an extreme manner, —a condition likely generated by the autonomic dysregulation of the body from trauma. Additionally, most of these physiological conditions cannot be traced to any known source other than their obvious connection to traumatic stress (Scaer, 2014). Examples of commonly reported somatization conditions include irritable bowel syndrome (IBS), gastroesophageal reflux disease (GERD), migraine headaches, and peptic ulcer disease (Scaer, 2014). Unfortunately, trauma survivors' circumvented ability to express their emotions often leads to a frustrating experience as medical care providers tend to rebuff and invalidate these somatic complaints whose causes remain physiologically undetermined (Scaer, 2014).

Internalization of trauma. Another common manifestation of trauma is a proclivity to internalize the trauma by incorporating it as a part of the self. Often, trauma survivors experience their past traumatic experience as if it were still happening in their current lives (Scaer, 2014; Van der Kolk, 2006b). This ongoing re-experiencing of their traumatic experience shapes trauma survivors' internal schemas and permanently changes the way they perceive themselves and their outlook of the world (Van der Kolk, 2006b). One of the implications of the altered internal schemas is that it may have a profound negative impact on their trust, power, and sense of safety with others (Van der Kolk, 2006b). Not only do trauma survivors have difficulty trusting others, they often experience social isolation and have difficulties navigating power dynamics (Van der

Kolk, 2006b). Hence, they may find themselves oscillating between the extreme ends of submission and dominance (Van der Kolk, 2006b). Additionally, due to their altered internal schemas, trauma survivors tend to assume full responsibility for all events that take place around them, and have difficulty assuming a balanced perspective on situations and issues (Van der Kolk, 2006b). Often, this hyper-responsibility results in trauma survivors being extremely attuned to the needs of others, but inadvertently neglecting their own needs (Van der Kolk, 2006b). Even beyond feeling overburdened with responsibility, trauma survivors typically suffer from a negative self-concept, competence, and self-worth (Van der Kolk, 2006b). As a result of a weak sense of self, trauma survivors often alienate themselves and develop feelings of self-detest and unpredictability that manifest themselves in their avoidance of intimate relationships (Van der Kolk, 2006b).

Posttraumatic Stress Disorder (PTSD)

Approximately 5.2 million adults are diagnosed with PTSD annually (U.S. Department of Veterans Affairs, 2014). Posttraumatic stress disorder (PTSD) is a psychiatric condition developed in relation to a specific traumatic event (Institute of Medicine, 2012). There are several types of traumatic events that can trigger PTSD including automobile accidents, medical trauma from surgery, disability, or diagnosis of a critical illness, crime, military combat, abuse or victimization, death of a significant person, divorce, and accidental or natural disasters (Basile et al., 2004; Harrison and Kinner, 1998; Hoge et al., 2004; Neria et al., 2007; Punamaki et al., 2010; Scaer, 2014).

In the Diagnostic and Statistical Manual of Mental Disorders – 5th edition (DSM-V; American Psychiatric Association, 2013), PTSD is defined as: (A) the exposure to actual or threatened death, serious injury, or sexual violence; (B) the presence of intrusion and recurring symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred; (C) persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred; (D) negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred; (E) marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred; (F) the duration of the disturbances in criteria B, C, D, and E lasts for more than a month; (G) the disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning; (H) the disturbance is not attributable to the physiological effects of a substance or another medical condition.

Gender and trauma type are two key risk factors associated with PTSD (Institute of Medicine, 2012). Approximately 5 out of 10 women and 6 out of 10 men experience at least one traumatic event across their lifespan (U.S. Department of Veterans Affairs, 2014). A small percentage of individuals who have experienced trauma will continue to develop PTSD (U.S. Department of Veterans Affairs, 2014). Even though men report the experience of a traumatic event in their life at a higher rate, women are more likely than men to develop PTSD after experiencing trauma. Women have a significantly higher probability of developing PTSD (10 percent), compared to the probability of men

experiencing PTSD (4 percent; Tolin and Foa, 2006; U.S. Department of Veterans Affairs, 2014). Moreover, PTSD symptoms are maintained in women four times longer than they are in men (Breslau et al., 1998). Hence, for reasons not yet apparent, women are more predisposed to experience PTSD than men after a traumatic experience, and have a higher tendency to experience PTSD symptoms for a longer period of time.

Another risk factor for PTSD is the type of trauma experienced (Institute of Medicine, 2012). Interpersonal trauma occurs within the context of relationships and is the most problematic and challenging type of trauma to treat as it breaches one's power and autonomy (Emerson, 2015). Accordingly, women who have experienced intimate partner violence present with a higher risk for developing PTSD. For this reason, it is essential for researchers and clinicians to focus their efforts on trauma recovery treatment research and clinical work on the population of women who have experienced intimate partner violence.

Intimate Partner Violence (IPV)

Intimate Partner Violence (IPV) is defined as a pattern of abusive and controlling behaviors that an individual perpetuates physically, psychologically, emotionally, spiritually, economically, and/or sexually against his or her intimate partner (World Health Organization, 2013b). IPV is a highly prevalent social problem that has a profound impact on many women in the United States. The prevalence of intimate partner violence transcends all races and ethnicities and impacts multiracial women, non-Hispanic white women, non-Hispanic black women, and Hispanic women (Breiding et al., 2014). More than 1 in 3 women in the United States have experienced IPV at some point

in their lifetime (The National Intimate Partner and Sexual Violence Survey: 2010 Summary Report, 2010). Women's lifetime prevalence of specific forms of IPV victimization by an intimate partner vary by the type of violent act, with approximately 8.8 percent experiencing rape by an intimate partner, approximately 15.8 percent of women experiencing other forms of sexual violence, approximately 22.3 percent experiencing at least one severe act of physical violence, and about 9.2 percent experiencing at least one act of psychological aggression (Breiding et al., 2014).

According to the 2011 National Intimate Partner and Sexual Violence Survey (Breiding et al., 2014), women who experienced IPV reported at least one measurable adverse effect related to the violence: approximately 23.7 percent of women indicated feelings of fearfulness, 20.7 percent had safety concerns, 20.0 percent had one or more PTSD symptoms, 13.4 percent had physical injuries, 6.9 percent required medical attention, 1.3 percent had a sexually transmitted infection, and 1.7 percent were pregnant from the violence experienced by their intimate partner. The mental and physical health risks and liabilities for women who have experienced IPV range from short-term and direct ramifications such as injury or death, to longer-term and indirect repercussions such as disability, and medical issues such as gastrointestinal problems (Plichta, 2004; Ting, 2010; World Health Organization, 2013b).

Besides mental health ramifications, IPV incurs high financial liabilities owing to it being a public, economic, and social health problem. In the United States, the annual costs of IPV surpassed 8.3 billion dollars, with 1.2 billion dollars in casualties, 460 million dollars for sexual assault, and 461 million dollars for stalking (Maz, Rice,

Finkelstein, Bardwell, & Leadbetter, 2004). IPV also adversely affects women's economic well-being, wherein women endure more financial hardships, and have a poorer outlook on their financial prospects (Adams, Tolman, Bybe, Sullivan, and Kennedy, 2012). On an individual scale, women's employment opportunities may be adversely impacted (Reeves & O'Leary Kelly, 2007). Adams et al. (2012) investigated the impact of IPV on women's job stability and found that women worked significantly fewer hours at any given job up to three years after the cessation of the abusive relationship, and enjoyed significantly reduced job benefits. Further, women who have experienced IPV may have a higher probability of struggling with other negative work outcomes including being absent from work, being tardy and more unfocused at work (Reeves & O'Leary-Kelly, 2007). On a larger scale, IPV negatively impacts IPV employees' productivity and incurs higher organizational costs attributed to absenteeism and tardiness (Reeves & O'Leary-Kelly, 2007).

Relationship between IPV and PTSD

Scholars (Dutton, 2009; Hellmuth, Jaquier, Swan, & Sullivan, 2014; Martinez-Torteya, Bogat, Von Eye, Levendosky, & Davidson, 2009) have found a clear association between IPV and PTSD and other related negative outcomes, although much of this research is correlational and causation can only be inferred. Based on extant research, women who have experienced IPV are at a higher risk of developing PTSD symptoms, and have reported higher levels of PTSD symptoms compared to women who have not experienced IPV (Griffing et al., 2006; Rodriguez, et al., 2008). Despite the growing interest in trauma treatments developed for IPV survivors, the research and mental health

treatments specifically developed for women who experience IPV and mental health conditions such as PTSD remains scant (Hellmuth et al., 2014; Warshaw et al., 2013).

Researchers have gone a step further to investigate the specificities of this correlational relationship between IPV and PTSD. Tramayne (2012) conducted two meta-analyses using 30 studies to investigate the relationship between IPV and PTSD. She reported a positive and significant correlation between abuse (both psychological and physiological) and PTSD symptoms, suggesting that women who experience psychological or physiological abuse are more predisposed to experiencing PTSD symptoms. The strong correlation between IPV and PTSD found by Tramayne (2012) was replicated in Hellmuth et al.'s (2014) study, which explored the IPV profiles of women and the severity of PTSD symptoms. In their study, they found that women with higher severity of IPV victimization also had more severe PTSD symptoms. Based on the overall PTSD scores and PTSD: criterion G scores assessing for the extent of functioning impairment, yielded from the 49-item self-report Posttraumatic Stress Diagnostic Scale (PDS), Hellmuth et al. also found that almost all of the women experienced significant impaired functioning, including those who did not meet the full PTSD diagnostic criteria. These results caution clinicians and researchers against assessing the severity of PTSD by solely examining PTSD scores because the PTSD diagnostic criteria in DSM-IV and V may not accurately depict women's PTSD experiences as they relate to IPV (Hellmuth et al., 2014). The authors concluded that the severity and functioning level (DSM-V, PTSD: Criterion G) of women's PTSD experiences should thus be considered in relation to their

IPV experiences, to determine treatment needs. Thus, women who experience sub-threshold (or partial) PTSD may still benefit from treatment (Hellmuth et al., 2014).

The correlational relationship between IPV and PTSD is further complicated when one considers women's subjective appraisals of their IPV experiences. Martinez-Torteya et al. (2009) explored women's subjective IPV experiences and their depressive and PTSD symptoms. Even though the PTSD diagnosis in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V-TR) includes both the objective features of PTSD and subjective appraisals of stress, most of the research has been centered on non-biased and objective IPV information such as the frequency and severity of IPV, also known as a "dose-response relationship" (Martinez-Torteya et al., 2009, p. 708). Women's subjective appraisals of stress were elicited by completing a 'stressfulness of IPV' self-assessment scale, an adaption of the 46-item Severity of Violence against Women Scales (SVAWS), which includes a stressfulness rating for each of the SVAWS items (Martinez-Torteya et al., 2009). The findings in Martinez-Torteya et al. (2009)'s study suggest that women's subjective IPV appraisals significantly predict PTSD symptoms. Further, the results indicate that women with the highest risk for developing PTSD symptoms experience co-occurring high levels of IPV frequency and self-appraised stress (Martinez-Torteya et al., 2009).

Hellmuth et al. (2014) and Martinez-Torteya et al. (2009)'s research findings inform us that research on women's appraisals of IPV related to mental health has not been adequately examined and merits future study. Their findings also remind us of the centrality of women's subjective IPV experiences and the development of their PTSD

symptoms and mental health, given the limits of stand-alone objective measures such as PTSD scores in predicting the functioning of women affected by IPV. Thus, even PTSD treatments that have been empirically validated may not be necessarily suitable for this population (Hellmuth et al., 2014). Women's perceptions of their traumatic experiences may be interpreted in distinct ways, and it may be important to consider both objective and subjective interpretations and their overall impact on mental health (Hellmuth et al., 2014; Martinez-Torteya et al., 2009). Considering women's subjective experiences may help to ensure that the unique trauma treatment needs of women impacted by IPV and experience PTSD be incorporated into treatment (Hellmuth et al., 2014).

Enhancing Trauma Treatment and Re-conceptualizing Trauma Recovery

Consistent with Hellmuth et al. (2014) and Martinez-Torteya et al. (2009)'s revelation that PTSD scores alone may be inadequate for understanding the impact of IPV on women's mental health and well-being and the central role that women's subjective experiences play, Warshaw et al. (2013) asserted the importance of gathering participants' perspectives. This information can be used to enhance treatment so that researchers can efficaciously respond to survivors' diverse and individualized needs. Warshaw et al. (2013) provided several recommendations for procuring information from trauma survivors to cater to their treatment needs including the extent to which the trauma treatments matches their needs and experiences and IPV-related concerns, the pertinence of the treatment to their lives and belief system, and challenges that may circumvent participation in treatment. To this end, Warshaw et al. (2013) recommended that future research studies draw upon qualitative elements through research designs such

as the mixed methods design to assess the efficacy of trauma-focused treatment interventions for IPV survivors.

Apart from suggestions on enhancing trauma treatment, scholars are exploring new ways of conceptualizing trauma recovery. There is an increasing trend of scholars subscribing to the belief that any psychopathology, including trauma, unsettles the gestalt or the whole person's body-mind-environment-spirit balance (Grodin et al., 2008; Warshaw et al. 2013). To restore this balance, treatment to facilitate healing from trauma needs to involve the whole person by first acknowledging the interconnectedness and integrality of the entire mind-body system (Allmer, Ventergodt, Kandel, & Merrick, 2009; Grodin et al., 2008). New and emerging approaches such as somatic psychology conceptualize the mind and body as an integrated whole and suggest that mental and physiological symptoms are interconnected (Caplan, Portillo, and Seely, 2013). The treatment of these mental health disorders, conventionally considered as psychological ailments, is increasingly recognized in terms of mind-body phenomena (Caplan, et al., 2013). Scaer (2005, p. 16) introduced the idea that individuals operate along a body-mind-brain continuum, and likened this functional process to "a constant interactive dance." In his theoretical model, Scaer (2005, pp.15-16) suggested that the brain, mind, and body are interconnected and mutually dependent on one another, and "the entire function of the brain/mind/body continuum will therefore be altered by the nature and quality of the sensory information that the body provides." Unfortunately, despite the increasing attention, healing potential, and interventions centering on the holistic mind-

body connection, there are almost no known research studies evaluating how these novel treatments impact IPV trauma survivors (Warshaw et al., 2013).

Beyond the mind-body continuum, Warshaw et al. (2013) advanced the need to examine other domains of treatment, such as their cultural and spiritual values, especially for survivors from specific cultural communities. They also emphasized the significance of multi-dimensional approaches that have the potential of sustaining treatment benefits. To expand current notions of trauma recovery in women with a history of trauma and IPV, Allen and Wozniak (2010) proposed alternative ways of conceptualizing traumatic recovery. In their study, they found that women impacted by trauma and IPV operationalized trauma and trauma recovery in more detailed and comprehensive ways over and beyond disparate emotional and biological domains of healing (Allen & Wozniak, 2010). Using a grounded theory analysis from responses on women's experiences of healing from IPV and trauma through structured interviews and focus group interviews, Allen and Wozniak (2010) identified five multi-dimensional themes based on women's narratives of healing from IPV and trauma: (1) creating a safe place, (2) developing freedom and self-autonomy, (3) being proud of oneself and one's appearance, (4) reclaiming self-concept and identity, (5) cultivating inner peace, tranquility, and optimism for the future, and (5) reconnection with the community. Based on the findings in their study, Allen and Wozniak (2010) suggested that healing can be conceptualized more holistically, including the intrapersonal, social, spiritual, cultural, and psychological dimensions. Hence, it is imperative that future research on women's healing from trauma and IPV explore dimensions beyond limited conceptualizations of

trauma and healing, thus, allowing for multi-dimensional conceptualizations that more accurately represent and facilitate the healing process.

Trauma Recovery Models

Apart from examining new ways to re-conceptualize trauma recovery, trauma recovery models provide an added perspective to improve the efficacy of trauma treatments. Often, the connection between an individual's traumatic symptoms and traumatic experience is overlooked in trauma treatment (Herman, 1992). Furthermore, current diagnostic constructs defining trauma offer only a limited understanding of treatment approaches that fail to focus on survivors' underlying trauma issues (Herman, 1992; Martinez-Torteya et al., 2009). Trauma recovery models may offer some insight into this missing connection.

According to Herman (1992), comprehensive treatment is needed to address the physiological, psychological, and social dimensions of trauma at every stage of recovery. Although several trauma treatment models are available, including cognitive-behavioral therapy and stage-oriented trauma models, only stage-oriented trauma models (e.g., Herman, 1992, 1998) and the trauma recovery and empowerment model (TREM; FalLOT and Harris, 2002) comprehensively address multiple dimensions of the individual (Dass-Brailsford, 2007).

Stage-Oriented Models

Herman's (1992, 1998) trauma recovery model, a stage-oriented model comprising of three stages with the goals of reconnecting with others, and empowering the individual by restoring power and control. According to Herman (1992, 1998), the

three stages of trauma recovery are (1) creating safety, (2) remembrance and mourning, and (3) reconnection with other individuals. Herman (1992, 1998) suggests that the recovery process is a cyclical one and trauma survivors may revisit any stage of the trauma recovery model at any time.

The first stage of Herman's (1992) trauma recovery model is creating safety, a prerequisite and fundamental criterion for all other recovery stages to occur, since trauma takes away power and control from trauma survivors, destroys attachments, and results in issues with intimacy. Individuals may take a longer period of time to experience a restored sense of safety depending on the severity, duration, and onset of the abuse sustained from the trauma (Herman, 1992). Often, trauma survivors feel unsafe in their bodies and interpersonally with others as they vacillate between the need to be around people frequently and the desire to be in complete isolation (Herman, 1992). The first step to restoring safety is to help survivors gain control of their body (Herman, 1992), an area in which yoga could potentially be helpful. According to Herman (1992), feeling in control of the body may be a complex endeavor for the survivor due to their belief that their body belongs to others. Hence, it is important to focus on opportunities where the survivor can regain autonomy in decision-making. Trauma survivors also assess new environments for potential safety or threat and the second step in this stage entails establishing safety and control of the immediate environment by helping the survivor develop a support system (Herman, 1992).

After establishing safety both internally and externally, the survivor explores and reconstructs their memory of the trauma by narrating their trauma stories within the

context of a safe and secure therapeutic relationship in the second stage of the trauma recovery model, remembrance and mourning (Herman, 1992). Testifying the trauma story broadens and renews the meaning of the survivor's personal experience, thereby allowing the context of these traumatic experiences to be integrated in their life story (Herman, 1992). Trauma survivors negotiate a balance between the need to revisit and protect the self from the traumatic memories (Herman, 1992). Two behavioral therapeutic techniques to help facilitate remembrance and mourning are direct exposure and testimony where the survivor recounts his or her emotional states associated with the traumatic event in the past and the present (Herman, 1992).

Reconnection is the third stage of recovery and the key tasks in this stage are to rebuild a new self and develop new relationships (Herman, 1992, 1998). The survivor selects and reconciles parts of herself that she values the most to re-create a new self. The survivor also finds the ability to deepen connection and intimacy with others and takes more risks to deepen these relationships while maintaining autonomy (Herman, 1992). At this stage, trauma survivors are ready and willing to constructively transform the meaning of their traumatic experience for social action through altruistic endeavors or engaging in preventative efforts by raising public awareness of trauma (Herman, 1992).

Other researchers (Briere, 1996; Chu, 1998) also have developed stage-oriented trauma models that share similar objectives and treatment procedures with Herman's trauma model (Dass-Brailsford, 2007) for specific groups of trauma survivors. Similar to Herman's three-stage trauma model, both Briere (1996) and Chu (1998)'s models focus on stabilizing and reducing trauma symptoms before providing a safe platform for

survivors to process their traumatic memories and emotions, after which they focus on reintegrating the traumatic experiences in their life (Dass-Brailsford, 2007).

Despite the similarities across all three stage-oriented models, each model presents unique features. Briere (1996) developed his three-stage model by integrating cognitive-behavioral, humanistic, and psychodynamic theories. The three stages in Briere's (1996) self-trauma model, a stage-oriented trauma model, are 'safety and support', 'therapeutic feedback', and 'working through.' Distinct from the other trauma models, Briere's (1996) model requires clients to be actively involved in their treatment (Dass-Brailsford, 2007). Another interesting feature in Briere's (1996) model is the concept of the 'therapeutic window' which serves as a guideline for therapists to help clients strike a balance between exploring and integrating traumatic material, and monitoring their threshold for trauma-induced distress.

On the other hand, Chu's (1998) trauma model, another stage-oriented trauma model called SAFER, was designed specifically for individuals who experience childhood trauma. The SAFER model comprises of five stages, namely, 'self-care', 'acknowledgement', 'functioning', 'expression', and 'relationships'. Distinct from models developed by Briere (1996) and Herman (1998), the five stages in Chu's (1998) model are further differentiated by the early, middle, and late stages of the treatment.

Trauma Recovery and Empowerment Model (TREM)

The Trauma Recovery and Empowerment Model (TREM) is not a stage-oriented trauma model, but is another model that comprehensively addresses multiple facets of recovery. Designed specifically for women trauma survivors with severe mental disorders,

one distinctive feature of the TREM is that it is a manualized group intervention that comprehensively addresses the cognitive, emotional, and interpersonal impact of trauma (Fallot and Harris, 2002). Another unique characteristic of the TREM is the facilitation of trauma recovery through a two-pronged goal of equipping survivors with trauma recovery skills and ameliorating trauma symptoms to help them cope with current life events (Fallot and Harris, 2002).

Although no explicit connections have been drawn between TSY and trauma recovery models, the basic premise of TSY principles and themes seem to be in line with the trauma recovery models discussed. The fundamental TSY principles and themes not only comprehensively address multiple dimensions of the individual, but also seem to share at least two essential stages of the stage-oriented trauma recovery models, namely, feeling safe in the body and reconnection. Remembrance and mourning is the only process that is excluded from TSY principles and themes. Based on the TSY philosophy, the bottom-up approach to healing increases awareness of one's body and is self-sufficient in and of itself; thus, recalling traumatic memories is not necessary to facilitate healing.

The Efficacy of Current PTSD Treatment Interventions

Over the last few decades, an increasing array of treatment interventions for PTSD has emerged. Bradley et al. (2005) analyzed a total of 26 empirical experimental research studies in a multidimensional multi-analysis, and found that brief clinical trials for PTSD using primarily exposure-based therapies, cognitive-behavioral therapies (CBT), EMDR, and a combination of CBT and exposure-based therapies indicated

significant improvements in reducing PTSD symptoms. In fact, 67% of respondents examined were no longer meeting PTSD criteria with a recovery rate of 56% (Bradley et al., 2005). Nonetheless, the Bradley et al. (2005) study had multiple limitations. First, the empirical research studies reporting the success of these trauma treatment interventions mentioned afore are brief clinical trials that limit generalization of their efficacy to the larger client population experiencing PTSD (Bradley et al., 2005). Second, the short-term clinical trials tell us little about the sustained effects of these interventions such as whether efficacy was maintained through follow-up studies (Bradley et al., 2005). Third, most of these research studies analyzed in Bradley et al. (2005)'s study did not report participants' trauma profiles, which may have a strong impact on the efficacy of treatment. For example, Bradley et al. (2005) found that more severe forms of PTSD such as combat-related PTSD reported small effect sizes. Thus, the authors concluded no consensus on the most effectual treatments for clients who presented with multiple PTSD symptoms, such as clients who experienced more severe and complex childhood trauma (Bradley et al., 2005).

On a larger-scale review of 52 randomized clinical trials to assess the efficacy of treatment interventions for PTSD, the Institute of Medicine (2008) committee developed 6 categories of interventions: (1) exposure-type treatments, (2) eye movement desensitization and reprocessing treatment (EMDR), (3) cognitive restructuring, (4) coping skills training, (5) other psychotherapies, and (6) group psychotherapy. Based on their review, the Institute of Medicine (2008) committee concluded that notwithstanding the diversity of psychotherapeutic interventions for PTSD, the majority of these

interventions are variants of CBT. The Institute of Medicine (2008) committee added that among all the interventions for PTSD, only exposure-type treatments have a clinically significant positive effect on PTSD treatment. Thus, the efficacy of eye movement desensitization and reprocessing treatment (EMDR), cognitive restructuring, coping skills therapies, other psychotherapies, and group therapy could not be verified due to inadequate studies or inconclusive evidence.

Despite the incongruences between the various reports on the efficacy of PTSD treatment interventions (Bradley et al., 2005; Castillo, 2011; Institute of Medicine, 2008; Warshaw, Sullivan, & Rivera, 2013; World Health Organization, 2013), scholars have shared the consensus that CBT and EMDR are the two capstone treatment interventions that demonstrate more effective and sustained PTSD intervention outcomes. Hence, this review will focus on: (1) CBT and (2) EMDR. Other less studied or robust PTSD treatment interventions that will be briefly discussed in this review are: (3) pharmacological interventions and (4) complementary alternative medicines (CAMs).

Cognitive-Behavioral Therapy (CBT)

The World Health Organization (2013a) supports individual and group CBT with a trauma focus on adults, children, and adolescents as a PTSD treatment intervention. CBT is a combination of cognitive therapy and behavior therapy that facilitates a modification of negative thoughts or beliefs (as generated by trauma experiences) which is expected, in turn, to enhance one's emotions and ameliorate PTSD symptoms (Castillo, 2011; Dass-Brailsford, 2007). According to Kar (2011), CBT focused on treating PTSD includes education on common trauma reactions, relaxation training, as well as

identifying and adapting cognitive distortions. There are several specific CBT approaches including: exposure-type treatment, systematic desensitization, anxiety management training, and stress inoculation therapy (Dass-Brailsford, 2007). Exposure-type treatments are intended to help address trauma survivors' avoidance of their traumatic triggers and process distressing emotions associated with the trauma, through repeated exposure to traumatic memories within a safe context (Castillo, 2011; Van der Kolk et al., 2006). By making a direct connection between trauma and the symptoms, exposure therapy addresses the trauma memory directly by enabling the client to process the emotions experienced during the trauma (Castillo, 2011). An example of exposure-type treatment is flooding where the therapist may encourage the client to confront their memories of the trauma at one time (Dass-Brailsford, 2007). Although exposure-type therapies may be effective in reducing intrusive and anxiety symptoms, they are less effective in mitigating avoidance symptoms and may even exacerbate negative symptoms (Van der Kolk et al., 2006). Dass-Brailsford (2007) also admits that exposure therapy may not be effective for all clinical populations.

Another type of CBT approach used to treat PTSD is systematic desensitization. This treatment intervention helps individuals systematically recall traumatic memories gradually instead of recalling memories in their entirety at one time as in exposure therapy (Dass-Brailsford, 2007). Through a variety of relaxation techniques, including deep muscle relaxation and diaphragmatic breathing, clients are guided to recall the least distressing components of the traumatic experience before working their way up to more distressing stimuli (Dass-Brailsford, 2007). Anxiety management training is another CBT

technique with a trauma-focused approach designed to help clients develop coping skills to manage their anxiety by increasing mastery over their fear and reducing arousal levels when exposed to traumatic memories (Harvey, Bryant, & Tarrier, 2003; Dass-Brailsford, 2007). Examples of these coping skills include thought-stopping exercises and self-talk (Harvey et al., 2003). Similar to anxiety management training, stress inoculation therapy is commonly used to treat PTSD and integrates psychoeducation and diverse techniques such as relaxation, breath retraining, and problem-solving (Dass-Brailsford, 2007).

In a review of 31 randomized controlled trials assessing the effectiveness of PTSD using CBT, Kar (2011) found support for CBT as an effective intervention for acute and chronic PTSD induced by various types of trauma such as natural disasters, war and terrorism, and accidents in adults, children, and adolescents. In this review of empirical research, the benefits of CBT were found to include both short and long-term gains (Kar, 2011). Diehle, Schmitt, Daams, Boer, and Lindauer (2014) went one step further and ran a meta-analysis on 16 studies of participants with various types of trauma, including women impacted by IPV and military veterans. They found that trauma-focused CBT is more effective in reducing trauma-related thoughts as compared to non-trauma focused CBT, and suggested that trauma-focused CBT should be a priority treatment for individuals with PTSD (Diehle et al., 2014). Diehle et al. (2014) also reported that a combination of specific CBT interventions such as imaginal exposure and in-vivo exposure, or an integration of cognitive restructuring, in vivo, and imaginal exposure, demonstrated the largest effects in treating PTSD. Similar to Diehle et al. (2014)'s study, Ehring et al. (2014) conducted a meta-analysis of 16 randomized

controlled trials on adult survivors of childhood sexual and or physical abuse with PTSD. Ehring et al. (2014) shared a similar finding in that trauma-focused CBT interventions are more efficacious than non-trauma-focused interventions. Individual trauma-focused treatments were also found to yield better effects than group treatments (Ehring et al., 2014).

Eye Movement Desensitization and Reprocessing (EMDR)

EMDR is a neoteric phase-oriented psychotherapeutic intervention developed by Francine Shapiro to treat trauma (Clayton, 2011; Van der Kolk et al., 2006). EMDR integrates several other therapeutic modalities including exposure, behavioral, experiential, family systems, lateral eye movements, hand taps, and sounds for the client to process traumatic memory (Clayton, 2011; Dass-Brailsford, 2007). EMDR consists of eight phases and is a client-centered and prescriptive psychotherapeutic approach (Clayton, 2011). Similar to exposure-type treatments, EMDR requires the client to identify and visualize any image that is a part of the unresolved traumatic experience contributing to psychological distress (Dass-Brailsford, 2007; Logie, 2014; Van der Kolk et al., 2006). The client is asked to move his or her eyes from side to side while the therapist tracks the client's rapid rhythmic eye movements as he or she elicits memories of the traumatic event and its accompanying emotions (Logie, 2014; Van der Kolk et al., 2006). This approach is intended to desensitize the client to the distressing traumatic memories and reprocess the memories for the generation of more adaptive cognitions (Logie, 2014).

Scholars (Dass-Brailsford, 2007; Greybur, Dulmus, & Cristalli, 2012) have reported the benefits and pitfalls of EMDR. One salient benefit of EMDR is that clients' PTSD scores were reduced without the need to fully articulate their traumatic experiences, as with some CBT techniques (Turner et al., 2006). The efficacy of EMDR in reducing PTSD symptoms also has been relatively well documented in the literature (Chen et al., 2014; Natha & Daiches, 2014; Tarquinio et al., 2012). Chen et al.'s (2014) meta-analysis of 26 randomized controlled trials of EMDR for PTSD between 1991 and 2013 indicated that EMDR significantly ameliorates PTSD symptoms. Through EMDR, individuals' PTSD symptoms are significantly abated as individuals can more effectively regulate themselves by integrating their negative experiences with positive thoughts and feelings (Chen et al., 2013). Further, researchers have reported that EMDR for treating PTSD offers an added advantage in terms of reduced time, cost, and resources (Dass-Brailsford, 2007; McGuire, Lee, & Drummond, 2014; Natha & Daiches, 2014).

Other researchers (Dass-Brailsford, 2007; Greyber et al., 2012), however, have attained contradictory evidence for the efficacy of EMDR in PTSD treatment. There is scholarly debate questioning the deficit in the theoretical and methodological underpinnings of EMDR research studies, such as small sample sizes of EMDR studies with minimal power which limits generalizability beyond the sample (Dass-Brailsford, 2007; Greyber et al., 2012). In a review of five EMDR studies conducted between 1998 and 2010, Greyber et al. (2012) asserted that participants in four of the five studies reported decreased PTSD symptoms after receiving EMDR treatment. However, EMDR was not found to be significantly more effective compared to other trauma-focused

interventions (Greyber et al., 2012). Additionally, although EMDR can expedite the trauma survivor's processing into trauma resolution, Clayton (2011) cautioned that the treatment intervention can do more harm than good if the EMDR protocol is not adapted to the needs of complex trauma survivors. Although EMDR has been heavily researched, most of the EMDR research investigations have been done on simple trauma and there are relatively few studies on complex trauma (Clayton, 2011).

Despite the lack of a consensus on EMDR for treating PTSD, the World Health Organization (2013a) has recommended EMDR as a treatment intervention for adults, adolescents and children with PTSD, with the exception that EMDR should only be offered by EMDR-trained and supervised professionals (World Health Organization, 2013a). Going one step further, Chen et al. (2013) found that EMDR-trained therapists with clinical experience facilitating PTSD group therapy played a significant role in reducing participants' PTSD symptoms relative to clinicians without PTSD group therapy experience.

To date, only one group of researchers (Tarquinio et al., 2012) has investigated the efficacy of EMDR for treating PTSD in women impacted by IPV. Tarquinio et al. (2012) investigated the efficacy of EMDR in decreasing PTSD, depression, and anxiety symptoms in women who experienced IPV, in comparison with eclectic psychotherapy and a control group. The results of their study indicated that EMDR is significantly more efficacious than eclectic therapy at the post-test and 6-month follow-up than the pre-test scores (Tarquinio et al., 2012). Additionally, EMDR demonstrated a decrease in PTSD and anxiety symptoms within a brief five sessions, with greater effect sizes than eclectic

therapy (Tarquinio et al., 2012). Although EMDR seems to be an effective PTSD treatment intervention for women impacted by IPV based on this one study, more research studies need to be conducted with this population due to the complex nature of IPV.

Comparison of CBT and EMDR Intervention Treatments

To investigate if CBT or EMDR is more effective in PTSD treatment, Seidler and Wagner (2006) ran a meta-analysis of 7 studies to compare both treatments and found them to be equally effective. Based on this finding, the authors stressed the importance for researchers to focus on exploring and comparing trauma interventions most suited and beneficial to specific clinical populations.

Although CBT and EMDR are well-established in the treatment of PTSD, in a review of 55 empirical studies investigating CBT or EMDR treatment, Schottenbauer, Glass, Arnkoff, Tendick, and Gray (2008) found that existing research has important limitations, including a high nonresponse rate as high as 100% on some measures and a high variability of dropout rates ranging from 0 percent to 54 percent (Schottenbauer et al., 2008).

Pharmacological Interventions

In addition to CBT and EMDR, medications have been used to ameliorate PTSD symptoms. Certain medications such as selective serotonin re-uptake inhibitors (SSRIs) or tricyclic antidepressants may aid in relieving certain PTSD symptoms, especially when a client has first been diagnosed with PTSD (Davidson & Van der Kolk, 2006). Most medications are selected based on the presenting PTSD symptoms (Davidson & Van der

Kolk, 2006). For example, benzodiazepines or clonidine are used to reduce autonomic arousal, a PTSD symptom that is frequently present in acute trauma (Davidson & Van der Kolk, 2006). Although some clinicians use pharmacology to treat PTSD symptoms, the World Health Organization (2013), in their review of PTSD treatment interventions, discouraged the use of pharmacology as the first choice of treatment due to the lack of a consensus on its efficacy in PTSD treatment across different clinical settings. This view was seconded by the Institute of Medicine (2008) who found inconsistent reports on the efficacy of SSRIs for PTSD treatment. Medications such as SSRIs and tricyclic antidepressants (TCAs) may only be considered if effective interventions such as CBT with a trauma focus, stress management, and EMDR are inaccessible or do not work, or if an individual has co-morbid depression that ranges from moderate to severe levels (World Health Organization, 2013).

Complementary and Alternative Medicines (CAMs)

Additionally, there are emerging CAM approaches but there is a shortfall of empirical evidence supporting their efficacy in treating PTSD (Institute of Medicine, 2012). Some of these CAMs include acupuncture, qigong and t'ai chi. Acupuncture involves a procedure where needles are inserted in specific anatomic points of the body to stimulate the body and mind (Institute of Medicine, 2012). To date, there are few known studies exploring the effect of acupuncture in PTSD treatment (Institute of Medicine, 2012). Qigong and t'ai chi are conventional Chinese practices that facilitate gentle body movements to strengthen focus and cultivate and balance the flow of internal energy within the body (Grodin et al., 2008). Additionally, qigong and t'ai chi have a focus on

meditation and breathing (Grodin et al., 2008). Although there are few studies that have studied the impact of qigong and t'ai chi in treating PTSD, Grodin et al.'s (2008) study found support for combined pharmacotherapy, psychotherapy, qigong and t'ai chi to alleviate PTSD symptoms in a convenience sample of four individual refugee torture survivors (Grodin et al., 2008). The four participants in Grodin et al. (2008)'s study reported feeling calmer, more relaxed, and had reduced physiological pain after the CAM-integrated treatment (Grodin et al., 2008). Currently, most research on CAMs for PTSD treatment is combined with other interventions such as pharmacology or CBT (Institute of Medicine, 2012). The growing interest in using CAMS in PTSD treatment seems to fit with emerging neuroscience research on trauma and the need to augment the conceptualization of trauma recovery.

Taken together, there seems to be ambiguity on the efficacy of treatment interventions for PTSD even with the more popular and heavily researched interventions such as CBT and EMDR. Serious limitations such as high drop out rates and nonresponse rates persist in studies that use these interventions, suggesting that these interventions may not be effective for all trauma survivors (Schottenbauer et al., 2008). Further, there is a lack of research documenting which interventions are best catered to various types of trauma survivors.

Inconsistent Definitions of Trauma Recovery

In addition to inconclusive reports on the efficacy of treatment interventions for PTSD, the Institute of Medicine (2008) committee found incongruous definitions of trauma recovery and did not find a consensus for the definition of 'recovery' from PTSD

in the extant research. Due to the inconsistent definitions of recovery, it is problematic to accurately determine the efficacy of interventions developed to treat PTSD. Added to that, the lack of consensus on what constitutes a satisfactory response to PTSD treatment further complicates the problem. In response to this quandary, the Institute of Medicine (2008) committee suggested that researchers collaborate to standardize PTSD recovery outcome measures in three key areas: (1) the absence of a specific number of PTSD symptoms or loss of the PTSD diagnosis using DSM criteria, (2) a clinically meaningful threshold indicating improvement in PTSD symptoms, such as a reduction of two standard deviations in the Clinical Administered PTSD Scale (CAPS) scores, and (3) end-state functioning which defines recovery using multiple domain measures, including a PTSD measure and another domain measure such as depression or anxiety (Institute of Medicine, 2008).

Although researchers have been urged to develop more robust and rigorous scientific research to support the efficacy of current conventional PTSD treatment approaches (Institute of Medicine, 2008) such as CBT and EMDR that adhere to the Western model dichotomizing the body and mind (Mehta, 2011), emerging neuroscience discoveries challenge the limited conceptualization of trauma and trauma recovery.

Neuroscience Research on Social Behavior and Trauma

In the past fifteen years, neuroscientists such as Porges (2001, 2003) have shed new light and understanding on trauma by suggesting that social behavior has a neurobiological basis. Porges (2001, 2003) developed the polyvagal theory, a theoretical framework proposing that social behavioral responses are driven by the adaptive

strategies informed by the nervous system, and suggests that these responses are connected to emotional regulation. Thus, during a stressful situation such as a traumatic experience, the nervous system serves as the operating center (Porges, 2001, 2003). This operating center governs stress responses such as PTSD and regulates the physiological, emotional, and social-behavioral states (Porges, 2001, 2003). As a result, a person who is traumatized may be impacted in several ways, including having a restricted range of emotional expression, decreased quality of communication, and unconscious facial gestures (Porges, 2001, 2003).

When individuals' lives are in jeopardy, they tend to revert to more primitive adaptive responses such as fight or flight (Porges, 2001). Porges' polyvagal theory extends beyond the fight or flight dichotomy and includes the less commonly known concept of immobilization (i.e., "freeze"). Together, these three adaptive responses help us understand trauma in the context of physiological responses, communication strategies, and social relationships (Van Der Kolk, 2014). To understand the repercussions of trauma, it is necessary to understand the function of the autonomic nervous system (ANS) and the dorsal vagal complex (DVC) (Van Der Kolk, 2014). The ANS regulates three physiological states: (1) social engagement, (2) primitive survival state, and (3) freeze or immobilization state (Van Der Kolk, 2014). The first physiological state is social engagement and occurs when individuals feel safe (Van Der Kolk, 2014). This sense of safety allows them to seek support and relief from other individuals around them (Van Der Kolk, 2014). The second physiological state is the primitive survival mode where individuals may pick one of two fight or flight options when their lives are threatened

(Van Der Kolk, 2014). The third less known physiological state is the freeze or immobilization state where an individual shuts down behaviorally by feigning death to signal defeat. When frozen or immobilized, the individual disconnects and withdraws (Van Der Kolk, 2014).

While the ANS regulates the three physiological states, a different nervous system called the dorsal vagal complex (DVC), otherwise known as the emergency system, is activated during a traumatic experience (Porges, 2007). Consequently, traumatized individuals experience a different “neuroception” or an alternative perception of risk and safety (Porges, 2007, p. 120). Immobilization is integral in most traumas when the ventral vagal complex (VVC) system fails and is taken over by the dorsal vagal complex (DVC) which serves to disconnect from the body through dissociation or fainting. Even after the traumatic experience has passed, the human defensive system that was previously employed by traumatized individuals to survive is temporarily ceased (Porges, 2007). Thus, traumatized individuals’ state of immobilization makes it difficult for them to differentiate safety from danger and mobilize their defenses in face of danger (Van der Kolk, 2014). As a result, traumatized individuals are unable to stay present and frequently experience PTSD symptoms such as hypervigilance and dissociation (Van Der Kolk, 2014). Further, traumatized individuals’ social relationships are impacted and their ability to experience emotional intimacy with others is hampered (Porges, 2007).

All things considered, the polyvagal theory provides an explanation of trauma as a condition where the physiological, emotional, psychological, and social dimensions of an individual are intricately interconnected. A central part of recovery entails traumatized

individuals needing to first gain physical self-awareness by experiencing bodily sensations, before connecting these physical sensations to psychological events (Scaer, 2005; Van der Kolk, 2014). Until traumatized individuals increase such body awareness, conventional trauma treatment approaches that are cognitively oriented may have restricted effectiveness (Emerson, 2011; Scaer, 2005). Further, according to Van der Kolk (2014), a leading trauma researcher, “a major challenge in recovering from trauma remains being able to achieve a state of total relaxation and safe surrender” (p. 5049). Porges (2001) further suggested that researchers design therapeutic interventions that induce calm states and activate the neural regulation of the brainstem, which may help to regulate the social engagement system. With the knowledge that trauma memory is registered in the body (Van der Kolk, 2014) and messages sent from the body have a significant reign over the mind (Scaer, 2005), it is important that new healing approaches take a different direction from conventional trauma treatment approaches that are focused on treating the mind. To actuate the trauma healing process, new healing approaches need to focus on strengthening the biological system and facilitating the mind-body-brain connection to help regulate arousal and emotions (Van der Kolk, 2014).

Informed by Porges’ polyvagal theory, Van Der Kolk (2014) recommended a revolutionary shift in our theoretical and therapeutic assumptions about trauma and trauma recovery, and emphasizes non-conventional techniques that help traumatized individuals forge mind-body connections through body-oriented treatment modalities. Emerging unconventional approaches that reconcile ‘bottom-up approaches’ such as yoga have begun to receive attention in the scholarly literature. Not only does this body-

oriented treatment modality have the potential to promote physiological safety and calmness, it may also help survivors re-orient their perceived danger which may, in turn, enhance their ability to manage social relationships (Van Der Kolk, 2014).

Yoga

The word 'yoga' is a Sanskrit word meaning to yoke or unite the individual self with the pure and higher consciousness of the supreme self (Pankhania, 2005). Yoga is an abstract and multidimensional philosophical and practical set of methods derived from the roots of ancient Indian wisdom (Simpkins & Simpkins, 2011). Traditionally, yoga is defined as an array of techniques developed to help one foster the optimal level of concentration with the ultimate goal of final liberation (Eliade, 1958). The attainment of final liberation will allow one to transcend suffering that is inextricably connected to the human condition, to realize the true self (Eliade, 1958). Although the exact origins of classical yoga are unclear, Eliade (1958) purports that the roots of yoga can be traced primarily from the spiritual history of ancient India even though there are strong indicators suggesting cross-cultural influences in yoga. Yoga was practiced as a way of disciplining the mind and body in ancient history, and offers an integrated model focused on the self-development and well-being of the individual, including the physiological, emotional, and spiritual dimensions (Pankhania, 2005; Simpkins & Simpkins, 2011). The three key ways to access these higher states of consciousness are breath control, body alignment through poses, and concentration (Simpkins & Simpkins, 2011).

Yoga is growing in popularity in the United States and an estimated number of 37 million Americans practice yoga today, a 15 percent increase from 20 million in 2012

(Ipsos poll for Yoga Journal and Yoga Alliance, 2016). 36.7 million Americans are active yoga practitioners and 31.8 million Americans have practiced yoga at least once in their lives, although not in the past 6 months (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). 34 percent of Americans indicated the likelihood of practicing yoga in the next 12 months (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). The majority of yoga practitioners are women (72 percent) from all age groups and there are more male and older practitioners now than before (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). Although yoga is growing in popularity, its rich philosophical history is less known.

Yoga's Philosophical Roots

The yoga tradition was initially passed down orally from teacher to student, and it was not until 1200 BCE that yoga teachings were first documented in the writing of the Vedas (Simpkins & Simpkins, 2011). The Vedas are the most well-known ancient writings of yoga, comprised of four texts encompassing yoga themes and knowledge of God (Simpkins & Simpkins, 2011). One of the most popular yoga texts is the Bhagavad Gita, also known as the Song of the Lord, the most popular story written poetically to systematically describe yoga (Simpkins & Simpkins, 2011). Between the second century BCE and the fourth century CE, Pantajali was the first known person to systematically organize and codify classical yoga in what is known the yoga sutras (Eliade, 1958; Pankhania, 2005; Simpkins & Simpkins, 2011) and these writings continue to be studied by yoga scholars today.

The yoga sutras serve as a philosophical text to guide one's yoga practice, and describes the eight limbs of yoga, namely, the restraints (yamas), observances (niyamas), postures (asanas), breathing (pranayama), withdrawal of the senses (pratyahara), concentration (dharana), meditation (dhyana), and absorption and enlightenment (samadhi) (Yoga Journal, 2014). The eight limbs of yoga are used to guide one's inner focus and outward behavior in the world so that one ultimately attains liberation and enlightenment (samadhi) (Yoga Journal, 2014). Various yoga styles have been developed based on the eight limbs of yoga.

Yoga Styles

There are a myriad of yoga styles and each style has a distinctive area of focus. Despite the multifarious yoga styles, the styles converge and overlap with the goal of facilitating practitioners to a state of Samadhi or the highest level of enlightenment and liberation (Simpkins & Simpkins, 2011; Yoga Journal, 2014). Some of the most commonly practiced yoga styles are Hatha yoga, Raja yoga, Mantra yoga, and Kundalini yoga.

Hatha yoga is the most popular yoga style practiced in the West and incorporates multiple postures, breathing techniques, and meditation to augment well-being and energy (Simpkins & Simpkins, 2011). The sequence of physical postures in Hatha yoga are designed to help align the skin, muscles, and bones, and allow energy to flow freely (Yoga Journal, 2014). There are numerous variants of Hatha yoga, some of which include Ashtanga yoga, Vinyasa yoga, hot and power yoga, and Kripalu yoga. For example,

Kripalu yoga, a variant of Hatha yoga, focuses on forging mind-body connections and comprises of breathing and physical postures (Mitchell et al, 2014).

Often, Hatha yoga is complemented by other yoga styles such as Raja yoga and Mantra yoga (Simpkins & Simpkins, 2011). Raja yoga refers to royal yoga and employs meditative techniques to cultivate attention and concentration of the mind (Simpkins & Simpkins, 2011). Mantra yoga is another style of yoga that harnesses the repetition of sounds, syllables, and phrases to transform one's state of consciousness (Simpkins & Simpkins, 2011). Commonly used in meditation, mantras are purported to help one increase focus and attention (Simpkins & Simpkins, 2011).

Kundalini yoga is also known as the yoga of awareness, and the goal of the practice is to facilitate spiritual transformation (Yoga Journal, 2012). This is attained by awakening the psychoenergetic force in various psychic locations within the mind-body-spirit system through the use of various pranayama breathing methods, poses, meditation, and sealing gestures called mudras (Simpkins & Simpkins, 2011, Yoga Journal, 2012).

Yoga Psychology and Western Psychology

The rich philosophical roots of yoga and the preponderance of diverse yoga styles is not surprising since yoga psychology was conceived, developed, and studied at least five thousand years ago in India, as compared to Western psychotherapy that has only been in existence for a few hundred years (Pankhania, 2005). The integration of yoga psychology and western psychology is in its early stages of infancy and few scholars (e.g. Caplan, Portillo, & Seely, 2013; Pankhania, 2005) have explored how yoga and western

psychology can meld together to potentially integrate and optimize the healing benefits of both healing traditions (Caplan et al., 2013).

Yoga and western psychology each provide a unique theoretical framework for studying the human psyche (Caplan et al., 2013). Yoga provides a holistic perspective of the whole person that addresses and integrates the physical, mental, and spiritual dimensions (Desikachar, 1995). From the yoga perspective, psychological issues are attributed to fragmentation and the lack of wholeness in a person (Desikachar, 1995). Hence, the goal of yoga is for one to attain the highest state of consciousness or self-realization through a set of techniques designed to restore health and harmony (Gharote and Lockhart, 1987). On the other hand, western psychotherapy is heavily influenced by the biomedical model that has focused on Cartesian dualism, otherwise known as the mind-body dichotomy, suggesting that the mind and body are essentially different entities (Mehta, 2011). In contrast to yoga and other folk healing methods, Western psychotherapy values independence, self-actualization, and empowerment of the individual by solely focusing on treatments that directly impact the mind (Castillo, 2001).

A second difference between western psychotherapy and yoga is that both have different perspectives on the role of the environment on the person's personality (Pankhania, 2005). While Western psychology advances the notion that the individual's personality and thoughts constitute the individual at the exclusion of the external environment, yoga proposes that consciousness can be found both within a person as well as their physical and socio-cultural surroundings (Pankhania, 2005).

Scholars in both psychological traditions share a couple of similarities in some psychological processes, but differ in their beliefs on the ability to control these processes. For example, both Western psychoanalysts (Freud and Jung) and yoga scholar (Pantajali) share the view that memory and motivation are a part of our unconscious psychic processes (Pankhania, 2005). Contrary to Western psychologists' notion that the unconscious may not be overcome or transcended at will, however, yoga psychology goes one step further and asserts that the unconscious can be accessed, transcended, and attained in yoga by appropriately channeling one's focus and energies (Pankhania, 2005). Another example to further illustrate this comparison between yoga and western psychology is that both perspectives share the common belief of developing one's lower levels of consciousness by strengthening the ego (Ajaya, 1983). Yoga goes beyond that perspective, however, and subscribes to the importance of detaching from the narrow scope of the ego by observing neutrality to attain the apex of consciousness (Ajaya, 1983).

The theoretical comparison of yoga and western psychology demonstrates the potential of integrating both traditions. Despite the growing interest in complementing yoga with western psychology, the question that remains is how one can draw from both traditions to serve clients from diverse cultures in the treatment of various mental health/psychological issues (Pankhania, 2005). However, the integration of yoga and western psychology is not without its challenges. Pankhania (2005) suggests that blending the two distinctive psychological traditions and importing their unique set of linguistics and philosophies from their culture-of-origin is an intricate process. Moreover, the author suggests that yoga is an experiential practice and mental health professionals

need to maintain their personal yoga practice in order to effectively incorporate yoga in their clinical work with clients. Although there is little information on the bridge connecting yoga and western psychology, researchers have investigated the efficacy of yoga on mental health.

The Efficacy of Yoga on Mental Health

Evidence exists that yoga has global positive mental health benefits. For example, in a recent survey, yoga practitioners were found to be more physically active than non-practitioners, have a more positive self-image, and be more environmentally conscious and socially connected (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). Much of the yoga research examines short-term treatments that utilize a variety of breathing techniques, physical poses, and meditation that are studied either exclusively or in combination with one another (Simpkins & Simpkins, 2011). These yoga techniques can facilitate neuroplasticity and neurogenesis, the brain's ability to change the connections between synapses and grow new neurons (Simpkins & Simpkins, 2011). Due to the diverse varieties of breath work, poses, and meditation, scholars (Caplan et al., 2013; Sedlmeier et al., 2012) have acknowledged the challenges of comparing the efficacy of these specific methods. The various efficacy studies on yoga have indicated a potpourri of benefits that yoga offers, ranging from its general well-being to the treatment of more specific psychological clinical conditions.

Yoga and general well being. Yoga promotes general well being and ameliorates the stress levels of individuals who do not have pronounced psychological health conditions. Scholars have found support for yoga's potential to bring about positive

changes in one's psychological and neurological health (Dale et al., 2011; Streeter et al., 2010). A case in point is Streeter et al. (2010)'s study comparing yoga practice to a metabolically matched walking activity. Results of the study indicated that participants in the yoga group had greater significant mood improvements and reduced anxiety than participants in the walking group. In another study, Dale et al. (2011) found that women who practiced yoga frequently reported higher levels of self-concept, a decrease in dysfunctional coping strategies, and increased levels of endorsed benefits from their yoga practice, including mindfulness, focus, and fitness levels. Furthermore, researchers investigating the neurology of individuals with considerable yoga practice, specifically, meditation, compared to individuals who had little to no experience, found that people who practice yoga extensively have increased mass in parts of the brain associated with greater self-regulation (Holzel et al., 2011; Luders et al., 2012). These parts of the brain are generally associated with levels of attention regulation, body awareness, emotion regulation, and introspection (Holzel et al., 2011; Luders et al., 2012). Additionally, there is preliminary evidence that maintaining an active yoga practice can physiologically preserve brain tissue by retarding cerebral degeneration, leading to positive psychological impact (Luders, 2014).

Yoga and stress reduction. Various elements of yoga practice including meditation, breathing, and asanas have been demonstrated to lower stress levels in diverse populations through several research studies. Researchers have found empirical evidence suggesting that practicing yoga reduces stress levels in older adults who practice chair yoga compared to other physical activities (Bonura & Pargman, 2009); Kripalu

yoga reduced perceived stress in younger adults (Gard et al., 2012); Viniyoga and mindfulness significantly reduced perceived stress in employees at a work site; and meditation reduced stress levels for patients suffering from cancer and multiple sclerosis (Pritchard, Elison-Bowers, & Birdsall, 2010). Further, practicing yoga for a longer period of time seems to increase mindfulness and reduce stress levels based on a comparison study of advanced and beginner Hatha yoga practitioners conducted by Brisbon and Lowery (2011). Based on the results of this study, advanced practitioners (with over five years of yoga experience) scored significantly higher mindfulness levels and significantly lower stress levels than beginner practitioners with less than five years of yoga experience.

Yoga and mood. Yoga also has been found to benefit individuals with an assortment of psychological clinical diagnoses such as mood disorders, schizophrenia, and trauma. Researchers (Holzel et al., 2011; Simpkins & Simpkins, 2011) who investigated the effects of yoga suggested that yoga techniques (mindfulness, meditative, and breathing techniques) augment self-regulation abilities. Yoga increases one's ability to balance the autonomic nervous system (ANS) by calming the sympathetic and parasympathetic systems, augmenting one's ability to self-regulate emotions through self-soothing techniques (Simpkins & Simpkins, 2011). Additionally, increased yoga practice was found to sustain practitioners' ability to exert self-control over their responses through cognitive appraisal, suggesting that meditation increases one's positive affect and emotion regulation abilities (Gootjes, Franken, & Van Strein, 2011). Other researchers have evinced the efficacy of yoga as a feasible independent or complementary treatment

intervention for reducing depression (Bilderbeck, Farias, Brazil, Jakobowitz, & Wikholm, 2013; Descilo et al., 2009; Franzblau, Echevarria, Smith, & Van Cantfort, 2008; Kinser, Bourguignon, Whaley, Hausenstein, & Taylor, 2013). When yoga was applied as the only treatment intervention for women with major depressive disorder, those who completed the yoga intervention indicated fewer ruminations, increased feelings of connectedness to self and others, and acquired new coping techniques through yoga as compared to those in the control group (Kinser et al., 2013). Additionally, yoga has been used to complement other psychological interventions to treat depression. For example, Franzblau et al. (2008) found that a combination of yogic breathing techniques and cognitive-linguistic interventions such as giving testimony about their abusive experiences demonstrated the greatest significant reduction in depression symptoms among women who had experienced IPV.

Yoga and schizophrenia. When complemented with psychiatric treatment, yoga practice (postures and breathing exercises) reaped multiple benefits for individuals with schizophrenia (Duraismamy, Thirthallo, Nagendra, & Gangadhar, 2007; Visceglia & Lewis, 2011). These effects include reduced psychotic and depressive symptoms, improved social cognition, increased social and occupational functioning, and an enhanced quality of life (Bangalore & Varambally, 2012; Duraismamy et al., 2007; Visceglia & Lewis, 2011).

Yoga and trauma. As suggested, Western psychotherapy is traditionally focused on the mind and the shift from the mind to the body is considered radical (Caplan et al., 2013). Despite this, there is growing research on neuroscience and trauma research that

reinforces the importance of integrating yoga and western psychology (Caplan et al., 2013). Although few scholars have attempted to blend yoga and western psychology in trauma treatment (Caplan et al., 2013), the shift to mind-body and body-oriented approaches is not new in psychology. Somatic psychology was conceived in the 1970s and conceptualizes the mind and body as connective and interactive components of the whole person (Caplan et al., 2013). This approach utilizes present and direct bodily experience to create self-awareness and renew the meaning assigned to somatic traumatic symptoms as a way of facilitating trauma recovery (Caplan et al., 2013). Gerbarg and Brown (2011) asserted that despite the benefits of traditional talk therapy and cognitive therapies, mind-body approaches such as yoga can be very helpful and may be necessary for full recovery in certain situations. Further, the authors suggested that mind-body approaches utilize the body's internal communication system that does not require the use of words (Gerbarg and Brown, 2011). This may be especially helpful for survivors of abuse where recall may elicit painful physiological responses (Gerbarg and Brown, 2011). Similar to somatic psychology, yoga offers yet another approach to facilitate trauma recovery by forging mind-body connections (Caplan et al., 2013).

Of the few researchers who have examined the effects of yoga on trauma survivors, Descilo et al. (2009) explored the effects of yoga on the 2004 Asian tsunami trauma survivors. In their study, there were two interventions. The first was a yoga breath program called the Breath-Water-Sound (BWS) practice from Sudarshan Kriya Yoga (SKY). A second intervention involved the BWS practice followed by 3 to 8 hours of a trauma reduction exposure technique. These two groups were compared with a control

group. There were no significant differences in the PTSD and depression scores between the two intervention groups, which suggests that the addition of the exposure therapy to the breath practice did not enhance the scores on these measures (Descilo et al., 2009). However, participants in both intervention groups indicated a significant immediate and sustained reduction of PTSD and depression symptoms, evincing that yoga is effective in reducing psychological distress immediately after mass disasters (Descilo et al., 2009).

Forms of Yoga and Trauma Treatment

Although Descilo (2009) demonstrated the efficacy of yoga in healing trauma, there is limited empirical evidence for the efficacy of popular forms of yoga such as Ashtanga yoga on trauma. Further, Emerson and Hopper (2011) suggested that not all forms of yoga may be appropriate in trauma recovery. Emerson and Hopper (2011) reviewed various popular forms of yoga commonly practiced that may be less appropriate for facilitating trauma recovery or even contraindicated to the recovery needs of trauma survivors. For example, in Bikram, power, and hot yoga classes, the room is heated to at least 100 degrees Fahrenheit and the conditions of the room may be uncomfortable for some individuals to practice (Emerson & Hopper, 2011). Additionally, there is limited freedom for self-exploration in these forms of yoga due to the nature of the verbal cues applied by instructors who teach these classes (Emerson & Hopper, 2011). For example, power yoga instructors guide students to push further and harder and students may get the message that they are being chastised (Emerson & Hopper, 2011). In Bikram yoga, a script is read to students with very specific and rigid instructions for performing the poses (Emerson & Hopper, 2011). These conditions may reinforce or intensify the loss of

control and helplessness in trauma survivors who may have been manipulated or coerced in a traumatic event(s) (Emerson & Hopper, 2011).

Similarly, Iyengar yoga is centered on postural alignment and the messages conveyed in this form of yoga may be contraindicative of the recovery trauma survivors need (Emerson & Hopper, 2011). The emphasis placed on the ‘correct’ alignment during this practice strongly suggests that the body requires correcting because it is inherently an anomaly (Emerson & Hopper, 2011). This focus contradicts the key healing conditions that trauma survivors need in their recovery, mainly, trust, acceptance, and self-appreciation of their body that does not require external approval (Emerson & Hopper, 2011). Further, props that are used in Iyengar yoga include straps and rubber cords that may resemble the torture devices that some trauma survivors may have experienced traumatically, as part of being restrained or violated (Emerson & Hopper, 2011).

Added to that, the pace of the yoga practice in certain forms of yoga may be unsuitable for trauma survivors. Yoga forms such as Vinyasa and Ashtanga yoga are relatively fast-moving and may not afford students the opportunity to be mindful during the practice, a vital prerequisite for developing emotion-regulation in trauma recovery (Emerson & Hopper, 2011). For example, Ashtanga yoga is a dynamic and fast-paced variety of yoga where one pose quickly transitions into another (Emerson & Hopper, 2011). Since students could get lost amidst the quick transitions, this style of yoga may be contraindicative for trauma survivors due to the increased likelihood of them feeling inadequate or defeated, leading to them giving up the class or even the practice

completely (Emerson & Hopper, 2011). Additionally, this fast-paced flow may trigger the experience of dissociation among trauma survivors during the practice (Emerson & Hopper, 2011).

As discussed, there are several crucial considerations that significantly contribute to trauma recovery, and the forms of yoga that fit the ubiquitous individual may not necessarily lend themselves well to trauma survivors. According to Emerson, Sharma, Chaudhry, & Turner (2009), yoga can help to attend to the recovery needs of trauma survivors with a caveat that yoga needs to be “skillfully employed” (p. 124).

Trauma-Sensitive Yoga (TSY)

In response to the recovery needs of complex trauma survivors, trauma-sensitive yoga (TSY) was crafted to discern curative characteristics of yoga that can facilitate the healing of trauma. Cognizant of the goal of addressing and supporting trauma recovery, TSY was designed with special consideration to several factors including the characteristics of the yoga instructor, the student’s experience, and the stylistic features of the classroom environment (Emerson, 2015; Emerson & Hopper, 2011).

Definition and Brief History of TSY

TSY is a structured body-oriented practice developed to help complex trauma survivors cultivate self-awareness, self-regulation, and develop a compassionate relationship with their body (Emerson & Hopper, 2011). Psychiatrist Van der Kolk and yoga teacher David Emerson jointly developed the TSY program to facilitate trauma recovery among war veterans (Emerson & Hopper, 2011). TSY was founded based on extensive clinical experience working with complex trauma survivors and theories

pertaining to trauma work. In the following sections, the conceptual framework, techniques, principles, and themes that undergird TSY will be discussed.

TSY Conceptual Framework

TSY was developed based on three keystone theories, namely, neuroscience, attachment theory, and trauma theory. All three theories frame the purpose, principles, and themes of TSY, as well as the techniques used in TSY.

Neuroscience research. There is increasing research evincing the impact yoga has on the brain. Porges (2009)' polyvagal theory suggests that psychological processes such as emotions and interpersonal interactions are closely interrelated to physiological processes such as breathing. Growing neuroscience research indicates that the nervous system is comprised of an intricate interaction of cognitions, emotions, and behaviors, and neuroscientists have found that the higher executive brain functions (such as focusing and inhibiting) are closely connected to lower brain functions (such as breathing and moving) (Simpkins & Simpkins, 2011). Simpkins and Simpkins (2011) went further and suggested that physiological and psychological processes share a two-way interaction, and yoga techniques may offer multiple ways of accessing and stimulating either of these processes to impact change.

The most recent neuroscience research developments suggest that trauma neurologically impacts survivors' interoceptive pathways, which impacts their ability to mindfully listen to their bodies' responses and make deep visceral connections with themselves (Badenoch, 2008; Emerson, 2015). Additionally, traumatic memories impair trauma survivors' ability to verbalize their thoughts and feelings (Emerson, 2015).

Although traditional talk and cognitive therapeutic approaches can be beneficial, the extensive impact trauma has on the individual warrants the use of more comprehensive and integrated mind-body treatments that facilitate body-mind communication such as yoga (Gerbarg & Brown, 2011). To address trauma survivors' impaired somatic connection and limited communicative abilities, the three primary TSY techniques, breathing, forms, and mindfulness were intentionally developed to be somatically-based (Emerson, 2015).

Attachment theory. Attachment theory was first conceived by John Bowlby and later developed by Mary Ainsworth, Mary Main, and their associates (Badenoch, 2008). Attachment theory proposes that the most fundamental components of trust, safety, and security are developed with the child's primary caregivers during his or her early life (Emerson, 2015). Since attachment has the power to shape the mind and generate a unique subjective experience for every individual, relationships are influential in shaping one's adult behavior and have the potential to induce complex trauma or heal trauma (Badenoch, 2008; Emerson, 2015). The four key attachment types are the secure, insecure-avoidant, insecure anxious-ambivalent, and the disorganized attachment types; Understanding these four attachment types will help shed light on trauma survivors' inner worlds (Badenoch, 2009).

(1) Secure attachment: individuals who are securely attached are not bound by their history and can coherently integrate their childhood experiences (Badenoch, 2009). Fortunately, individuals who do not develop secure attachment early in life can later develop an "earned secure attachment" (Schoore, 2003b, 2007) with appropriate treatment

(Badenoch, 2009). Trauma survivors may develop one or more types of insecure attachment: (2) Individuals who develop an insecure-avoidant attachment pattern are likely to have dismissive primary caregivers who minimized their child's need for intimacy and connection with others (Badenoch, 2009). In turn, the child later develops expectations of emotional disconnection and cognitive beliefs that relationships are less important (Badenoch, 2009); (3) Individuals who develop an insecure anxious-ambivalent attachment pattern live in an inner world where they expect relationships to be unpredictable, chaotic, and fragmented (Badenoch, 2009). Individuals of the anxious-ambivalent type often experience emotional dysregulation and feel overwhelmed (Badenoch, 2009); (4) Individuals who share the insecure disorganized attachment pattern are more likely to have been abused or neglected during childhood due to their parent's projection of unresolved traumatic experience on them in an unpredictable and repetitive way (Badenoch, 2009). Individuals presenting this attachment pattern often experience feelings of self-blame and shame, and frequently feel that they lack control over situations or themselves (Badenoch, 2009).

The impact of trauma coupled with an insecure attachment may inadvertently cause complex trauma survivors to experience viscerally conscious and unconscious emotional dysregulation (Emerson, 2015). In line with this theory, complex trauma survivors could restore secure attachments by building an interpersonal connection with a warm, calming, and empathic individual (Badenoch, 2009). Grounded in attachment theory, TSY thus suggests that complex trauma survivors may heal by developing

feelings of safety, self-control, and body awareness through relational opportunities with the TSY facilitator (Emerson, 2015).

Trauma theory. Similar to attachment theory, trauma theory postulates that trauma that occurs within the context of relationships is the most pernicious since it robs the survivor of power and control (Emerson, 2015). This accounts for the need for an assortment of healing strategies to facilitate recovery (Emerson, 2015). Especially for interpersonal complex trauma, trauma theorists suggest that one of the most essential elements responsible for treatment is the trauma survivor's 'interrelational power dynamics' (Emerson, 2015, p. 20)—a perspective also shared by attachment theory. As such, TSY instructors focus on empowering survivors by validating them and providing them with the space and opportunity to own their personal yoga experience, ultimately promoting healing (Emerson, 2015).

TSY Goal and Principles

The overarching goal of TSY is to provide a context and opportunities for the individual to notice visceral feelings and make self-directed body-based connections (Emerson, 2015). The three TSY theories align with the overarching goal of TSY and its five underlying principles (Emerson, Sharma, Chaudhry, & Turner, 2009). These five principles are to 1) create a safe environment for students to develop a sense of safety, consistency, non-judgment, and gentleness; 2) instructor qualities; 3) assists; 4) invitational language; and 5) exercises. An additional element integral in TSY group yoga practice is 6) forging a sense of community.

The first TSY principle is to create a safe environment for students to develop a sense of safety, consistency, non-judgment, and gentleness (Emerson et al., 2009). In regular yoga classes, students may find the instructor moving around the room and appearing when he or she is least expected (Emerson et al., 2009). This may trigger feelings of unpredictability and unwittingly violate students' personal space. A TSY instructor tries to create a welcoming environment for students and promote safety in several ways (Emerson et al., 2009). For example, the TSY instructor may provide students with a couple of options to get into the yoga forms, and offer them the choice of getting out of the pose at any time they experience discomfort (Emerson et al., 2009). Other ways a TSY instructor can cultivate a safe environment are by reducing distractions such as making sure not to appear by a student's side unexpectedly and minimizing external sounds during the student's practice (Emerson et al., 2009).

The second principle integral in TSY is the TSY instructor's qualities. Emerson et al. (2009) suggests a list of instructor dispositions that can help to foster a safe and welcoming environment for students: being present, approachable, inviting, positive, accepting, open to feedback, adaptable to making changes when things are not unfolding as planned, willingness to go at a slower pace, and encouraging students to cultivate their own experience during the practice.

Assists are the third principle in TSY (Emerson et al., 2009) and this principle distinguishes TSY from other yoga styles. Other yoga styles may incorporate both verbal and physical assists but only verbal assists are used in TSY. Additionally, a non-TSY instructor may not always seek permission to assist students and may place a hand on a

part of the student's body to adjust them so they can get into what the instructor considers an ideal posture (Emerson et al., 2009). Since such physical assists involve entering a student's space and manipulating the student's body in some way, they are antithetical to TSY's approach of helping individuals develop personal knowledge of and compassion toward their bodies and may, in some instances, risk re-traumatizing students (Emerson et al., 2009). Verbal assists are applied in TSY as they serve a similar function of guiding students and facilitating their practice while demonstrating respect for their physical boundaries (Emerson et al., 2009).

Invitatory language is the fourth principle in TSY, and is closely tied to verbal assists. Instructors teaching regular yoga styles may utilize words that convey the message of pushing beyond pain and trying harder (Emerson et al., 2009). Unfortunately, however, trauma survivors may already have a history of aversive and disconnected relationship with their bodies (Emerson et al., 2009). Thus, directives that coerce students to follow instructions could trigger their PTSD symptoms and lead them to eventually drop out of practicing yoga (Emerson et al., 2009). To encourage trauma survivors to develop amiable and tender relationships with their bodies as part of the trauma recovery process, it is imperative that TSY instructors be selective about their choice of vocabulary and utilize invitatory language such as "if you are ready" or tentative words such as "maybe" (Emerson et al., 2009).

The fifth TSY principle is exercises, otherwise known as postures or poses (Emerson et al., 2009). This principle overlaps with one of the three TSY techniques, forms, and will be discussed in greater detail.

Aligned with attachment and trauma theories that suggest that recovery can be facilitated through developing safe and trusting relationships, an additional TSY element found in yoga group practice is forging a sense of community. Often, complex trauma survivors experience a sense of isolation and have difficulty connecting to themselves and others (Emerson et al., 2009). Trauma survivors can enjoy the benefits of being a part of a community in a TSY class as they get to connect with the TSY instructor and other peers who share similar experiences and could potentially lend support to one another (Emerson et al., 2009).

TSY Themes

Consistent with the TSY principles, the four clinically-informed TSY themes that have been collaboratively developed by yoga instructors and mental health clinicians to facilitate trauma recovery are, (1) being present, (2) making choices, (3) taking effective action, and (4) creating rhythms (Emerson, 2015; Emerson & Hopper, 2011). These themes are contextualized using various yoga forms and were designed to support TSY's goal of offering students opportunities to observe how they feel through various self-directed bodily movements (Emerson, 2015).

Being present. Being present is a phenomenon that is integral to trauma treatment. The goal of TSY is to help traumatized individuals locate and generate novel bodily experiences by experimenting with myriad yoga forms to substitute for the repetitious mental rehearsal of trauma (Emerson, 2015). Often, trauma survivors are fixated on the traumatic experience and feel stuck in their trauma (Emerson & Hopper, 2011). According to Van der Kolk (2006), components of the brain that oversee the ability to be

present-centered are impaired in trauma survivors. Traumatic memory serves as a roadblock to allowing trauma survivors to be present and open to new experiences (Emerson, 2015). Hence, traumatized individuals experience more challenges being present when compared to non-traumatized individuals (Emerson, 2015). TSY practice is centered on the consciousness of one's bodily experience in the here and now and does not necessitate the engagement of the cognitive process (Emerson, 2015; Emerson & Hopper, 2011). TSY also encourages the shift from trauma to the present by helping traumatized individuals identify a part of their body that they can access, engage with, and feel in the moment (Emerson, 2015; Emerson & Hopper, 2011). For example, the TSY instructor may employ verbal cues to invite students to notice the contact between the ground and their feet to cultivate mindfulness (Emerson, 2015).

Making choices. In addition to difficulty being in the present moment, trauma causes individuals to experience great difficulty forging connections between themselves and their bodies. This may be caused by dissociation, an inability to sense their bodies, and self-loathing of their bodies (Emerson, 2015; Emerson & Hopper, 2011).

Furthermore, complex trauma subjects individuals to a radical lack of choice and control in their situation, creating feelings of fear and helplessness (Emerson, 2015; Emerson & Hopper, 2011). TSY addresses these issues by offering complex trauma survivors a context to make autonomous decisions and supplying elements that were absent during the trauma: “a structured, supportive, and self-paced medium for survivors to make choices in relation to their bodies and ... experience[s] that are kind, gentle, and caring...” (Emerson & Hopper, 2011, p. 45). Further, TSY helps empower trauma survivors by

offering them opportunities to make decisions about what they can do with their bodies so that they may gradually develop the capacity to increase self-awareness and exert self-control (Emerson & Hopper, 2011). This may eventually impact their ability to make important life decisions (Emerson & Hopper, 2011). Three ways TSY encourages choice-making are by using invitational language, forging bodily connections, and binding choices to interoception (Emerson, 2015). For example, the TSY instructor may offer students body-based choices by giving them the option of choosing which two or three variations of a form they prefer (Emerson, 2015).

Taking effective action. Trauma may impact one's ability to sense the body, which inadvertently leads to an impaired ability to respond and adjust the body according to how the individual feels (Emerson, 2015). This effect is attributed to either decreased brain activity due to complex trauma or trauma survivors' learned experience that it is not safe to trust themselves (Emerson, 2015). These ramifications of trauma may challenge trauma survivors' ability to take action based on what they experience in their bodies (Emerson, 2015). To reignite trauma survivors' ability to make decisions about their body and act on these decisions, TSY creates opportunities for survivors to restore self-control and enhance self-efficacy by becoming active agents to help them feel better (Emerson, 2015; Emerson & Hopper, 2011). To this end, three possibilities offered to trauma survivors to optimize opportunities for taking action are, (1) action, (2) intentional action, and (3) effective action (Emerson, 2015). Action solely entails motor movements with the body without any interpretation or idea (Emerson, 2015). Intentional action involves a purposeful action based upon awareness of a thought or feeling that could be facilitated

by either the TSY instructor or the trauma survivor him- or herself (Emerson, 2015).

Trauma survivors are encouraged to take as many intentional actions as they possibly can (Emerson, 2015). Effective action encompasses an action or an intentional action and is accompanied by the awareness that the action taken is effectual and helps one feel better (Emerson, 2015). It is, however, important to note that it is not necessary for the trauma survivor to feel better or experience a perceived change to feel better (Emerson, 2015). Rather, the prospect of perceiving change is most important (Emerson, 2015).

Creating rhythms. Additionally, complex trauma may impact one's relationships with oneself and others, resulting in feelings of isolation and disconnection (Emerson & Hopper, 2011). To respond to the lack of synchrony and dysregulation complex trauma survivors experience externally in their interactions with others and internally within themselves, notably their physiology and affect, TSY helps survivors recreate synchronous interpersonal rhythms with others and synchronous intrapersonal rhythms with themselves through movement, time, and connection with others (Emerson, 2015; Emerson & Hopper, 2011). The traumatic experience is described as a physiologically 'constricting' and 'immobilizing' one that constricts the natural flow of movement in the body to help one avoid traumatic memory (Emerson, 2015, p. 137). Therefore, physical movement alone is sufficient for facilitating trauma recovery. Trauma can confound one's sense of time and connection to the world and the cycle of trauma, resulting in the experience of being stuck in the repetitious cycle of trauma (Emerson, 2015; Emerson & Hopper, 2011). In response to freeing survivors from this cycle, TSY helps to reframe survivors' connection with their bodies by establishing predictability in yoga forms

(Emerson, 2015; Emerson & Hopper, 2011). The concept of time is reintroduced so that survivors feel that there is a definite beginning and an ending (Emerson, 2015; Emerson & Hopper, 2011). For example, using a countdown for each form helps to maintain the concept of duration (Emerson, 2015; Emerson & Hopper, 2011). Another way TSY helps survivors create rhythms is by establishing a connection with others. When at least two individuals practice yoga using a communal space, it helps to create a ‘rhythmical interaction’ (Emerson, 2015, p. 144). Once a rhythmical interaction is established and two individuals engage in a common activity centered on the body experience by mirroring each other’s movements, they are connected in “rhythmical attunement” (Emerson, 2015, p. 148).

TSY Techniques

In addition to the techniques described in the TSY themes section above, TSY is comprised of three key elements (breathing, forms, and mindfulness) to facilitate trauma recovery. Although these techniques are commonly used in most yoga styles, these techniques have been intentionally selected and modified to fit survivors’ trauma recovery needs, based on the TSY goal, principles, and themes.

Breathing. Traditional yoga incorporates several types of breathing techniques. A popular breathing technique that was used in ancient India and has made its way into more contemporary yoga forms is pranayama breathing. According to Eliade (1958), pranayama breathing is a tool to attain the goal of unifying one’s consciousness and access states of consciousness that are typically inaccessible during waking or sleeping states. Contrary to these traditionally prescribed ways of breathing to meet an external

goal of developing and unifying one's consciousness by breathing in a certain way, TSY considers breathing an opportunity for one to engage a shift from trauma to a new body experience through experimenting various breathing options (Emerson, 2015). In a TSY class, the instructor may invite students to notice their breath by considering the physical characteristics and sensations of their breath or to try adding minimal breaths in a curious way (Emerson, 2015). In this way, students rely on their subjective knowing to guide their breathing without an external evaluation of the way they breathe (Emerson, 2015). In short, distinct from regular yoga, the goal and approach to breath work in TSY is driven by trauma recovery needs.

Forms. According to Eliade (1958), 'asana' is the ancient Sanskrit word for physical positions or poses. Asanas were traditionally defined as positions that concentrate on one point in the body and the practitioner works toward the ultimate goal of attaining perfection in the pose by the experience of effortlessness (Eliade, 1958). In TSY, the word 'forms' is used in place of 'poses' to draw emphasis on the student's internal somatic experience and perspective of the physical position (Emerson, 2015). Similar to breathing, TSY centers on students' self-discovery process of trying out various body movements within the context of a yoga form. Since the goal of TSY is to help the individual make meaningful somatic connections, the yoga forms are used as a tool and opportunity for self-exploration rather than being the end goal (Emerson, 2015). Therefore, the added stress of conforming to external expectations on how a pose should be in regular yoga is absent in TSY (Emerson, 2015). Additionally, TSY forms are flexibly catered to trauma survivors' needs and can be done with a yoga mat or a chair.

Although the rationale for using chairs during the TSY practice was not explained in the TSY manual, one possible reason chairs are used could be attributed to the majority of trauma survivors at the Trauma Center who may have sustained major physical injuries and multiple amputations (Emerson, 2015). For the purposes of this research study, chair-based TSY yoga will be utilized to align with the most current version of the TSY manual that uses chair-based yoga (Emerson, 2015).

Mindfulness. Mindfulness aids one's ability to increase self-awareness and be in the present moment (Eliade, 1958; Emerson, 2015). In the new age movement, mindfulness refers to the intentional concentration of any thought, emotion, the five senses, an object, or a bodily experience (Emerson, 2015). Since it is not necessary to make cognitive links to facilitate recovery, TSY has streamlined the concept of mindfulness to a body-based phenomenon of being present through visual observation or making visceral connections with a surface such as contact with the floor (Emerson, 2015). Often, trauma survivors experience challenges being present due to the lingering effects of their traumatic memories (Emerson & Hopper, 2011), so providing opportunities for them to stay present is key to their recovery. Through mindfulness, trauma survivors can pay attention to their somatic experience such as feeling their muscle stretch, a process otherwise known as interoception (Emerson, 2015).

In summary, the TSY principles, themes, and the three key techniques support the overarching TSY goal of helping complex trauma survivors bridge the somatic connection needed to facilitate recovery. Although TSY is still relatively new in the field,

its efficacy for treating trauma has been empirically tested by several researchers (Dick, Niles, Street, DiMartino, & Mitchell, 2014; Jindani & Khalsa, 2015; Mitchell et al., 2014; Van der Kolk et al., 2014).

Empirical Research on the Efficacy of TSY

Although research on TSY yoga is in its nascent stage and, accordingly, is limited in scope, several scholars have found evidence for the efficacy of TSY as an intervention for significantly reducing participants' PTSD symptoms (Dick et al., 2014; Mitchell et al., 2014; Van der Kolk et al., 2014). Van der Kolk et al. (2014) conducted one of the first preliminary studies investigating the efficacy of TSY with women who had chronic PTSD and were not responding to traditional psychotherapy treatment. Based on the comparison between a TSY intervention group and a women's health psychoeducational control group, Van der Kolk et al. (2014) found that not only did the PTSD symptoms of the TSY group participants abate significantly, the reduction of these PTSD symptoms were also sustained over time. This was in contrast to the control group's PTSD symptoms which reverted to their baseline scores after a short-lived decrease.

It also appears that TSY yoga may have other beneficial effects, including increased psychological flexibility and enhanced emotion regulation. Dick et al. (2014) found that participants in a TSY yoga group could apply greater psychological flexibility, or an increased ability to be fully present and accepting of how they feel and think, compared to participants in a control group (Dick et al., 2014). Additionally, participants in the yoga group had decreased expressive suppression, defined as a negative emotional

regulation strategy where one restricts their expression of their emotions when emotionally aroused (Dick et al., 2014).

Other researchers, however, have not found TSY to be more effective than controls on some psychological constructs, such as depression and anxiety. For example, Mitchell et al. (2004) found that participants in both the control and TSY intervention groups indicated significant decreases in re-experiencing and anxiety symptom measures in the PTSD Checklist-Civilian (PCL-C). The authors attributed the results to insufficient statistical power due to a small sample size, however, so additional research in this area is warranted. Similarly, in their study, Van der Kolk et al. (2014) found that both the control and TSY intervention groups reported significant decreases in depression symptoms and could not identify nuanced differences between both groups. Van der Kolk et al. (2014) suggested that the presence of confounding variables such as the supportive elements of the control group, where participants shared food and kept in contact with one another outside of the TSY intervention setting, could have inflated participants' mood levels in their study. Based on the results of these studies, it seems important for researchers to consider sample size and other possible confounding variables in future quantitative research studies to investigate the relationship between TSY and participants' mood.

Limitations and Gaps in the Current TSY Literature

Based on the current body of literature investigating the efficacy of TSY, there are several limitations and gaps in knowledge that seem exigent to address in future research. Most of the research studies investigating the impact of TSY are short-term and typically span between 8 and 12 weeks (Clark et al., 2014; Dick et al., 2014; Jindani & Khalsa,

2015; Van der Kolk, 2014). Hence, it is uncertain if TSY can help sustain the reduced PTSD symptoms in individuals impacted by trauma. Also, researchers have not yet determined the likelihood of trauma survivors continuing their TSY home practice independently without the guidance of a TSY teacher, or considered which resources would increase their likelihood of continuing independently. Further, the small sample size of respondents in these quantitative studies (Clark et al., 2014; Dick et al., 2014; Mitchell et al., 2014; Van der Kolk, 2006) limits the generalizability of TSY's efficacy in treating PTSD.

Additionally, most researchers (Dick et al., 2014; Mitchell et al., 2014; Van der Kolk et al., 2014) have applied solely quantitative experimental research designs involving randomized samples to determine the efficacy of TSY by evaluating participants' PTSD symptoms. Although these studies provide important information about the benefits of TSY treatment in terms of PTSD symptoms, depression, and anxiety, they provide limited information about participants' recovery process. Apart from the Dick et al. (2014) study, there are no known studies examining the mechanisms of TSY and the specific contributions of these mechanisms to reduce PTSD symptoms (Van der Kolk et al., 2014).

Several scholars (Van der Kolk, 2006a; Van der Kolk, 2014; Van der Kolk, McFarlane, & van der Hart, 2006) have emphasized the centrality of first making a somatic connection before making a cognitive connection as an integral part of trauma recovery. Ironically, scholars investigating the impact of TSY (Dick et al., 2014; Mitchell et al., 2014; Van der Kolk et al., 2014) have yet to operationalize individuals' trauma

recovery process in terms of the interconnectedness between multiple dimensions such as the physiological and psychological dimensions. Since trauma is a multi-faceted phenomenon that impacts all facets of human functioning, including the biological, psychological, social, and intrapsychic dimensions (Herman, 1998; Jakovljević, et al., 2012; Levine, 2010), it seems pertinent and fitting for the existing body of research on trauma recovery to encompass multidimensional considerations.

Given the nascent and exploratory nature of empirical research on TSY, it seems vital to illuminate participants' voices and for participants to provide subjective accounts describing their healing process, beyond what can be inferred from PTSD scores. To date, however, only Jindani and Khalsa (2015) have used qualitative research methodology to explore the perceptions and experiences of participants with PTSD symptoms who have undergone yoga treatment, albeit not with TSY. Jindani and Khalsa (2015) investigated the experiences of 40 men and women with PTSD symptoms undergoing a trauma-sensitive Kundalini yoga (KY) program (different from TSY) through a semi-structured telephone interview. Participants comprised of 9 men and 31 women who experienced various types of trauma including sexual abuse, emotional abuse, physical trauma inflicted from interpersonal violence, illness or motor accidents, compassion fatigue, and challenging life situations (Jindani & Khalsa, 2015). Although there were IPV survivors in their sample, this was not the target of their study. Participants with self-perceived PTSD were recruited through posters and advertisements posted online and at various physical locations (Jindani & Khalsa, 2015). Potential participants were first assessed for suitability to participate based on a set of entry criteria through telephone screening, and

those who qualified were selected if they met the eligible criteria for PTSD after taking the Post-Traumatic Stress Disorder Checklist (PCL-17) (Jindani & Khalsa, 2015). In their 8-week yoga intervention study, Jindani and Khalsa (2015) analyzed three key themes derived from the telephone interviews, including participants': (1) self-observed changes including their mind-body relationship, emotional changes, self-reflection, cognitive, action-behavioral, and psychosocial changes; (2) new awareness which pertains to their new perceptions and modifications of their life experiences and views of life such as their spirituality; and (3) perceptions of the yoga program. These themes inform us of connections between various facets of an individual, including the mental, physical, and social dimensions, further reiterating that trauma recovery is a holistic phenomenon.

A key limitation to the Jindani and Khalsa (2015) study is that it may not have sufficiently captured participants' experiences in depth. The interviews were conducted through phone for a 30-minute duration, which may have limited participants' ability to fully express themselves in the way face-to-face interviews would allow. Although the Jindani and Khalsa (2015) study is the only known study to investigate participants' experiences of a yoga intervention, participants in their study were males and females who experienced various types of trauma including IPV. Given the close associations between IPV and PTSD (Dutton, 2009; Griffing et al., 2006; Rodriguez, et al., 2008; Tramayne, 2012), it seems vital to focus specifically on the trauma recovery experiences of women impacted by IPV.

Taken together, it seems critical to conduct a thorough investigation of how TSY facilitates trauma recovery by examining both the process and outcomes of trauma

recovery. This research study thus attempts to fill the paucity in the literature by investigating the multi-dimensional trauma recovery experiences of women impacted by IPV through TSY, using a collective case study approach.

CHAPTER III

METHODOLOGY

In this chapter, a detailed description of the methodology, research questions, participant selection, instrumentation, procedures, data analyses, and *a priori* limitations for this study are provided. Additionally, the researcher has included the rationale for using the case study design for this research study.

Case Study Research Design

Why apply the case study research design? The exploratory nature of this study in an emerging area of research (TSY) is a good fit with a case study research design for two main reasons. First, the exploratory nature of this research study is consistent with the intent of a case study design, particularly the focus on particularization rather than generalization. In case study research design, “we take a particular case and come to know it well, not primarily as to how it is different from others but what it is, what it does. There is emphasis on uniqueness ...” (Stake, 1995, p. 8). In this study, the researcher’s emphasis on seeking an in-depth understanding of participants’ trauma recovery experiences, as facilitated by TSY, is well aligned with the case study research design. Second, the case study research design provides a balanced platform for the participants, researcher, and readers to develop multiple worldviews and interpretations of the data collected in the study. This unique feature of conserving multiple interpretations by gathering convergent or divergent perspectives from participants and the researcher

(Stake, 1995) optimizes an understanding of trauma recovery by TSY beyond mainstream conceptions of PTSD recovery, as indicated solely by PTSD scores.

Collective Case Study

Given that the purpose of this research study was to gain insight on the trauma recovery experiences of women impacted by IPV through the participants (or cases) themselves, a collective case study involving multiple cases (Stake, 1995) was utilized in this research study. To explain the rationale for using a collective case study design in this research study, it is important to first define an instrumental case study, as the collective case study is a form of instrumental case study (Stake, 1994, 1995). By using an instrumental case study, the researcher sought to gain insight into the research question(s) by identifying and studying the issues of cases, specifically, the problems and concerns of the cases (Stake, 1995). A collective case study design is a form of instrumental case study that draws upon multiple cases to understand a phenomenon (Stake, 1994, 1995). In a collective case study, the researcher selects several cases and coordinates the individual cases instrumental to learning about the phenomenon (Stake, 1995).

For the purpose of inquiring about the phenomenon of trauma recovery, studying four to six participants (cases) jointly allowed for balance and variety across participants' characteristics, and each case had her own individual voice (Stake, 1994) in this study. Each selected case added to the researcher's knowledge base and allowed for better theorizing about the cases. Stake (1994) clarified, however, that collective case studies are not the study of a collective, but is conceptualized as an instrumental study that is

applied to several cases. Ultimately, using multiple cases optimized the researcher's opportunity to learn about trauma recovery. Aligned with the key purpose of this research study, studying various participants (cases) allowed the researcher to develop an understanding of how various participants conceptualized trauma recovery in similar and different ways. Despite the tendency for comparisons to be made between cases, Stake (1994) asserted that generalizations about the phenomena, that is, trauma recovery, and strict comparisons between cases should not be made using collective case studies. Hence, each participant was given specific focus in this case study. Based on Stake (1994)'s guideline on selecting the number of cases based on the resources available to researchers for the research study, a minimum of 4 and a maximum of 6 participants (cases) were optimal for the purpose of this study.

Further, aligned with the instrumental case study design, the research questions and critical issues in this study were developed prior to carrying out the study. Additionally, in line with instrumental case studies (Stake, 1995), pre-developed coding schemes and pre-existing instruments such as the CAPS-5 were utilized in this case study to address these questions and issues (Stake, 1994).

Bounding the case. In this collective case study, each of the cases or participants was a woman who had experienced IPV and had PTSD, as evidenced by her pre-CAPS-5 PTSD scores and pre-interview responses. During participant recruitment, the researcher targeted a minimum of 4 cases (or participants), and a maximum of 6 cases (or participants). To some extent, this range is grounded in existing research. Spinazzola et al. (2011) suggested a small class size of 1 to 4 students in a TSY yoga classroom setting,

based on their clinical experience working with youths with severe emotional and behavioral difficulties in a residential school setting. A small class size increases the consistency and level of comfort for students to practice yoga (Spinazzola, 2011). Based on their clinical observations, Spinazzola et al. (2011) found that moderately-sized to large-sized classroom sizes increased traumatized youths' tendency to develop triggered or spontaneous emotional dysregulation, in turn, resulting in higher attrition rates than traumatized adults. To date, there are no known guidelines recommending an ideal TSY class size for adults even though the threshold for adults is logically higher than it is for youths. Accordingly, the target was a small class size of 4 to 6 women.

Other contextual characteristics bounding the case will be detailed in the later section on participants' inclusion criteria. The context of each case or participant was her reported unique trauma recovery experience, as it was facilitated by TSY.

Case researcher roles. In this study, the researcher assumed four researcher roles, namely the roles of an advocate, biographer, evaluator, and constructivist (Stake, 1995). Moving away from sterile and value-free oriented research, the case researcher served as an advocate for the cause of women who had experienced IPV by illuminating the voices of these women whose recovery from trauma has been documented in this study.

Additionally, the researcher assumed the role of a biographer as she described individual participants and captured facets of their trauma recovery process in detail and depth within their unique contexts (Stake, 1995). The researcher crafted the unique biographies of the participants impacted by IPV and their trauma recovery experiences in

a way that depicted these women as complex beings, as opposed to a stereotypical image of them.

Further, the case researcher took on the role of the evaluator as she attended to the strengths and challenges of the cases, before, during, and after interventions, since “all evaluation studies are case studies” (Stake, 1995, p. 96). The researcher then evaluated the research intervention (8 weeks of TSY) and captured participants’ trauma recovery experiences through a variety of methods, including interviews, observations, and the CAPS-5 instrument.

Another essential role that the case study researcher assumed in this study was that of a constructivist. Through thick narrative description, the case study researcher described places, events, and people, and encouraged readers to construct their own understanding and generalizing from the raw description of the case and case issues provided to them (Stake, 1995).

Research Questions and Hypothesis

The overall purpose of the study was to better understand if and how TSY facilitated trauma recovery through participants’ subjective experiences. It was believed that identifying specific factors in TSY that are integral to trauma recovery would help inform more customized interventions for female survivors of IPV. The following research questions guided this study. Research questions 1, 3, 4, and 5 are qualitative in nature; hence, no hypotheses were developed regarding how participants might respond. A hypothesis was generated, however, for Research Question 2, a quantitatively-driven research question.

Research Question 1: Prior to intervention, how do participants with a history of IPV conceptualize recovery from trauma, as it pertains to the four trauma-sensitive yoga (TSY) themes (i.e. being present, making choices, taking effective action, and creating rhythms)?

Research Question 2: To what extent do PTSD scores change among women IPV survivors who participate in 8 weeks of TSY?

Hypothesis: Participants will have significantly reduced scores on the Clinician-Administered PTSD Scale-5 (CAPS-5) after the TSY intervention when compared to scores prior to the intervention.

Research Question 3: How do participants' conceptualizations about recovery from trauma and IPV inform our understanding about the trauma recovery process (as it is facilitated by TSY), beyond what their pre- and post- intervention PTSD scores suggest?

Research Question 4: What is the role of TSY in facilitating women's recovery from trauma? Three sub-questions were developed to help us respond to this research question. The first sub-question is "Can yoga help with trauma recovery?" The second sub-question is "What factors in the TSY practice do women consider as important to their recovery from trauma?" The third sub-question is "What are the benefits of TSY on women's recovery from trauma?"

Research Question 5: Based on self-report, how likely are participants to continue their TSY home practice on their own time, independently, without the guidance of a TSY teacher?

Participants

Inclusion Criteria

For participants to be included in the study, they had to, (a) identify as female; (b) be at least 18 years of age or older; (c) speak English; (d) live close enough to the intervention site that they could participate fully in the intervention; (e) self-identify as having experienced physical, emotional, and/or sexual violence in their previous intimate partner relationship(s); (f) have left the abusive partner and relationship for at least 6 months; (g) not currently be experiencing any physical or psychological threat from the previous or current abusive partner(s); (h) be free of any current suicidal ideation or severe mental health issues that may potentially impact their ability to participate in the study; (i) meet the criteria for subthreshold (mild or partial) or full post-traumatic stress disorder (PTSD) symptoms, as defined by the Clinician-Administered PTSD Scale (CAPS-5); (j) not be currently seeing a counselor or mental health professional; and (k) not be currently practicing yoga.

In regard to (d), to improve the likelihood that participants would participate in the eight weekly TSY yoga classes, only participants living within reasonable proximity to the research site were considered. Necessitating that participants had left the abusive partner and relationship for at least 6 months minimized any potential ongoing emotional hardships they may have experienced from recently leaving an abusive relationship. In keeping with the American Counseling Association (ACA) code of ethics, the researcher took “reasonable precautions to avoid causing emotional, physical, or social harm to participants” (ACA, 2014, G.1.e.). Hence, the researcher ensured that participant(s) were

not currently experiencing some level of physical or psychological threat from their previous and current intimate partner(s), as stated in criterion (g). In (j) and (k), instituting the criteria that prospective participants were not currently seeing a counselor, a mental health professional, or practicing yoga, reduced the likelihood of spurious results attributable to other interventions.

Apart from the inclusion criteria, there were no pre-established limitations pertaining to participants' race, ethnicity, spiritual and/or religious background, or physical health condition, beyond any health conditions severe enough to justify individuals' non-participation in the intervention. Prior to the intervention, the yoga instructor was made aware of students' pre-existing injuries, health conditions, or recent surgery after students completed the yoga teacher liability student waiver agreement form (See Appendix E). Based on this information, the yoga instructor offered modifications for students with pre-existing medical conditions to protect them from additional injury during the yoga practice.

Nine participants called the researcher and indicated interest in the research study. A total of five participants attended the pre-interview. Four participants met all the criteria for participating in the research study and one participant (Zina) met all but one criterion, mild or subthreshold (partial) or full post-traumatic stress disorder (PTSD) symptoms. All five participants were recruited for the research study. Each participant or case was assigned a pseudonym for confidentiality. For operational purposes, a participant was considered a "full participant" if she attended at least 6 (75%) of the TSY classes. Cases 1 (Zina) and 2 (Xahria) did not meet the study's *a priori* criteria for full

participation based on their attendance rate of under 75 percent. Cases 3 (Vi), 4 (Wendy), and 5 (Yasmin) were considered full participants as they met the attendance rate of at least 75 percent.

Case 1: Zina

Zina was a 52-year old Hispanic/Latino female who reported being separated with one child. Zina reported full-time employment with an estimated annual income of \$25,000 with one person in her household unit. Her highest educational level was an associate degree. Zina self-reported experiencing trauma. Her earliest traumatic experiences included childhood physical abuse. Zina also reported a history of various traumatic experiences during adulthood including an automobile accident, adult medical trauma, miscarriage, divorce, natural disasters, physical assault and crime. Zina reported two intimate partner violent relationships. Zina did not report any yoga experience. Additionally, Zina was not seeing a mental health professional at the time of the study although she had utilized mental health services in the past. Zina's attendance rate for the research study was 25 percent as she attended 2 of 8 TSY sessions.

Case 2: Xahria

Xahria was a 26-year old Anglo (non-Hispanic White) female who reported being separated with two children. Xahria reported part-time employment and was enrolled, accepted, or planning to attend college or professional school. Xahria reported her highest educational level to be some college level. She reported a monthly income of \$2,000 with a total of 3 persons in her household unit. Xahria self-reported a history of trauma. Her earliest traumatic experiences included an automobile accident and medical trauma.

Other adult experiences with trauma included divorce, death of a significant person, physical assault, and her previous intimate partner violent relationship. Xahria reported no yoga experience. Further, Xahria was not seeing a mental health professional at the time of the study, although she had utilized mental health services in the past. Xahria's attendance rate for the research study was 50 percent as she attended 4 of 8 TSY sessions.

Case 3: Vi

Vi was a 32-year old Black female who was single and did not have any children. Vi reported part-time employment and her highest educational attainment as a bachelor's degree. She reported a monthly income of \$1,200. Vi self-reported a history of trauma starting in early childhood with experiences including divorce, childhood sexual and physical abuse, and an automobile accident. Vi also reported traumatic experiences in adulthood, including the death of a significant person, physical assault, and intimate partner violence. Vi did not report any experience with yoga. Additionally, Vi did not report receiving any current or previous mental health services. Vi's attendance rate for the research study was 85.7 as she attended 7 of the 8 TSY sessions.

Case 4: Wendy

Wendy was a 43-year old non-Hispanic White female who was married with four children. Wendy reported that she was currently seeking employment and her highest educational level attained was an associate's degree. Wendy did not have a monthly income and there were five people in her household. Wendy reported experiencing trauma starting from her early childhood, including an automobile accident, childhood physical and sexual abuse, date rape, and witnessed crime. Further, Wendy reported a

history of adult traumatic experiences including sexual assault and/or rape, physical assault, miscarriage, divorce, and adult medical trauma. Wendy also reported a history of intimate partner violence relationships. Wendy self-reported yoga experience and had tried a few (2 to 3) Kundalini yoga classes. Wendy stated that when she practiced Kundalini yoga in the past, she enjoyed a positive experience and was able to better focus. Wendy reported that she was not currently seeing a mental health professional at the time of the research study but had received mental health services in the past. Wendy's attendance rate was 75.0 percent as she attended 6 of 8 TSY sessions. She attended the second session, but attended only ten minutes of that class because she had to attend to her infant child for the rest of the class duration, so she was not counted as present for that session.

Case 5: Yasmin

Yasmin was a 43-year old Black female who self-reported as single with five children. Yasmin reported that her highest educational attainment is a bachelor's degree. She reported full-time employment with a monthly income of \$2,000 and a total of six people in her household. Yasmin reported traumatic experience from intimate partner violence and physical assault. Yasmin reported no experience with yoga. Additionally, Yasmin reported that she was not currently seeing a mental professional at the time of the research study but had received mental health services in the past. Yasmin's attendance rate for the research study was 87.5 percent as she attended 7 of the 8 TSY sessions.

In summary, participants varied in age and racial diversity. Participants' trauma histories varied in terms of the type of trauma and the age and duration of the trauma

experienced. All participants shared a history of intimate partner violence and all of them had left the abusive relationship for at least six months.

Instrumentation

Demographic Questionnaire

Participants completed a demographic questionnaire (see Appendix F). The 19 questions on the demographic questionnaire were used to collect participant data on gender, age, race and ethnicity, socio-economic status, employment status, educational level, relationship status, and number of children. Additionally, participants were asked to indicate if they had a history of trauma, and if yes, they were asked to select the type(s) of trauma they had experienced.

Clinician-Administered PTSD Scale-5 (CAPS-5)

The Clinician-Administered PTSD Scale-5 or CAPS-5 (Weathers et al., 2013; see Appendix G) is a structured clinical interview that was used to measure posttraumatic stress disorder (PTSD) symptoms, and addressed research question 2. The CAPS-5 is the most updated version of the CAPS instrument and is based on the DSM-V (APA, 2013). As no psychometric data is yet available for the CAPS-5, the validity and reliability for previous CAPS versions will be reported. Evidence exists for solid internal consistency of the measures with reported Cronbach alpha as high as .95 (Hyer, Summers, Boyd, Litaker, & Boudewyns, 1996). High interrater reliability was reported on the CAPS structured interview for 9 interviews rated by 2 independent clinicians for the 9 participants, and excellent diagnostic agreement was found for both raters (Hovens et al., 1994).

Similarly, researchers have examined the validity, with several researchers reporting high convergent validity for the CAPS. For example, Blake et al., (1990) reported that the CAPS had high significant correlation with the Mississippi Scale ($r = .70$), the Keane PTSD Scale of the MMPI (PK) Scale ($r = .84$) and Combat Exposure Scale (CES) ($r = .42$). Similarly, in a study of 123 military veterans, Weathers et al. (1999) reported that the CAPS total severity score was significantly correlated with the CES ($r = .53$), PK Scale ($r = .89$), and PTSD Checklist (PCL) ($r = .94$).

The CAPS-5 (Weathers et al., 2013) corresponds to the DSM-5 diagnosis for PTSD and indicates updated modifications to both existing and new symptoms in the DSM-5 (Weathers et al., 2013). Updated from the previous CAPS for DSM-IV, the CAPS-5 assesses for the 20 PTSD symptoms in the DSM-5 and focuses on additional areas including the onset and duration of PTSD symptoms, subjective distress, the implication of symptoms on social and occupational functioning, and any symptomatic improvement since previous CAPS assessment. It also measures overall response validity, overall severity of PTSD, and has additional specifications for the dissociative subtype (Weathers et al., 2013). Distinct from the previous CAPS developed for DSM-IV where respondents were asked to identify up to three traumatic events, the CAPS-5 requires respondents to identify a single traumatic event that functioned as the basis for the assessment of their symptoms (Weathers et al., 2013). For the purpose of this study, participants were asked to identify a single traumatic event within the relationship defined as including IPV.

The CAPS-5 is a 30-item structured interview with three separate versions that can be used to assess PTSD symptoms and diagnose PTSD over the past week, the past month, or over the lifetime (Weathers et al., 2013). Because of the duration of the intervention, the past week version of the instrument was utilized in this study to assess participants' PTSD symptoms over the past 7 days. Standardized questions and probes are supplied for each symptom to assist the administration of the instrument (Weathers et al., 2013). Clinicians and clinical researchers with a working knowledge of PTSD, as well as paraprofessionals who are suitably trained, can administer the CAPS-5 (Weathers et al., 2013). The entire interview takes approximately 45 to 60 minutes to administer (Weathers et al., 2013).

Most of the symptom severity ratings in CAPS-5 are based on the intensity and frequency of the symptom, with the exception of amnesia and diminished interest, which are based on amount and intensity. Even though symptom severity ratings are based on symptom frequency and intensity, only one severity score is used to rate CAPS-5 items. CAPS-5 symptom cluster severity scores are yielded by the summation of the individual item severity scores for symptoms that correspond to one of the 5 DSM-5 clusters (Criteria B, C, D, E, and dissociation). Aligned with the DSM-5 diagnostic rule, each symptom is first marked as 'present' or 'absent' and a symptom is considered present only if the severity score for the corresponding item is rated 2, moderate/threshold or higher, with clear anchors provided for each rating (see Appendix G). The total severity score is yielded by the summation of the severity scores for the 20 DSM-5 PTSD symptoms.

To rate the CAPS-5 items, the administrator combines the information on the frequency and intensity of each item into a single severity rating (Weathers et al., 2013). An example of an item on the CAPS-5 is “In the [past week], have you had any unpleasant dreams about (EVENT)?; Describe a typical dream (prompt: What happens); If not clear: Do they wake you up?; If yes: What do you experience when you wake up? How long does it take you to get back to sleep?; If reports not returning to sleep: How much sleep do you lose? How much do these dreams bother you? (circle level of distress: minimal, clearly present, pronounced, and extreme); How often have you had these dreams in the past week?) (Weathers et al., 2015).

The severity rating ranges on a 5-point Likert-type scale (0 = absent, 1 = mild/subthreshold, 2 = moderate/threshold, 3 = severe/markedly elevated, 4 = extreme/incapacitating). Standard questions and follow-up questions, as well as anchored rating options, are proffered for each item. Similar to the CAPS-1, the interviewer follows these standard questions with prompts, and gives ratings in the CAPS-5 based on explicit anchored rating options that are intended to increase the reliability of the instrument (Blake et al., 1995). Based on the example above, the ranking of ‘moderate’ is anchored by the frequency and intensity of the distress of unpleasant dreams about the event occurring at once a week, the distress is clearly present, and the individual has less than one hour of sleep loss. The ranking of ‘severe’ is anchored by the frequency and intensity of the unpleasant dreams about the event occurring at least twice a week, with pronounced distress, and the individual has more than one hour of sleep loss.

Group Debriefing Sessions

To assess trauma recovery experiences, participants were asked to fill out a pre-TSY scaling question worksheet and a post-TSY scaling question worksheet before and after every TSY class attended (See Appendix I). An example of a scaling question was “I feel connected to my body in the present moment” and participants responded to the question using Likert scale ratings ranging from (1) Strongly Disagree, (2) Disagree, (3) Undecided, (4) Agree, to (5) Strongly Disagree. On the same scaling question worksheet, participants also rated their subjective units of distress scale (SUDS) ranging from “totally relaxed (or 0)” to “highest anxiety/distress that you have ever felt (100)” to indicate their levels of stress and anxiety before and after every TSY class. The comparison of participants’ pre-TSY and post-TSY responses on the scaling questions and SUDS served to triangulate participants’ report on their TSY trauma recovery experiences as it was facilitated by TSY. Further, during the group debrief sessions, the researcher asked open-ended questions to obtain participants’ responses on their trauma recovery experience of each TSY class. An example of a question was “what was your experience in the TSY class today?” Participants’ open-ended responses served as another source of data for triangulation.

Pre- and Post- Semi-Structured Interview Questions

Qualitative data for research questions 1, 3, 4, and 5 were collected from participants through pre- and post- semi-structured interviews (See Appendix H). According to Stake (1995), gathering others’ descriptions and interpretations are important functions of a case study (Stake, 1995). An interview provides researchers with

access to individuals' multiple realities through participants' unique life stories (Stake, 1995). Stake (1995) suggested that interview questions should allow for the flexibility to deviate from the prototype questions that are designed. Accordingly, for the purposes of this research study, semi-structured interviews were utilized. Additionally, the researcher prepared a list of issue-oriented questions and probes aligned with the research questions to elicit productive responses, as recommended by Stake (1995). The interviews were audio-recorded to help the researcher revisit the conversation after the interview.

The researcher interviewed participants and was attentive to them by listening and taking notes, while considering how the account would appear in writing (Stake, 1995). Record keeping was achieved through audiotaping the interview, and was an essential component during the interview process to ensure that important ideas and components of the interview were captured. Further, the researcher listened and took brief notes, and made clarifications, where needed, with each interviewee during the interview (Stake, 1995). To ensure that the accuracy of interviewees' accounts was maintained in this study, the researcher set aside a time and place to prepare the write-up and interpretive commentary of the interview immediately following the interview (Stake, 1995).

Observations

Qualitative data for research questions 1, 3, and 4 were collected from participants through researcher's observations using the Observations Protocol (See Appendix J). Observations provide another important source of data for this research study and help the researcher develop an understanding of the case (Stake, 1995). To this end, opportune moments for observing TSY classes and the group debriefing sessions (see Appendix I)

need to be carefully selected, guided by the research questions to unravel the particular complexity of the case (Stake, 1995). As recommended by Stake (1995), a balance must be struck between the objective events of the observation and the researcher's interpretation and meaning of the observation to help readers access these meanings. The researcher focused primarily on qualitative or interpretive meanings during the observations to "let the occasion tell its story, the situation, the problem, resolution or irresolution of the problem" to enable the researcher to provide a "... relatively incontestable description for further analysis and ultimate reporting" (Stake, 1995, p. 62). This was achieved by chronicling snippets of unique dynamics that ensued between participants, and between participants and the yoga instructor. The observational protocol for the TSY classes centered on participants' experiences of trauma recovery, how participants make sense of their recovery from trauma, and the four themes in TSY: (1) experiencing the present moment; (2) making choices; (3) taking effective action; and (4) creating rhythms. These observations were made based on participants' verbal and non-verbal interactions, and their non-verbal dispositions and movements. Further, the researcher observed the fidelity of the TSY intervention and documented any modifications the TSY instructor made to the original TSY protocol for each of the 8 sessions. At the end of each session, the researcher invited the TSY instructor to write her reflections of that TSY class. The researcher then reviewed the instructor's written reflections and consulted with her to compare observations and reflections on the group for each session.

Sampling Method

Potential participants were first identified through volunteer and purposive sampling. The researcher sought permission to advertise the study at potential sites by contacting the directors of potential sites by phone. The researcher then sought permission from directors at the contacted sites to advertise the study by placing flyers at these sites (see Appendix B: Site Approval). The researcher placed flyers providing information about the study at the sites (see Appendix C: Research Participation Flyer). Apart from volunteer sampling where potential participants self-nominated for the study, additional potential participants were recruited through purposive sampling. Directors who gave approval to advertise the research study at their sites were asked to identify participants who met the inclusion criteria (see Appendix D: Nomination Script). These nominators were encouraged to contact potential participants, inform them about the research study, and provide the researcher's number for follow-up contact (see Appendix C: Recruitment Follow-Up). The combination of volunteer and purposive sampling was used to gather potential participants to enter the screening process.

According to Stake (1995), while it is helpful to select cases that are typical or representative of other cases, the objective of the case study is not to understand other cases through the case(s) of focus. Guided by one of the primary criterion in case selection, which is to maximize our learning, Stake (1994, 1995) suggested that researchers prioritize convenience and easier access to cases, the availability of resources to conduct the study, and participants who are willing to participate in the study. In fact, Stake emphasized that the opportunity to learn surpasses the selection of cases based on

sampling criteria. Considering all factors in selecting the cases for this study, the researcher used the inclusion criteria and selected 5 participants (cases) that offered a variety of cases that optimized the researcher's opportunity to learn about trauma recovery, guided by the availability of resources and logistics for this study.

Procedures

The researcher designed a schedule of data collection activities that would be completed within specified time periods (See Appendix K for the Timeline and Management Plan). There were four phases in this study, namely, the preparation phase, the screening and pre-intervention phase, the intervention phase, and the post-intervention phase.

Preparation. During the preparation phase, the researcher arranged for a registered yoga teacher (RYT) to facilitate the TSY classes. The TSY instructor, who facilitated the TSY classes for the participants, was the researcher's prospective informant. The researcher provided the yoga instructor with a TSY training workshop prior to the commencement of the TSY classes. The training material came from the TSY handbook (Emerson, 2015). The TSY training workshop included opportunities for the yoga instructor to practice facilitating TSY classes with the researcher.

Screening and pre-intervention. Potential participants who signed up for the study were first be screened for eligibility. The first contact between the researcher and potential participants was be a preliminary face-to-face interview. Potential participants received a research packet including a letter to participants providing information about the nature of the study, assuring participant confidentiality (with the limitation of the

group intervention), the participant consent form, and a demographic form. The researcher went over the paperwork pertaining to informed consent and confidentiality, the overview of the research study, and the research incentives with each participant. Additionally, the researcher invited participants to ask or clarify questions at that time or any point during the study. Participants completed a research informed consent form that detailed confidentiality and the limits to confidentiality (See Appendix E). By signing the informed consent form, the participants endorsed giving the researcher permission to observe participants during the yoga classes, and to be audiotaped during the pre- and post-intervention interviews and each of the group debrief sessions. The researcher screened potential participants for PTSD symptoms using the CAPS-5 instrument, gathered information from them using the inclusion criteria, and administered the pre-interview.

All potential participants who participated in the screening process and completed all screening documents received a personal thank you card and a \$10 Amazon, Target, or Starbucks e-gift card within a month. Potential participants were informed that the researcher would contact them by phone if they were selected for the research study. Additionally, the informed consent provided contact information for a local mental health center, should participants have chosen to seek services beyond the scope of this study.

The five participants who met all the inclusion criteria, including sub-threshold or full PTSD, were purposefully selected by the researcher. The researcher contact selected participants by phone, and participants were invited to participate in the study. According to Stake (1995), it is vital for the researcher to make early assessments to determine if

cases need to be re-selected since not all cases will work well. Apart from the inclusion criteria, the researcher continually assessed participants for their suitability in the study early in the research study process. Participants who were selected and agreed to participate in this study completed the 8-week TSY classes and group debriefing sessions during the intervention phases, and the second semi-structured interview during the post-intervention phase.

Both the pre- and post-interviews were audiotaped using a digital recording device, and transcribed verbatim. The researcher transferred all audio-recordings to a password-protected folder on a password-protected computer within 24 hours of the completion of the semi-structured interviews. The researcher then transcribed each interview within 84 hours after the interview was administered. Each transcription also was assessed for accuracy with the audio-recording before the audio file was deleted from the digital recording device. This procedure was repeated for all transcribed interviews.

Intervention. The intervention phase (TSY and group debriefing sessions) lasted for eight weeks. The researcher e-mailed a reminder to participants within 24 hours of each TSY class. Since TSY was the primary treatment intervention, participants attended a 60-minute-long TSY class facilitated by the TSY instructor trained during the preparation phase. The researcher assumed the role of an observer during the TSY classes, observing from the back of the class to minimize distractions. The researcher wrote her observations on paper to minimize the distractions that might result from using a laptop at the observation sites. The researcher was in the TSY classroom at least fifteen minutes

before the sessions started to be ready and settled, and started taking notes on participants' interactions and dispositions as they entered the room. To ensure that the observations were accurately represented as much as possible, the researcher wrote up the observation immediately after the TSY class and group debrief sessions, while the notes and memories of the observation were still fresh (Stake, 1995). Further, the researcher was attentive to the physical context to provide readers the vicarious experience and symbolic meaning of the physical space that was described (Stake, 1995). To describe the physical space of the TSY yoga class, the researcher created a visual layout to represent where participants were positioned, and their movement or non-movement in the room.

At the beginning and the ending of each TSY class, the researcher distributed a pre-TSY and post-TSY form with scaling questions and a subjective distress scale (SUDS) to participants and asked them to fill out the form. Each TSY class was immediately followed by a 15-30-minute group debrief session facilitated by the researcher. The researcher facilitated the group debrief sessions by asking participants general questions such as their experience of the TSY class, anything they learned about themselves through the class, and anything else they wanted to share with one another in the group. The researcher then took down observation notes when observing the TSY classes and when facilitating the group debrief sessions.

Post-intervention. The post-intervention phase or second time point in the study occurred approximately a week after the 8-week TSY intervention. The researcher administered the CAPS-5 and post-interview once more, which was audiotaped and transcribed. Following that, the researcher offered participants research incentives.

Participants who completed at least 7 out of 8 TSY classes, group debrief sessions, and the post-interview, received the pre- and post- report of their PTSD scores in the form of a graph, and a written explanation of their scores a month after the post-interview.

Participants who participated fully in the study also received a free yoga mat and a \$10 Amazon, Target, or Starbucks e-gift card within a month after the second interview.

Participants were also offered the opportunity to continue receiving TSY classes for an extended ten weeks at no cost. The researcher thanked the participants for their time and participation in the study, and presented them with certificates of appreciation after the 8 TSY sessions. The researcher contacted participants who did not complete the study and requested to follow-up with them via a phone interview or email. Participants (Zina) who completed the phone interview or responded to the questions via email received a \$10 Amazon, Target, or Starbucks e-gift card within a month after their responses were received.

Each selected participant's name and contact information was assigned a study identification number and a pseudonym to maintain their anonymity. Participants' identifying information was consolidated in a spreadsheet that was kept separate from participants' response data. Only the researcher had access to participants' identifying information for the purpose of identifying and contacting participants for the research study. All data pertaining to participants were kept secure in password-protected computer files on the researcher's password-protected computer.

Data Analyses

In order to examine how TSY facilitates trauma recovery in women impacted by IPV, quantitative and qualitative analyses were utilized to address the five research questions. Aligned with collective case study methodology, the researcher used various methods to analyze the data and address the research questions. The researcher primarily utilized qualitative research methods including correspondence and pattern, aggregation of instances, and direct interpretation methods to analyze the case (Stake, 1995) and make sense of the data. First, the researcher gathered all data from the transcribed interviews and observations and verified them for accuracy. Next, the researcher analyzed the data using the data analysis method(s) corresponding to each of the five research questions.

The researcher reported the information on each participant's demographic questionnaire, case-by-case. Demographic information that was reported included participants' gender, age, race and ethnicity, socio-economic status (employment status, estimated annual income, educational level), relationship status, and number of children. Additionally, participants provided their trauma history, the type(s) of traumatic event(s) experienced, their experience with yoga, style of yoga, previous yoga experiences, mental health history, age, gender, religion, ethnicity, and their lifetime history of trauma (frequency, duration, and age at which the traumatic experience occurred).

For research question 1, participants' pre-interview responses were analyzed to determine how participants conceptualize trauma recovery as it pertained to the four trauma-sensitive yoga (TSY) themes (i.e., being present, making choices, taking effective

action, and creating rhythms). Coding (correspondence and pattern) was used to analyze the data.

For research question 2, participants' responses in their pre- and post- CAPS-5 PTSD scores were collected and analyzed using the Wilcoxon signed-ranked test, a nonparametric statistical method. The analyzed information was used to answer research question 2 on the extent to which women who participate in 8 weeks of TSY see reductions in their PTSD scores.

For research question 3, participants' pre- and post-interview responses, the researcher's observations of the TSY cases, and group debriefing session responses were gathered and analyzed to determine how participants' conceptualizations about trauma recovery and IPV inform the trauma recovery process. Coding (correspondence and pattern), and categorical aggregation and direct interpretation were used to analyze the data.

For research question 4, participants' post-interview responses, the researcher's observations of the TSY classes, and group debriefing session responses were gathered and analyzed to determine the role of TSY in facilitating women's recovery from trauma. Coding (correspondence and pattern), categorical aggregation, and direct interpretation were used to analyze the data.

Similar to the analyses of the questionnaire responses, descriptive statistics were used to analyze participants' post-interview responses to research question 5. The researcher reported participants' willingness to continue their TSY practice without a

TSY instructor’s guidance and represent the analyzed information in the form of percentages and participants’ open ended post-interview responses.

The data analysis for each question is summarized in the data analysis plan. (see Table 1).

Table 1

Data Analysis Plan

Question	Data Analysis
Demographic information: What are participants’ gender, age, race and ethnicity, socio-economic status (employment status, estimated annual income, educational level) relationship status, and number of children. What are participants’ trauma history, the type(s) of traumatic event(s) experienced, their experience with yoga, style of yoga, previous yoga experiences, and mental health history.	Case-by-case discussion of information obtained from participants’ questionnaire responses.
Research Question 1: Prior to intervention, how do participants with a history of IPV conceptualize recovery from trauma, as it pertains to the four trauma-sensitive yoga (TSY) themes (i.e. being present, making choices, taking effective action, and creating rhythms)?	Data to be analyzed included the pre-interview. -Coding: correspondence and pattern
Research Question 2: To what extent do women who participate in 8 weeks of TSY see reductions in PTSD scores? Hypothesis: It is expected that participants will have reduced PTSD scores after the TSY intervention, but the level of the reduction in PTSD scores is unknown.	-Nonparametric procedure: Wilcoxon signed-ranked test to analyze and compare between pre- and post- CAPS-5 PTSD scores
Research Question 3: How do participants’ conceptualizations about recovery from trauma and IPV inform our understanding about the trauma recovery process (as it is	Data to be analyzed included the pre-interviews, post- interviews, observations of TSY classes, and responses from the group debriefing

facilitated by TSY), beyond what their pre- and post- intervention PTSD scores suggest?	sessions -Coding: correspondence and pattern -Categorical aggregation and direct interpretation
Research Question 4: What is the role of TSY in facilitating women’s recovery from trauma? Three sub-questions were developed to help us respond to this research question. The first sub-question is “Can yoga help with trauma recovery?” The second sub-question is “What factors in the TSY practice do women consider as important to their recovery from trauma?” The third sub-question is “What are the benefits of TSY on women’s recovery from trauma?”	Data to be analyzed included the post-interviews, observations of TSY classes, and responses from the group debriefing sessions -Coding: correspondence and pattern -Categorical aggregation and direct interpretation
Research Question 5: Based on self-report, how likely are participants to continue their TSY home practice on their own time, independently, without the guidance of a TSY teacher?	Descriptive Statistics: percentages based on the post-interview responses and participants’ open-ended post-interview responses.

Note. CAPS= Clinician-Administered PTSD Scale-5. PTSD=Posttraumatic Stress Disorder.

Descriptive and Inferential Statistical Analyses

In addition to the case study analytic methods recommended by Stake (1995), quantitative analytic procedures were applied to obtain participant demographic information and analyze the second research question. The data was first reviewed for missing data. For the purpose of this study, the Statistical Package for Social Sciences (IBM SPSS) version 23 was used. Descriptive statistics from the demographic questionnaire was calculated and presented in the form of frequencies and means, including measures of variance where applicable.

The second research question addresses participants' PTSD scores based on their pre- and post- scores on the CAPS-5. Nonparametric statistics were applied to this study and were used to analyze pre- and post- CAPS-5 PTSD scores, as fewer assumptions are required in this analysis compared to those typically applied in parametric statistical analyses (Vogt & Johnson, 2011). First, the data analyzed drew upon a small *n* sample size of 3 full-study participants, and was not normed against the normal distribution. Secondly, consistent with nonparametric statistical analyses, homogeneity of variance and population parameters was not an area of focus in the data analysis (Urdan, 2010), since comparisons between participants were not made in this study. For the purposes of analyzing participants' pre- and post- CAPS-5 PTSD scores, the Wilcoxon-signed-ranked test, a nonparametric test of statistical significance used with two correlated samples, such as the same subjects on a before-and-after measure, was applied (Vogt & Johnson, 2011).

Correspondence and Pattern

In the correspondence and pattern method, the researcher developed pre-established codes or 'etic issues' (Stake, 1995, p. 80) based on the research questions before data were collected. The researcher identified patterns by foreshadowing and developing issues and codes, as recommended by Stake (1995). These foreshadowed codes and issues are also known as coding categories or "potential correspondences," which will function as "a template for the analysis" (Stake, 1995, pp. 78, 84). The researcher then developed a preliminary understanding of the data by reading the transcribed interview and observation notes line by line. During the process of reviewing

the data, the researcher identified 'emic issues' (Stake, 1995, p.78), patterns, and topics when reviewing the interviews and observation notes, independent of the pre-established coding categories. These emic issues emerge later in the analysis, and are considered essential to participants (Stake, 1995). The researcher then analyzed the data for behaviors, issues, and contexts, and identified 'correspondence,' or patterns and consistency within the specific context of the case (Stake, 1995, p. 78). (See Appendix I for the coding categories in the Observation Protocol).

Categorical Aggregation and Direct Interpretation

Since this is an instrumental case study, the primary purpose of the case study was to understand and gain insight on the relationship between TSY and trauma recovery, over and above studying the specific cases for its own sake (Stake, 1995). According to Stake (1995), the choice of analytic strategies should be guided by the research study, the research questions, and the researcher's inquisitiveness. To this end, the researcher utilized categorical aggregation more so than direct interpretation (Stake, 1995). While categorical aggregation is defined as the researcher constructing meaning from multiple incidents to construct meaning, direct interpretation refers to the researcher making meaning based on a single incident observed (Stake, 1995). In this study, the researcher sought out the repetition of phenomena through corroborating or disconfirming incidents to answer the research questions (Stake, 1995). At the same time, Stake (1995) asserted that case study relies on both categorical aggregation and direct interpretation so, despite the emphasis on categorical aggregation in this study, the researcher associated meaning

to single episodic events through direct interpretation. This happened when one-off events occurred that eluded categorical aggregation.

Triangulation

The researcher applied two protocols to ensure validity in this study and increase the credibility of and confidence in the researcher's interpretation. Stake (1995) emphasized the importance of triangulating important data and claims in a case study. This is especially true when there exists dubious or contested descriptions of the case, or data that are vital to an assertion or hypothesis to solicit support for the researcher's key interpretations. The two protocols that were used in this study comprised of investigator triangulation and methodological triangulation.

First, the researcher applied investigator triangulation for other researchers to co-examine the data in the case study. One doctoral student from the researcher's institution and two faculty members on the researcher's dissertation committee were invited to form a panel. The researcher presented her case observations with her interpretations to the panel for discussing alternative interpretations. The responses solicited by the experts in the panel served to support or check the researcher's original interpretations, and served as a source of additional data for the case study, as recommended by Stake (1995). The expert panel met twice during the intervention study. The first meeting took place after the second TSY class and focused on the researcher's observations of the first and second classes while the second meeting took place after the fourth TSY class and focused on the third and fourth TSY classes. During each meeting, the researcher made copies of the class observation notes and distributed them to each member on the expert panel. Panel

members read the researcher's observations and were invited to jot down general impressions, reactions, and responses to them. Additionally, panel members were asked to provide their interpretations of the TSY classes alongside the italicized researcher's interpretations to corroborate or check the researcher's interpretations. After each panel meeting, the researcher consolidated the feedback procured and incorporated them into her subsequent TSY class observations.

Several suggestions ensued from the expert panel meetings. After the first panel meeting, the panel suggested the researcher include the TSY instructor's observation notes for their review in the second panel meeting. The panel also suggested that the researcher provide at least two interpretations to each observation made in the TSY class, and to differentiate the researcher's musings from interpretations. In addition to that, the expert panel suggested that the researcher italicize her interpretations to make them distinct from the observations. A panel member also suggested that the researcher stay neutral during the TSY intervention by refraining from offering the TSY instructor suggestions for modifying her cues or instructions to participants to ensure integrity of the intervention. Additionally, the panel requested for more detailed physical descriptions of the participants' non-verbal responses and facial expressions, in addition to the TSY instructor's verbal responses during the TSY classes, to proffer a more complete context of the TSY classes.

The second protocol that the researcher used in this study was methodological triangulation. The researcher drew upon multiple approaches within the single case to "illuminate or nullify some extraneous influences" (Stake, 1995, p. 114) that

detracted the researcher from the research questions. This study involved various methods to study the case, including researcher observations of the TSY classes, participant group debrief sessions, pre- and post- group debriefing scaling questions, semi-structured pre- and post-interviews, and participants' PTSD scores. Taken together, these methods confirmed some of the researcher's descriptions and observations, or increased the complexity of the case and issues germane to the case (Stake, 1995).

A Priori Limitations

There were a few *a priori* limitations in this study, including limited generalizability of the study, potential researcher's bias, and the short-term nature of the study. First, this case study would not be generalizable to all women who have experienced IPV and PTSD symptoms. Since the rationale for using the case study research design was to familiarize and understand the uniqueness of a few cases and their contexts by studying them in greater detail and depth, generalizing selected cases with other cases was not the main objective (Stake, 1995). It is important to note, however, that good case studies may raise readers' confidence in the generalizability of the research by increasing the validity of the study (Stake, 1995). For the current study, the use of triangulation protocols, namely, investigator triangulation and methodological triangulation, were in place to enhance the validity of the study.

The second limitation of the study was that the researcher's bias could have impacted her interpretation of the case study. The researcher's status as a counselor who has specialized training on women impacted by IPV, and her yoga teacher training experience, could have influenced her interpretation of the cases and issues relevant to

the case. To address this limitation, the researcher applied the triangulation protocols and naturalistic generalizations by describing her personal narrative accounts and curiosities in the case and case issues (Stake, 1995). The researcher's elaborate description of the time, place, and persons involved in the case encouraged readers to vicariously experience the case, encouraging them to make their own associations and naturalistic generalizations of the case (Stake, 1995).

Due to the short-term nature of the eight-week intervention in this study, the opportunity for the researcher to capture participants' trauma recovery experiences longitudinally, and the potential long-term effects of TSY beyond the scope of eight weeks could not be achieved. Thus, future longitudinal research studying the trauma recovery experiences of women impacted by IPV, as it is facilitated by TSY, is recommended. Gaining an understanding of the sustainability of TSY for IPV trauma survivors will enable researchers to further assess the efficacy of this intervention for this specific population.

Overall, these *a priori* limitations were essential to consider when preparing for, conducting, and analyzing the results of the study. In the next section, the preliminary pilot study is delineated. The limitations and modifications for the full study based on the pilot study are described.

Pilot Study

The researcher conducted a pilot study to test the procedures in the proposed study. An examination of the proposed procedures through the pilot study allowed the researcher to apply any necessary modifications to the full study. The purpose of the

pilot study was three-fold: (a) to gather feedback on the administration of the Worst Month and Past Week versions of the Clinician-Administered PTSD Scale 5 (CAPS-5) for the DSM-5, specifically, the clarity of assessment instructions and items; (b) to determine the length of time needed to complete the CAPS-5 assessment; and (c) to gather feedback on the trauma-sensitive yoga (TSY) class. The pilot study was carried out in two phases. In the first phase, the researcher administered the CAPS-5 assessment with 2 participants using the worst month version and the past week version of the assessment. The pilot study consisted of the following guiding questions for phase 1:

Phase 1

Question 1: What were participants' experiences (thoughts and feelings) of the administration of the worst month and past week versions of the CAPS-5 assessment?

Question 2: What changes could be made to improve the way the assessment was administered?

Question 3: Considering that participants in the full study are trauma survivors, how can the CAPS-5 assessment be administered effectively for this population?

Question 4: What is the length of time needed to administer the CAPS-5 assessment?

Participants. Participants for the pilot study were recruited from the Department of Counseling and Educational Development (CED). Four CED students responded to the recruitment email and two students were selected based on the availability of their

schedule. No inclusion criterion was stated as a pre-requisite for participation in the pilot study.

Methods and procedures. The researcher scheduled a face to face meeting with each of the participants. The researcher described the purpose of the full study and the first phase of the pilot study. Participants were offered the opportunity to read a one-page informational flyer on the research study. The researcher proceeded to provide oral instructions of the CAPS-5 assessment and administered the CAPS-5 worst month version of the assessment with the first participant and the CAPS-5 past week version of the assessment with the second participant. After the interview, participants were invited to share their verbal feedback on the CAPS-5 interview process. With participants' permission, the researcher audio-recorded the 30-minute debriefing session following the CAPS-5 interview.

Data analysis and results. Overall, both participants reported that the CAPS-5 assessment was administered clearly. Both participants commented on the structure of the CAPS-5 questions. Although both participants agreed that the structure of the questions in each symptom category provided consistency, participants noted that there were questions that were more difficult to respond to. The participants noted that the CAPS-5 was administered empathically and nonjudgmentally and indicated that the test administrator's support and constant check-ins throughout the interview process were helpful and comforting. Although both participants indicated that they were not distressed or upset during the interview, one participant noted that the questions asked in the interview might trigger trauma survivors' memories of the traumatic event as they

recount details of the traumatic event. Another participant stated that the weight of the questions could be heavy as participants may be reflecting on their personal experiences during the interview. One participant cautioned that participants who have recently experienced the traumatic event might be at higher risk of being triggered by the interview questions.

When participants were invited to provide recommendations to make the CAPS-5 more effective for trauma survivors, one of the participants suggested that it would be helpful for the administrator to inform participants that this is a safe space for them and they could take their time during the assessment, stop the assessment at any time, or they could choose to go into as much detail as they like. The participant suggested that it was helpful for the administrator to provide regular check-ins throughout the interview. Further, a suggestion was made for the test administrator to be prepared to handle intense emotional and mental reactions and potential crises from some participants during the interview, such as providing opportunities for participants to process challenging emotions. The participant emphasized the importance for the test administrator to be supportive towards participants during the interview through her presence and observations of participants' nonverbal and verbal responses. One suggestion offered was for the test administrator to paraphrase or provide alternative words for participants who may have difficulty understanding the interview questions due to their lower socio-economic background or educational level.

Both participants provided several suggestions to modify the interview question items for increased clarity and predictability. First, both participants suggested that it

would be helpful to inform participants upfront about how the assessment would be administered, the structure of the question items, and the potential heaviness of the question items at the beginning of the interview. Second, another suggestion to improve clarity was to present to participants at the outset that they might expect a scale for certain question items. The test administrator could first present a prompt to scale the frequency of the symptom before the question was asked to avoid any potential confusion. Third, for specific questions that are lengthy, such as question 9, one participant suggested that the administrator break up the question into discrete parts to allow the participant to respond to each part of the question. Lastly, a participant suggested that several question items (questions 9, 11, 12, 13, 14, 15, 16, 17, 18, and 19) did not specify if the PTSD symptom needed to be connected to the traumatic event, and she reported feeling uncertain if she needed to make that connection.

The length of time taken to administer the CAPS-5 worst month version was approximately 1 hour and 40 minutes and the CAPS-5 past week version took approximately 1 hour.

Phase 2

In the second phase, the researcher piloted the TSY class facilitated by the TSY instructor with four participants and sought feedback from them. The pilot study consisted of the following guiding questions for phase 2:

Question 5: What were participants' experiences (thoughts and feelings) of the TSY class set up and environment?

Question 6: What changes could be made to improve the way the TSY class was facilitated?

Question 7: Considering that participants in the full study are trauma survivors, how can the TSY class be facilitated more effectively for this population?

Participants. Participants for the pilot study were recruited from the Department of Counseling and Educational Development (CED). Five CED students responded to the recruitment email and four CED students were selected for the second phase of the pilot study based on the availability of their schedule. No inclusion criteria were stated as a pre-requisite for participation in the pilot study.

Methods and procedures. The researcher scheduled a meeting with the four participants in person. The researcher described the purpose of the second phase of the pilot study. Participants were offered the opportunity to read a one-page informational flyer on the research study and the IRB approval form. The researcher proceeded to introduce participants to the TSY instructor. The TSY instructor facilitated a 60-minute TSY class and the researcher observed the class at the side of the room. At the end of the TSY class, participants provided verbal responses on their class experience and suggestions for improving the class.

Data analysis and results. Participants felt that the class environment could be enhanced to make it more comfortable. For example, participants commented that they had difficulty adjusting to the bright lights and limited space in the room. Participants suggested softening the room with softer lighting or adding elements of nature and soft

music to set the tone for the class. Participants were not expecting to do yoga from a chair but appreciated chair yoga as it would allow participants with various levels of mobility to participate. Participants also suggested that the chairs be spread out so participants can have more space for physical movement during the class.

Participants suggested that it would be helpful if they were informed upfront on items to bring to the TSY class such as a jacket, and light and comfortable clothing. Such information would help participants know what to expect during the TSY classes. Since trauma survivors are likely to benefit from increased predictability, these suggestions might help participants feel more prepared and gain an increased sense of predictability prior to participating in the TSY yoga classes.

One participant also suggested that the researcher be prepared in the event a trauma survivor experiences strong emotions during the class. Suggestions were made for participants to apply grounding techniques at the beginning of the class if they noticed that they were disconnected from their body. Other suggestions include checking in with participants or reminding them to apply grounding techniques (such as finding a safe place in their body or focusing on the breath) periodically throughout the class. It is noteworthy to mention that periodic check-ins and reminders for participants to apply grounding techniques are not a part of Emerson (2015)'s TSY protocol.

Regarding physical safety concerns getting into the various TSY forms, one participant suggested that the instructor provide physical safety cues for three of the TSY forms to help participants protect their knees, shoulders, and backs.

Participants added that they appreciated the TSY instructor's soothing and warm voice, tone, and pacing of the class. Participants added that the TSY instructor's voice helped create a calming, comforting, welcoming, nurturing, reassuring, and non-threatening environment. The TSY instructor's choice of words was reported to be non-intrusive and inviting. One participant suggested that the TSY instructor offered helpful options in her verbal cues, which allowed participants to increase awareness of their body. Additionally, these verbal cues and choices enabled participants to make safe connections to any past hurtful experiences in a nurturing way.

One participant suggested it might be helpful for participants in the full study to journal their experience after every TSY class in addition to the debrief session to document any shifts in their bodily sensations and emotions. Another participant suggested that participants rate their level of anxiety using an anxiety scale after each TSY class to track their anxiety levels over the course of the intervention.

Changes to the Full Study

Feedback from the pilot study supplied important information for modifications to the full study. The pilot study allowed the researcher to enhance the clarity of the directions and items in the CAPS-5 and identify the length of time taken to complete the assessment.

CAPS-5 assessment. As a result of the findings, the researcher revised the directions in the CAPS-5 assessment to better prepare participants in the full study for the potential weight of the questions and the possibility of having triggers of the traumatic event during the interview. The option for participants to take a break during the

assessment or to go into as much detail as they feel comfortable were added to the directions at the beginning of the CAPS-5 assessment.

Findings from the pilot study revealed several nuances to the question items in the CAPS-5 assessment that could impact clarity and comprehensibility of the questions. Based on participants' feedback, the researcher added a directive that participants could expect to scale the frequency of the symptom before the actual question was presented to increase clarity of the question item. An example of this directive is "Please scale your response to this question with the options: minimal, clearly present, pronounced, or extreme. How convinced are you that you or others are truly to blame for what happened?" Additionally, the researcher amended question 9 in the CAPS-5 to make it more manageable for participants to respond to the question. As a result, the modified question 9 was "In the past week, have you had strong negative beliefs about yourself?" In the past week, have you had strong negative beliefs about other people? In the past week, have you had strong negative beliefs about the world?" The modified question allowed participants to respond to each discrete part of the question item. In response to the participant's suggestion that it was unclear if the questions in each item category may or may not be connected to the traumatic event, the researcher added a disclaimer before item 9, stating, "The following experiences may or may not be connected to the traumatic event."

As a result of participants' feedback on the possibility of experiencing intense emotional and mental reactions during or after the assessment, the researcher considered various ways of helping participants process their triggers and reactions should they arise.

Based on participants' feedback on the possibility for participants to have difficulty understanding certain words in the question item, the researcher also considered an alternative choice of words for more difficult words in each of the CAPS-5 question items, should participants seem uncertain as to the meaning of an item.

Another important finding from the pilot study was that the length of time taken to administer the worst-month version of the CAPS-5 was significantly longer than the length of time taken to administer the past week version of the assessment. This could be attributed to the past week version of the assessment being more recent and accessible to participants as compared to the worst month version of the CAPS-5. The findings also suggest that the length of time between the traumatic event and the time the CAPS-5 is administered to participants can significantly impact participants' responses. Further, the worst month version of the CAPS-5 elicited more thorough responses from the participant than the past week version of the assessment since the latter is more removed from the traumatic event, especially if the length of time between the traumatic event and the CAPS-5 administration is longer. To account for these differences in the full study, the researcher included the information on when the traumatic event occurred. Finally, in response to the overall findings, the past week version of the CAPS-5 was selected for use in the full study as it allows for a more accurate assessment of participants' PTSD symptoms at the time the assessment is administered.

TSY class. Based on participants' feedback on the TSY class, the researcher made modifications to the class environment in the full study to make it more conducive and comfortable for participants by using a room with salt lamps. In response to

participants' suggestions on adding music to the class, the researcher decided not to use music as it could have been potentially triggering to some participants, and could have the effect of distracting participants from the TSY instructor's verbal cues. Additionally, the researcher ensured there was sufficient space between chairs for participants to have sufficient physical space that would not intrude in another's participant's space.

To help increase a sense of predictability and structure for participants in the full study, the researcher provided an information sheet on TSY classes with details on items to bring to classes, such as a jacket, and to come dressed in light and comfortable clothing. Additionally, participants were informed that they would be doing yoga using a chair. To address the possibility of participants experiencing intense reactions and emotions or dissociating during the TSY class, the researcher added a grounding script with a few options for grounding such as focusing on their breath or finding a safe place in their body if they noticed a disconnection from their body during the class. The TSY instructor read this grounding script to participants at the beginning of the class. The TSY instructor periodically reminded participants during each TSY class to apply any of the grounding techniques.

In response to a pilot study participant's feedback on the physical safety concerns with three TSY forms, the instructor added a statement for each of the three TSY forms (back shoulder stretch 2, shoulder stretch 1, and hip stretch 2) to remind participants to protect their knees, shoulders, or back before they get into each of these forms. An example of a physical safety cue that was added to hip stretch 2 is "You may want to flex the foot of your bent knee to protect your knee in this form."

Participants' validation of the TSY instructor's voice, tone, and pacing of the class helped to ensure that the TSY instructor's training is adequate and meets participants' expectations for creating a safe, inviting, and comfortable class environment. In response to participants' suggestion that it may be helpful for participants to journal their experience after every TSY class, the researcher mentioned that participants had the option of journaling their experience after every TSY class. However, participants were not required to submit their journals to their researcher as there is already a similar question (group debriefing question 3) asking participants to document any shifts in their thoughts, feelings, behaviors, or aspect of their life. In response to participants' recommendation to include a 10-point Likert scale to track the anxiety level of participants in the full study, the researcher decided not to include the anxiety scale as the measurement of participants' anxiety is not one of the objectives in this study.

Summary

The purpose of Chapter One was to describe the purpose of and need for the study. In Chapter Two, trauma, trauma recovery, trauma-sensitive yoga, and associated literature were integrated and synthesized with a specific focus on the principles and conceptual framework underpinning trauma-sensitive yoga as it pertains to trauma recovery. In the current chapter, the case study methodology was described. In the following two chapters, the results and implications of the full study are detailed.

CHAPTER IV

RESULTS

In Chapter 1, the researcher introduced the study by discussing the purpose and significance of this research study. In Chapter 2, the researcher provided an in-depth review of the literature with particular focus on the areas of trauma and intimate partner violence, a discussion on the various trauma recovery models, and the efficacy of current PTSD treatment interventions. The researcher illuminated the problem of inconsistent definitions of trauma recovery coupled with current neuroscience research on social behavior and trauma. Further, trauma-sensitive yoga (TSY), the intervention of choice for this research study was described, and the potential efficacy of this specific approach to treating trauma was detailed. In Chapter 3, the researcher delineated the case study research methodology for this study including the research questions and hypothesis, instrumentation, data analyses, *a priori* limitations, and the pilot study. This chapter reports the findings of the analyses organized in response to each of the five research questions.

Research Questions

The following research questions guided the data analysis process:

Research Question 1: Prior to intervention, how do participants with a history of IPV conceptualize recovery from trauma, as it pertains to the 4 trauma-sensitive yoga

(TSY) themes (i.e., being present, making choices, taking effective action, and creating rhythms)?

Research Question 2: To what extent do PTSD scores change among women IPV survivors who participate in 8 weeks of TSY?

Research Question 3: How do participants' conceptualizations about recovery from trauma and IPV inform our understanding about the trauma recovery process (as it is facilitated by TSY), beyond what their pre- and post- intervention PTSD scores suggest?

Research Question 4: What is the role of TSY in facilitating women's recovery from trauma? The three sub-questions developed to help us respond to this research question are, (a) "can yoga help with trauma recovery?"; (b) "what factors in the TSY practice do women consider as important to their recovery from trauma?"; and (c) "what are the benefits of TSY on women's recovery from trauma?"

Research Question 5: Based on self-report, how likely are participants to continue their TSY home practice on their own time, independently, without the guidance of a TSY teacher?

Results of Analysis for Each Research Question

In this section, the findings of the study will be discussed in order of the five research questions. In some instances, aggregate themes are provided. In keeping with the case study methodology, however, individual cases also will be considered.

Research Question One

The first research question, “Prior to intervention, how do participants with a history of IPV conceptualize recovery from trauma, as it pertains to the 4 trauma-sensitive yoga (TSY) themes (i.e., being present, making choices, taking effective action, and creating rhythms),” was analyzed by examining participants’ responses during the preliminary interview (i.e., prior to beginning the intervention). Specifically, participants were asked to speak about each of the 4 TSY themes and how they thought this was part of their recovery process. Based on these responses, domains for each of the 4 TSY themes were developed based on participants’ conceptualization of trauma recovery. Based on the first TSY theme (being present), the domain of *physical and emotional recovery and freedom* emerged. Participants’ responses primarily comprised of indicators of physical recovery such as being pain-free or being aware and responsive to different pains in their body. For example, Vi stated, “No neck pain, no problems with my stomach, no knee pain, no problems with my hands. Pain-free.” For Wendy, “... just being aware of it, all the different sensations in my physical body, and responding to different pains in the physical body rather than ignoring them.” Physical reminders such as scars also indicated trauma recovery in the present moment. Participants’ interpretations of “being present” also included physical and emotional relaxation as Xahria surmised, “... because of my anxiety, I am jittery a lot, so I think that it’d be nice if I ... [could] be more relaxed like emotionally and physically ... be looser in the legs.” Zina considered ‘being present’ as regaining the freedom to “...have my wings back and I can do whatever I want.”

When asked to respond to how the second TSY theme (making choices) manifested in their recovery, the domain of *self-care* surfaced. According to participants, making choices was most prominent around food, appearance, and self-love. Under the category of making choices around food, participants reported that trauma recovery entailed making healthy eating food choices and maintaining a healthy body. For example, Wendy stated, “I want to make the best choices for my body at every level possible ... not putting harmful things into my body or chemicals or, you know, the best foods.” Under the category of appearance, participants reported that trauma recovery encompassed care for their appearance and the freedom to dress up. To illustrate this case in point, Xahria expressed the freedom to ensure a healthy body image and “be able to wear whatever stuff I want to wear again without feeling judged for it ... not feel self-conscious.” Zina considered love for herself and her body an integral part of making choices to facilitate trauma recovery.

In response to the third TSY theme (taking effective action), the domain of *developing intrapersonally and interpersonally* emerged from participants’ responses. According to one participant’s response, intrapersonal development referred to holism by forging a physical-spiritual connection and becoming whole. Xahria described the phenomenon of intrapersonal development as becoming “one physical[ly] and spiritually ... to have everything kind of connected and sort of be whole” and to have “my mind in the same place as my body.” Wendy described “taking action” in trauma recovery through developing interpersonal relationships by “... getting back involved into these volunteer activities...socializing a lot more...with both men and women...”

Aligned with the fourth TSY theme (creating rhythms), there were two domains, the first being, *controlling the pacing and movement of one's body* and the second domain being, *attunement to the pacing and movement of people around them*. In relation to the self, participants conceptualized trauma recovery in two over-arching ways, *re-establishing a sense of safety and security* and *regaining normalcy and freedom in physical strength, movement, and pacing*. The former emerged based on participants' responses that trauma recovery entailed moving one's body freely with less scrutiny and overanalyzing. Two participants identified heightened awareness and alertness of their surroundings to feel safe and secure. Xahria's statement encapsulates the desire to let go of this self-consciousness and control of her movements, "I was ... very self-aware of pretty much every move I made, so to be able to be self-aware, to sort of let my body do its own thing and not have to worry about ... doing something wrong in a way." Apart from ensuring feelings of safety and security by being "aware of any potential dangers" in her surroundings, Wendy asserted that creating rhythms as it pertains to her body in trauma recovery signifies making the distinction between safety and danger by "trying to fine-tune the discernment of what's potentially dangerous and what's not so that I can move forward [more] quickly." Closely connected to the former theme, the latter theme related to participants' ability to reclaim strength and freedom in the control of their body movement and pace to normalcy and their pre-trauma physiological functioning. Yasmin explained that trauma recovery in terms of creating rhythms in relation to her own body referred to "regain[ing] the strength in my body and mak[ing] ... normal movements" over time.

In the second domain of creating rhythms in relation to others, specifically, the *attunement to the pacing and movement of people around them*, two themes emerged from participants' responses about how they conceptualized trauma recovery. The first theme was *increased physical and emotional awareness of self and others*. This theme includes being self-aware and being aware of one's physical surroundings, others' physical presence, and the ability to be emotionally aware of and empathic toward others. For example, Xahria described wanting to be "more self-aware and ... be more aware of my surroundings and of people physically." Additionally, Wendy and Xahria discussed the importance of identifying others' emotions, as Xahria surmised, "I want to be more empathetic to people ... be genuinely concerned for them, to care ... instead of just shutting them out if they have a problem 'cos my problems are too much." The second theme in this domain involves *regaining normalcy in life* by keeping up with pre-trauma movement and daily activities. For example, Yasmin stated, "I try to keep up, as normal as I can ... I don't let this affect my movement and my daily activities. I try to do everything as normal as I can ... pre-incident." Overall, participant responses suggested that the 4 TSY themes had meaning and resonance for participants even prior to starting the TSY sessions.

Research Question Two

The second research question was "To what extent do women who participate in 8 weeks of TSY see reductions in PTSD scores?" The hypothesis was that participants would have reduced PTSD scores after the TSY intervention.

Three participants met the criteria for full participation in the study and completed both the pre- and post-CAPS-5 tests. Beeson and Robey (2006) suggested that researchers conducting studies with small sample sizes such as single-subject research studies report the raw data and the appropriate effect sizes for the dual purpose of representing the findings meaningfully and allowing researchers to replicate the study. Given the small sample size in the present study, participants' CAPS raw scores will be reported alongside the effect size and other descriptive statistics from the data analyzed in participants' scores, as per Beeson and Robey (2006)'s suggestion.

The total severity scores and total number of symptoms for each case's pre-TSY and post-TSY CAPS are summarized in *The summary of CAPS-5 scores by case* (see Table 2). In Wendy's pre-TSY CAPS scores, the total severity of her symptoms was 42 and the total number of symptoms was 15. Based on her post-TSY CAPS scores, the total severity of her symptoms was reduced to 10 and the total number of symptoms decreased to 3. Wendy's results indicated the highest reduction of symptom severity with a difference of 32 points and a reduction of 12 symptoms compared to the other two participants.

For Vi's pre-TSY CAPS scores, the total severity of her symptoms was 55 and the total number of symptoms was 16. Based on her post-TSY CAPS scores, the total severity of the symptoms was reduced to 30 and the total number of symptoms decreased to 10. Of the three participants, Vi's results indicated a moderate reduction of symptom severity with a difference of 25 points and a reduction of 6 symptoms.

For Yasmin’s pre-TSY CAPS scores, the total severity of her symptoms was 13 and the total number of symptoms was 5. Based on her post-TSY CAPS scores, the total severity of the symptoms was reduced to 9 and the total number of symptoms decreased to 4. Of the three participants, Yasmin had the lowest reduction of symptom severity with a difference of 4 points and a reduction of 1 symptom, but must be considered in the context that she had a limited number of symptoms and symptom severity at the outset of the study.

Table 2

Summary of CAPS-5 Scores by Case

Case		Pre-TSY CAPS Scores	Post-TSY CAPS Scores	Difference
Wendy	Total Severity	42	10	-32
	Total Number of Symptoms	15	3	-12
Vi	Total Severity	55	30	-25
	Total Number of Symptoms	16	10	-6
Yasmin	Total Severity	13	9	-5
	Total Number of Symptoms	5	4	-1

The CAPS-5 total symptom severity scores were calculated and analyzed. As the data were not normally distributed, the most appropriate statistical test was the Wilcoxon signed-rank test to determine whether each case or participant's paired PTSD scores changed significantly after the 8-week TSY intervention.

This analysis yielded the following results. Based on the results of the negative group rank, all three participants' post-TSY CAPS scores were less than their pre-TSY CAPS scores. Based on results of the positive group ranks and ties, none of the participant's post-TSY CAPS scores was greater than or the same as their pre-TSY CAPS scores. The negative mean rank ($M = 2.00$) is more than the positive mean rank ($M = 0.00$). This suggests that the post-TSY CAPS scores are likely less than the pre-TSY CAPS scores. However, participants' post-TSY CAPS scores were not significantly lower ($M = 16.33$, $SD = 11.84$) than their pre-TSY CAPS scores ($M = 36.67$, $SD = 21.50$), $T = 3$, $z = -1.60$, $p > .05$, $r = -0.65$. Despite the non-statistically significant evidence at $\alpha = 0.05$, where $p > .05$, being the first of few or no case studies on TSY and the small sample in this study, the significance of the results will be jointly determined by examining the raw score differences in each of the three individual cases as well as the effect-size indices. One of the key strengths of the effect-size, a descriptive index in statistical analyses, is that it is a method that focuses on and indicates the strength of the relationship between the variables (i.e., treatment and outcome variables) (Beeson & Robey, 2006; Kromrey & Foster-Johnson, 1996). Researchers can also understand the relative strength of the treatment of focus when the effect size is reported (Beeson & Robey, 2006). Further, effect-size indices yield consistent results in data analysis and can

supplement single-subject data analysis and interpretation other than the testing of the null hypotheses that focus solely on the statistical significance of the treatment in terms of the changes in the dependent variables (Kromrey & Foster-Johnson, 1996). This is especially important in non-traditional research studies with small samples such as the current study with only three participants.

Based on the calculated medium effect size of $-.65$ (a medium effect is assigned as $.5$ according to Cohen's effect size indices benchmark), there is a moderate change in PTSD scores attributed to the TSY intervention. In response to the second research question, the hypothesis is supported in that all three participants indicated reduced PTSD scores after receiving the TSY intervention. Overall, there was a moderate change in PTSD scores after participants completed the TSY intervention, as indicated by the moderate effect size for the small sample. Wendy's scores reflected a high reduction in her symptom severity levels and the number of symptoms after completing the TSY intervention. Similar to Wendy, Vi's scores also indicated a high reduction of her symptom severity levels and the number of symptoms. Yasmin's scores reflected a negligible reduction of one symptom and a small reduction in her symptom severity levels after completing the TSY intervention.

Research Question Three

The third research question is "how do participants' conceptualizations about recovery from trauma and IPV inform our understanding about the trauma recovery process (as it is facilitated by TSY), beyond what their pre- and post- intervention PTSD scores suggest?" First, participants' group debriefing session responses will be discussed

for each of the five cases. Second, participants' conceptualizations are first presented in the form of collective trauma recovery themes across cases, followed by a description of the TSY-specific themes across cases. Finally, a detailed case-specific description of the themes that emerge from an analysis of each of the three individual cases that meet full criteria for participation in the study will be discussed within the context of their pre- and post-TSY CAPS scores and their group debriefing session responses.

Group debriefing session scaling question responses. In addition to the narrative themes that emerged above, participants were asked to provide ratings of the four TSY themes and their Subjective Units of Distress Scales (SUDS) (i.e., indicative of their anxiety, stress, fear, and discomfort levels by a single score) before and after each TSY session. This provides additional information pertaining to participants' conceptualizations about their recovery from trauma beyond their pre-post PTSD scores. The summary of each participant's scores is represented by line graphs below.

Yasmin. Yasmin's ratings (see Figures 1a and 1b) for each of the four TSY themes and her Subjective Units of Distress Scales (SUDS) across the classes attended are represented in the six line graphs below. Based on her weekly group debrief session responses across seven classes (absent during class #6), Yasmin's overall post-TSY ratings were higher than her pre-TSY ratings for three of the four TSY themes (being present, making choices, and taking actions). While Yasmin's post-TSY ratings for creating rhythms through attunement to her own pacing and movement tended to be higher than her pre-TSY ratings, her post-TSY and pre-TSY ratings responses for her attunement to others' rhythm and movement are mixed (i.e., post-TSY ratings are higher

or lower than pre-TSY ratings). This suggests that Yasmin may have perceived TSY to have a positive impact on helping her stay present, making choices, and taking actions. While she may have perceived TSY to have a positive impact on helping her self-attune her pacing and movement, this was not consistent across all sessions. Additionally, Yasmin's Subjective Units of Distress Scales (SUDS) post-TSY responses reflect an overall reduction compared to her pre-TSY responses. This suggests that Yasmin may consider TSY helpful in lowering anxiety, stress, fear, and discomfort levels. In the third TSY class, Yasmin's post-TSY SUDS were higher than her pre-TSY SUDS scores. Interestingly, the researcher observed that Yasmin's behavior was different from her behavior in the first two classes. The following observer notes may help to contextualize this finding:

Session 3: Yasmin was the last participant to enter the room and she was a few minutes late. "The instructor had made a statement on grounding at the beginning of class and Yasmin asked the instructor to elaborate on what she meant by being disconnected. The instructor stated that if someone were feeling anxious, that would be disconnection. The instructor then asked me, the observer, if I wanted to add anything else to that question. I responded by stating that disconnection means not feeling the body physically or having an out of body experience. Yasmin did not respond to both our responses but looked down." *[Researcher's interpretations: I wonder what she thought about our responses. Perhaps she had felt disconnection during the TSY class, was currently experiencing the disconnection, or perhaps her interpretation of disconnection was different from ours and she felt confused.]* This was also the first time Yasmin had dozed off early during the class when the class was working on sun breaths, and nodded off several times during the class. Whenever she was awake, she would engage in her own free forms or she would make quick movements, "Yasmin went for the full forward fold, released her left hand, and tried to place the other hand on the ground. Afterward, Yasmin retracted from the forward fold and went into side twists." *[Researcher's interpretations: I was surprised by Yasmin's quick movements. Her quick movements seemed to suggest that she was trying to snap out of sleeping and to try and get back to participating in class to make up for the time lost when she was asleep.]*

Overall, Yasmin seemed to consider TSY helpful in facilitating recovery from trauma in terms of reducing stress and negative emotions, and at least three of the TSY themes.

Figure 1a. Yasmin's Group Debriefing Responses (1)

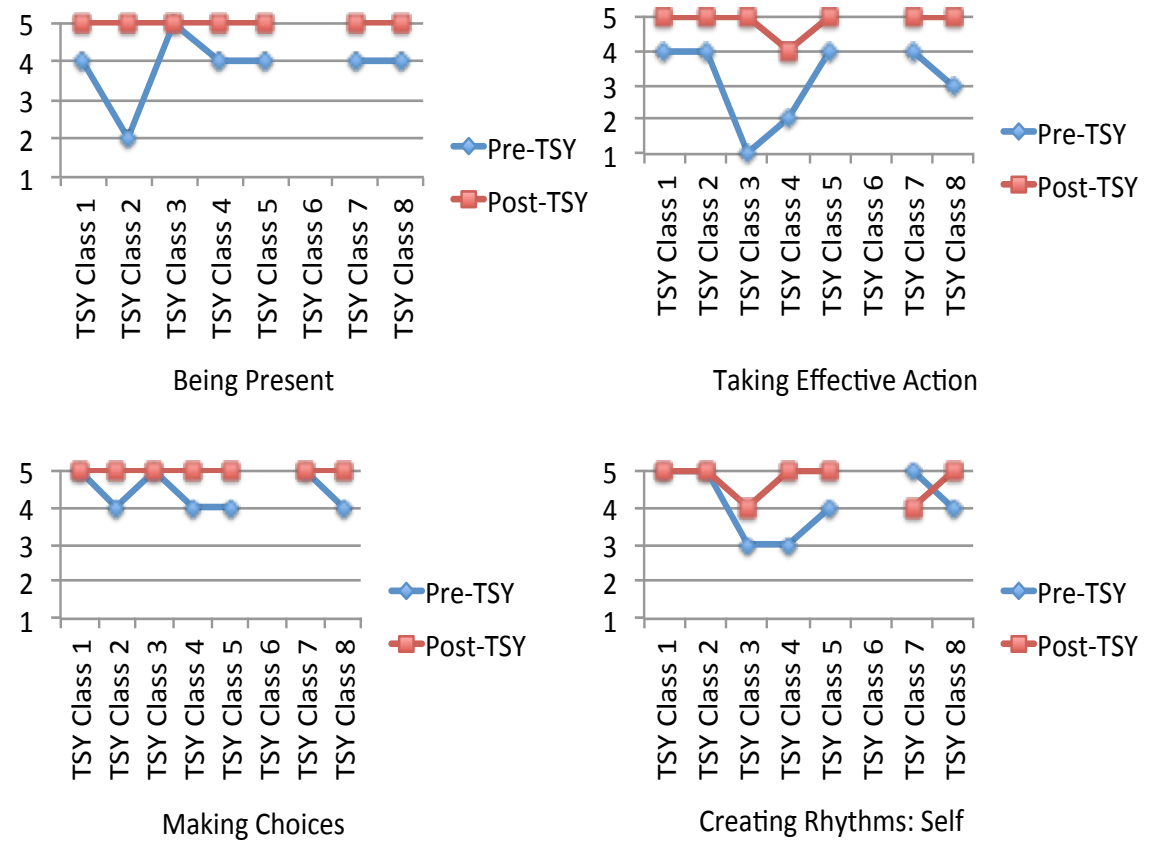
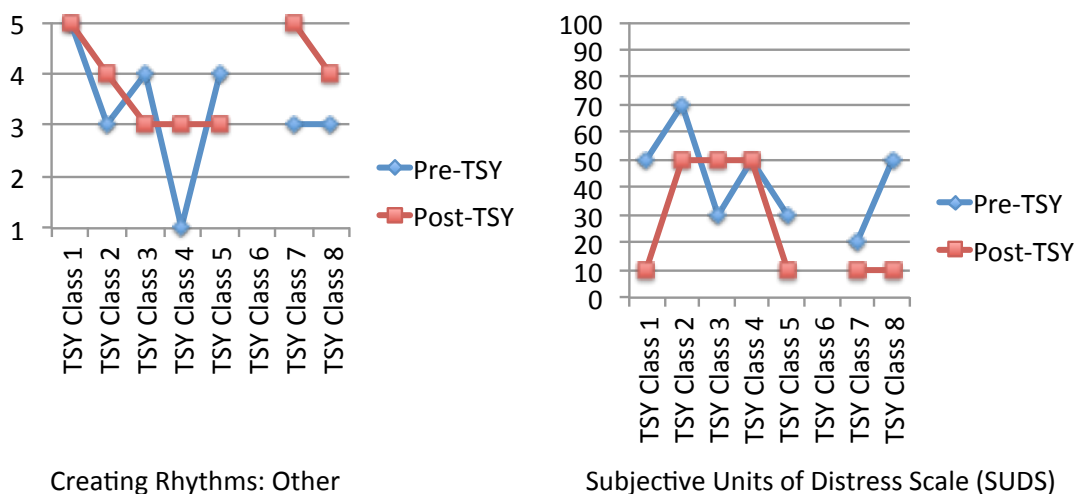


Figure 1b. Yasmin's Group Debriefing Responses (2)



Wendy. Wendy's ratings (see Figures 2a and 2b) for each of the four TSY themes and her Subjective Units of Distress Scales (SUDS) across the classes attended are represented in the six line graphs below. Based on Wendy's weekly group debrief session responses across six classes (absent during classes #1 and #2), Wendy's overall post-TSY ratings were higher than her pre-TSY ratings for all four TSY themes (being present, making choices, taking actions, and creating rhythms). Most of her post-TSY ratings were higher or at least equal to her pre-TSY ratings. This suggests that Wendy may have perceived TSY to have a positive impact on helping her stay present, making choices, taking actions, and creating rhythms (i.e. both attuned to the pacing and movement of her self and toward others). Further, Wendy's Subjective Units of Distress Scales (SUDS) post-TSY responses reflect an overall reduction compared to her pre-TSY responses and a downward trend in her pre-TSY SUDS scores over time. At least three post-TSY

responses indicated zero SUDS. It appears, then, that Wendy considered TSY helpful in lowering her anxiety, stress, fear, and discomfort levels. Overall, Wendy appears to consider TSY helpful in facilitating recovery from trauma in terms of reducing stress and negative emotions, and the four TSY themes.

Figure 2a. Wendy's Group Debriefing Responses (1)

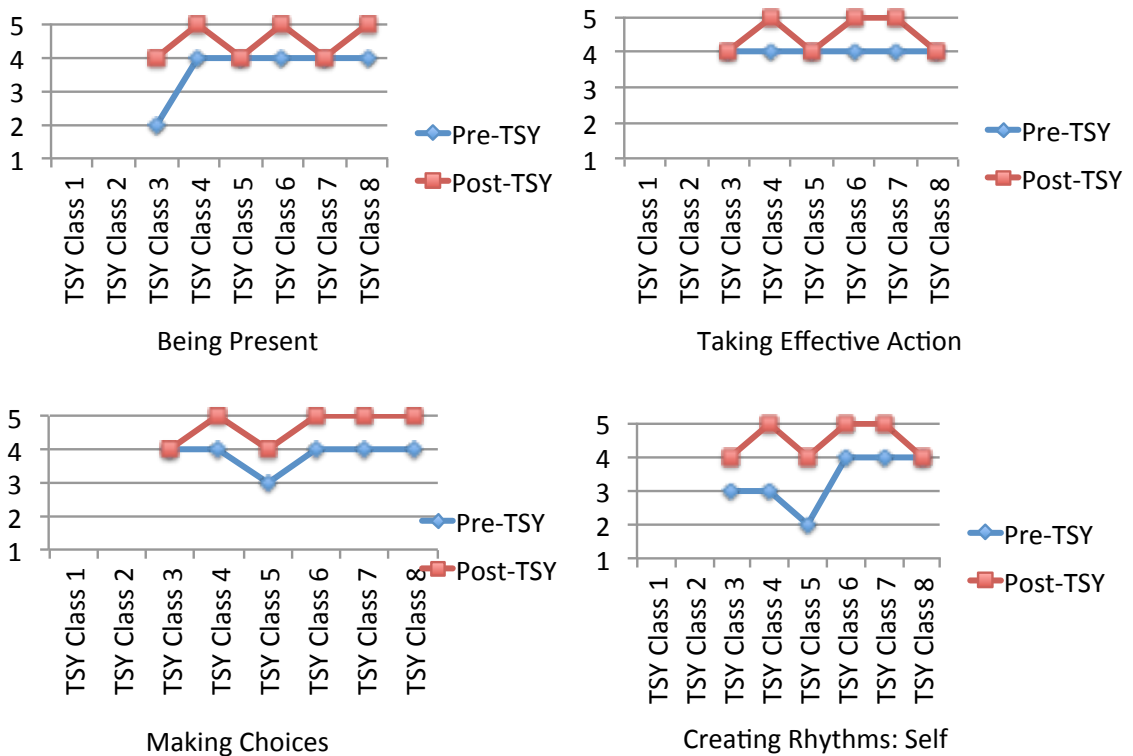
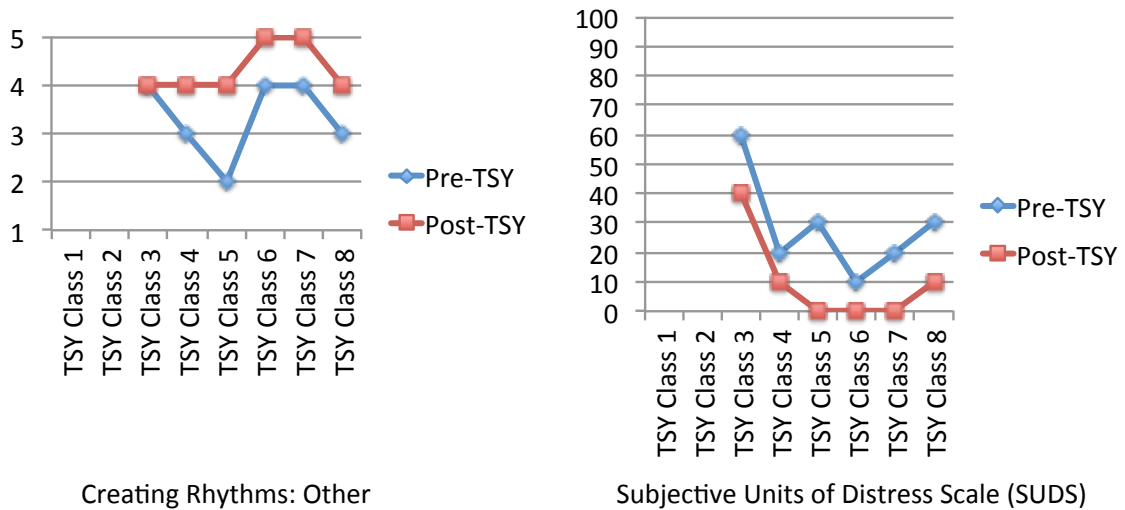


Figure 2b. Wendy's Group Debriefing Responses (2)



Vi. *Vi*'s ratings (see Figures 3a and 3b) for each of the four TSY themes and her Subjective Units of Distress Scales (SUDS) across the classes attended are represented in the six line graphs below. Based on *Vi*'s weekly group debrief session responses across six classes (absent during classes #1 and #7), her overall post-TSY ratings were higher than her pre-TSY ratings across the four TSY themes (being present, making choices, taking actions, and creating rhythms). Most of her post-TSY ratings were higher or at least equal to her pre-TSY ratings. This suggests that *Vi* may have perceived TSY to have a positive impact on helping her stay present, making choices, taking actions, and creating rhythms (i.e., both attuned to the pacing and movement of her self and others). Additionally, *Vi*'s Subjective Units of Distress Scales (SUDS) post-TSY responses reflected an overall reduction compared to her pre-TSY responses. Four of her post-TSY responses indicated zero SUDS levels. This suggests that *Vi* considered TSY helpful in

reducing her anxiety, stress, fear, and discomfort levels. Overall, Vi's reports suggest that she found TSY helpful in facilitating recovery from trauma in terms of reducing her stress and negative emotions, and the four TSY themes.

Figure 3a. Vi's Group Debriefing Responses (1)

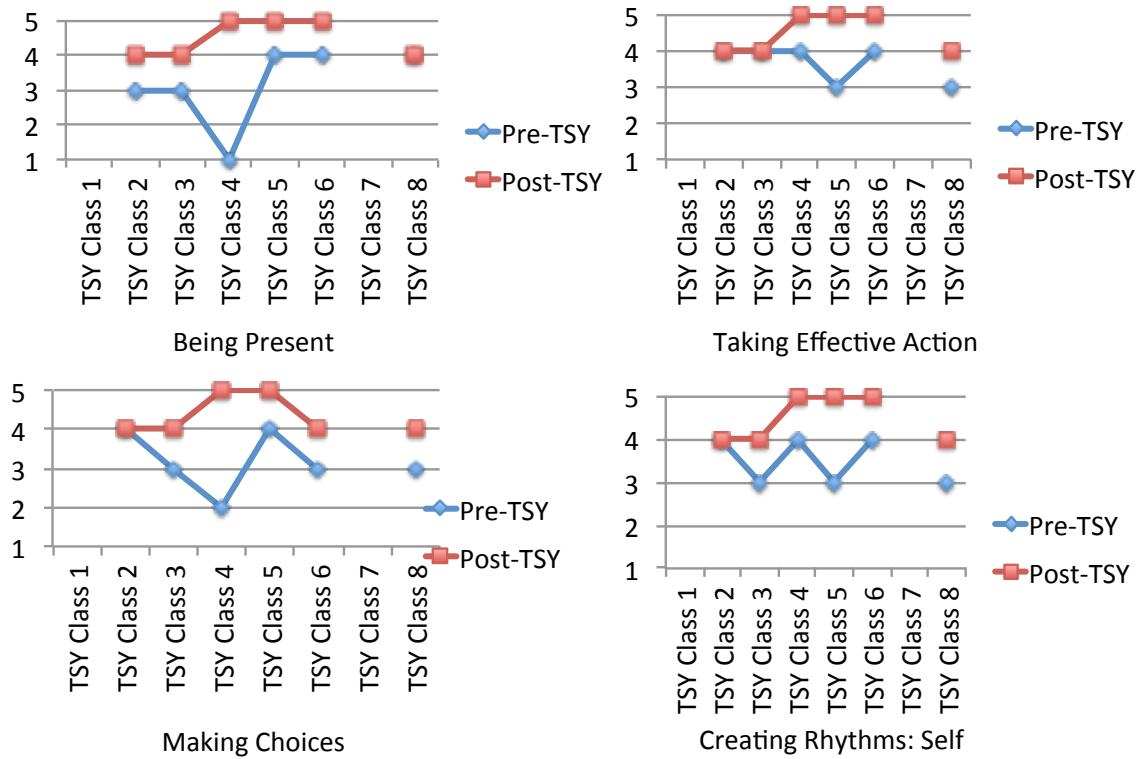
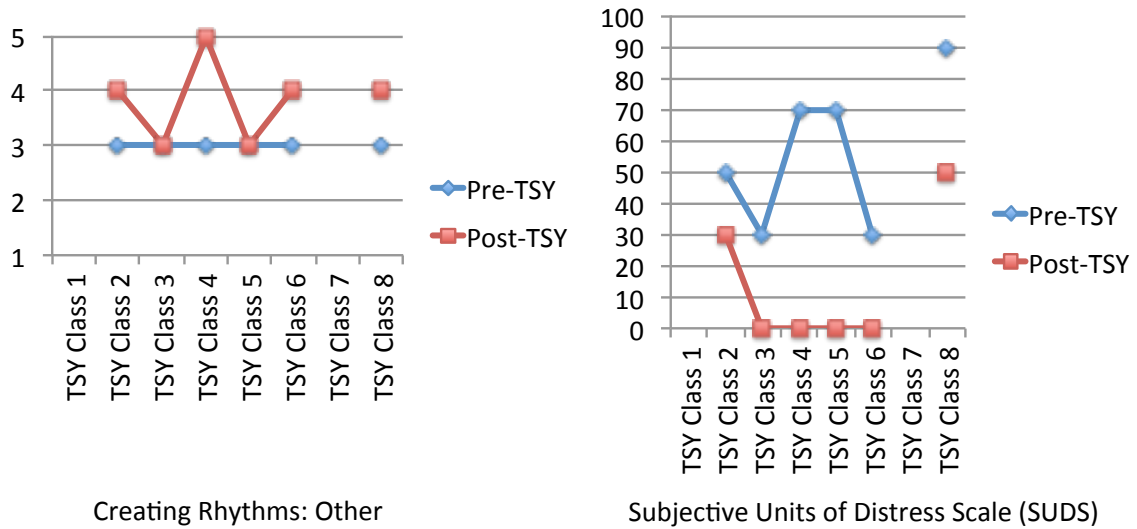


Figure 3b. Vi's Group Debriefing Responses (2)



Xahria. Xahria's ratings (see Figures 4a and 4b) for each of the four TSY themes and her Subjective Units of Distress Scales (SUDS) across the classes attended are represented in the six line graphs below. Based on Xahria's weekly group debriefing session responses across four weeks (present during classes #1, 3, 4, 5), her post-TSY ratings for being present were slightly higher than her pre-TSY ratings for the first and third classes. However, she rated no change in pre- and post-TSY responses in the fourth and fifth classes. For the other two themes, making choices, and creating rhythms, Xahria's post-TSY ratings were higher than the pre-TSY ratings for the first class, but she indicated no change for the rest of the three classes. This suggests that Xahria may have perceived TSY to have an initial positive impact on helping her stay present, making choices, and creating rhythms (i.e., both attuned to the pacing and movement of her self and others) in the first class but did not find subsequent classes to have any positive influence in those areas. Further, Xahria indicated no change in pre- and post-

TSY responses for the theme of taking action across all four classes. Additionally, Xahria's Subjective Units of Distress (SUDS) scales post-TSY responses reflect an overall reduction compared to her pre-TSY responses. This suggests that Xahria may consider TSY helpful in lowering her anxiety, stress, fear, and discomfort levels. Overall, Xahria seemed to consider TSY helpful in facilitating recovery from trauma in terms of reducing her stress and negative emotions, but considered TSY to have limited impact on her recovery in terms of the four TSY themes. This could be cause for her dropping out prematurely.

As will be discussed in more detail below, efforts to contact Xahria after the intervention was complete were unsuccessful, so it is unknown how her experience influenced her choice to discontinue participation in the classes and the study.

Figure 4a. Xahria's Group Debriefing Responses (1)

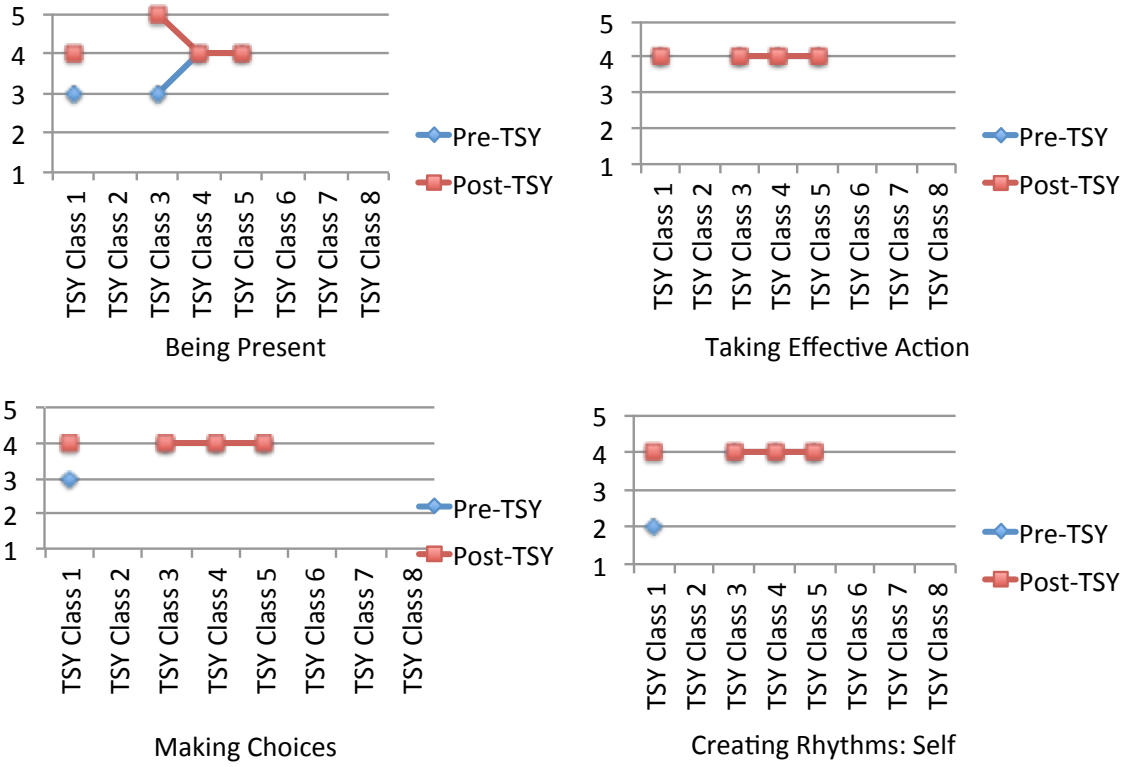
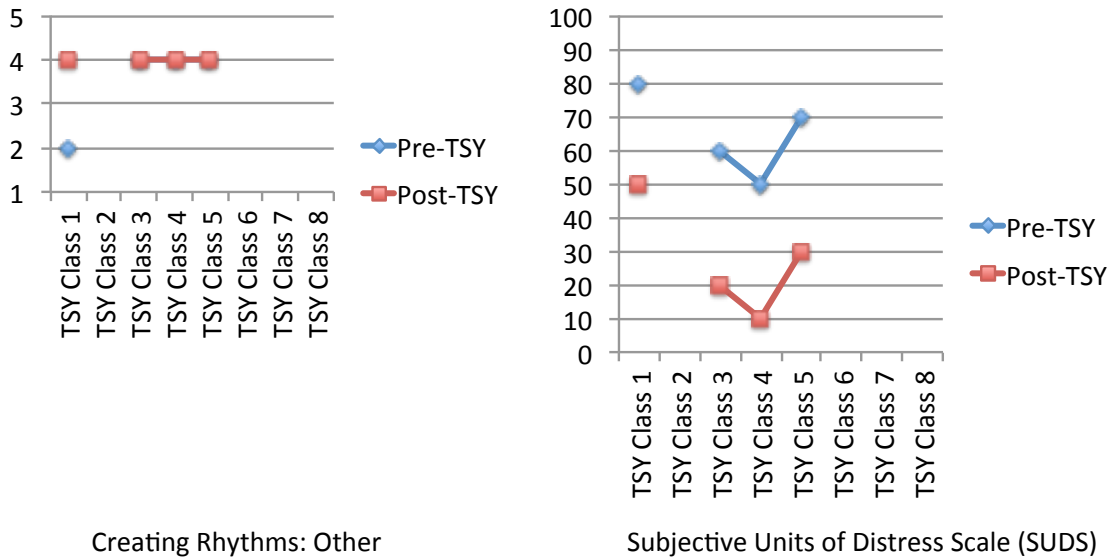


Figure 4b. Xahria's Group Debriefing Responses (2)



Zina. Zina's ratings (see Figures 5a and 5b) for each of the four TSY themes and her Subjective Units of Distress Scales (SUDS) across the classes attended are represented in the six line graphs below. Based on Zina's weekly group debriefing session responses across two classes (present during classes #1 and #2), her post-TSY ratings for three TSY themes (being present, making choices, and taking actions) reflected negligible or no change compared to her pre-TSY ratings. Additionally, there was no reported change between Zina's pre- and post-TSY ratings for creating rhythms in terms of her attunement to others' pacing and movement. Under the theme of creating rhythms in terms of her attunement to her own pacing and movement, Zina's pre-TSY ratings are higher than the post-TSY ratings for both classes. Zina's responses suggest that she may have perceived TSY to reduce her attunement to her own pacing and movement, and that TSY had no impact on her attunement to others' pacing and

movement. Added to that, Zina’s Subjective Units of Distress (SUDS) scales post-TSY ratings are lower compared to her pre-TSY ratings, although she reported minimal SUDS in her pre-session reports. She also seemed to perceive TSY to have no positive impact on her recovery in terms of the four TSY themes, perhaps cause for dropping out prematurely.

As will be discussed in more detail below, Zina shared her experience of the intervention in a follow-up interview with the researcher that provides insight on her choice to discontinue participation in the classes and the study.

Figure 5a. Zina’s Group Debriefing Responses (1)

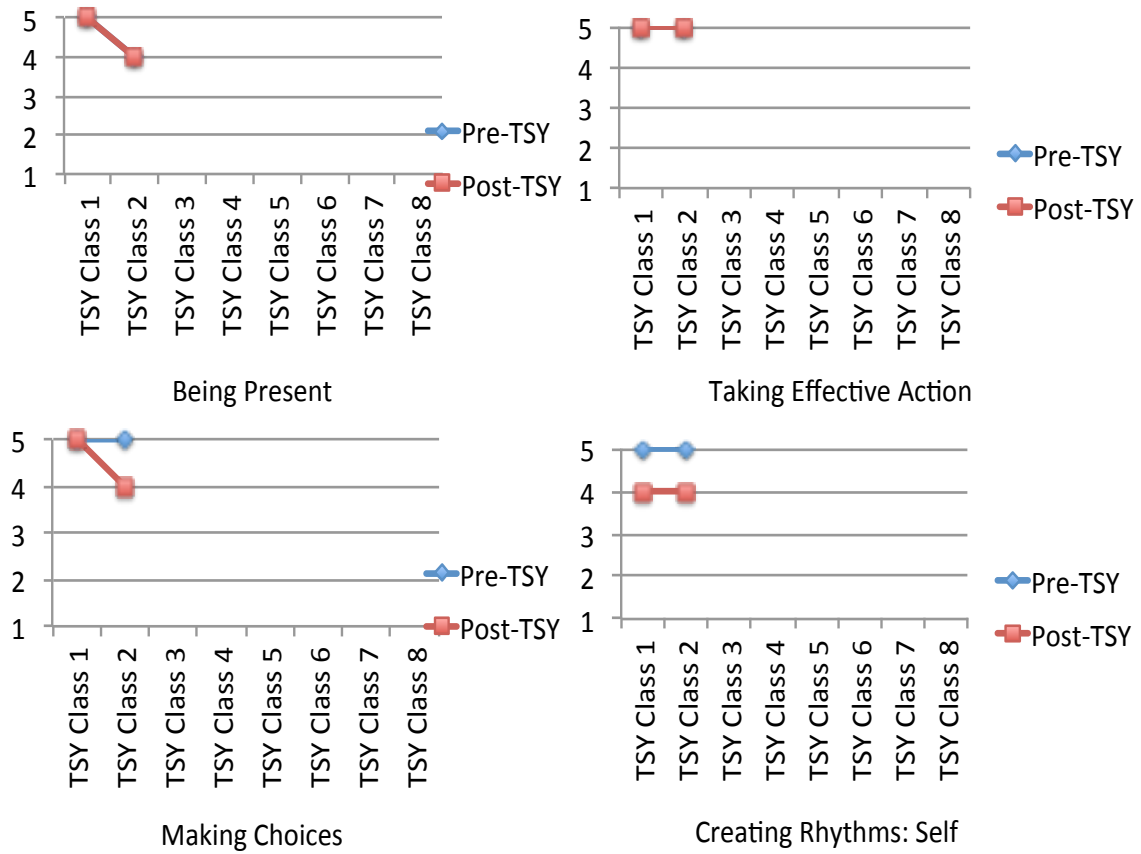
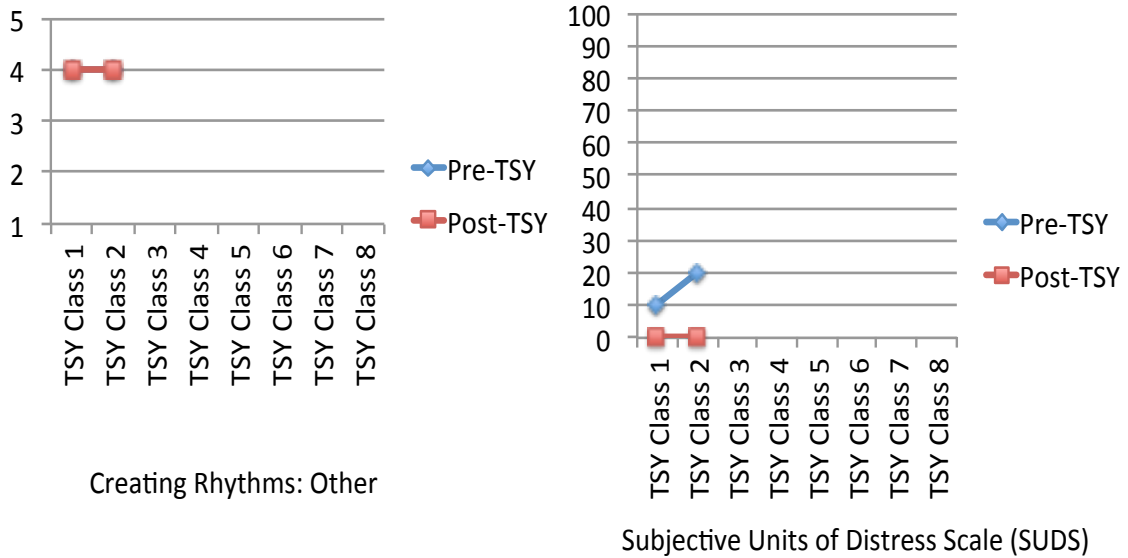


Figure 5b. Zina's Group Debriefing Responses (2)



Overall observations on participants' group debriefing responses. Across the board, all five cases indicated a reduction in their post-TSY SUDS ratings compared to their pre-TSY SUDS ratings. This suggests that all cases, including Zina, who reported minimal pre-session distress, perceive TSY to be effective in reducing their anxiety, stress, fear, and discomfort.

Two of the five participants (i.e., Vi and Wendy) who fully participated in the study indicated increases in their post-TSY ratings compared to their pre-TSY ratings for all four TSY themes. This suggests that these two participants perceived TSY to be effective in helping them to be present, make choices, take action, and create rhythms. The other participant who fully participated in the study, Yasmin, indicated increases in her post-TSY ratings compared to her pre-TSY ratings for three TSY themes (i.e., being present, making choices, and taking action). However, for the theme 'creating rhythms',

she reported that TSY had a positive impact on helping her self-attune her pacing and movement, but reported mixed responses (her post-TSY ratings are higher or lower than her pre-TSY ratings) on the effects of TSY on her attunement to others' rhythm and movement. Overall, the three participants (i.e., Vi, Wendy, and Yasmin) who participated most fully in the group reported that TSY had a positive impact on facilitating their trauma recovery in terms of the four TSY themes. In contrast, the two participants (i.e., Xahria and Zina) who did not meet the criteria for full participation in the study reported that TSY had minimal or no impact in facilitating trauma recovery across the four TSY themes.

Collective themes of participants' conceptualizations of trauma recovery across cases. Participants conceptualized trauma recovery in terms of their personal goals and indicators for trauma recovery in their pre-interviews, and indicated outcomes throughout the TSY classes (group debrief sessions) and after attending the TSY classes (post-interviews). A comparison of the common collective themes based on participants' pre- and post-interview and group debriefing session responses across cases will be discussed first.

One of the common themes derived from participants' pre-interview, during TSY, and post-interview responses, was participants' *enhanced physiological functioning*. In their pre-interview responses, participants indicated that they hoped to feel and move better through yoga, regain physical strength, aid physical recovery, sleep better, and feel relaxed physiologically. During the course of TSY and their post-interview, participants indicated that they benefitted from better sleep, greater attunement to their body, and

greater physiological relaxation. For example, Yasmin described her class experiences in her fourth and seventh TSY classes as “hypnotizing” like the picture of the black concentric circles she had selected, “I don’t even know how [I fell asleep] until I felt myself drooling... I guess so relaxing.” In her post-intervention interview, Vi commented that after a TSY class, “I was able to ... go right to sleep” and “I noticed that I was able to sleep better.” It is noteworthy that a couple of the elements in this theme found in participants’ pre-interview responses overlap with their during-TSY and post-interview responses, such as improved sleep and relaxation.

A second common theme shared between participants’ pre-interview and their during-TSY and post-interview responses is an *enhanced emotional state*. In their pre-interviews, participants indicated that trauma recovery referred to a reduction in negative feelings such as embarrassment and anger, as well as a calm response to events in otherwise safe situations that would typically trigger them. For example, Wendy stated that she would get startled if a family member walked up behind her, even if she was in a safe situation. Based on participants’ post-interview responses, one participant indicated she was hopeful about making progress toward experiencing positive emotions. For example, Vi stated, “I feel like I was here, you know, and I want to get here, where...I’m laughing, and stress free, and...happy, no, not happy, content, and ... pain free. And I think that I’m making this journey towards getting there.”

Another common theme shared among participants was *enhanced intrapersonal functioning and personal characteristics*. In their pre-interview responses, participants indicated that trauma recovery in this dimension encompassed finding inner peace,

regaining self-confidence, regaining personal freedom, regaining self-control over their own life, and gaining hope, optimism, and motivation to get ahead with their life goals by striving for their career and educational goals. Participants also indicated that they hoped to develop personal characteristics such as honesty and determination to be successful. For example, Xahria stated, "... rebuilding myself. Just trying to be more confident, trying to be more personable, trying to be what I see as more of a good person in general ... to be honest ... to achieve my best." Based on participants' responses during TSY and their post-interviews, participants stated that they felt more optimistic about their future. Additionally, participants indicated that through the TSY classes, they benefitted from a commitment to self-care and a sense of accomplishment starting and finishing tasks such as completing the TSY classes. Wendy described benefitting from her commitment to self-care through the TSY classes where "taking the yoga class has reignited my understanding of how important it is to take time for myself ...it's really helped and it reminds me whether or not it's yoga, or something else, I need, I need to take the time to have quiet time to myself." For Vi, completing the TSY classes was "an accomplishment where I started something and finished it and it was a safe positive place for me, and that made me feel good."

Participants also indicated that trauma recovery encompassed *enhanced interpersonal relationships*. In pre-interviews, participants expressed personal goals that they could experience less self-isolation and greater socialization, as well as the ability to trust others again. Participants also stated their hope of maintaining healthier relationships with their friends, family, and significant others, characterized by more

“stable” and “steadier relationships” that did not entail drama, stress, or violence. In addition to maintaining healthier relationships with others, participants stated that they hoped to stay calm and connected during challenging interpersonal situations. During TSY debriefing sessions and in their post-TSY interview responses, participants stated that they hoped to continue maintaining family connections and observed that they were better able to navigate challenging interactions with their family members because they were calmer. Wendy described benefitting from enhanced interpersonal relationships with a family member, saying, “I generally overall am more calm... I am more present, being able to connect to his [son’s] energy and know that his reactions to me probably means that something happened at school ... so he was having his own issues.”

The only theme that did not overlap between participants’ pre-interview responses and their during-TSY and post-interview responses was their enhanced psychological state. Based on participants’ pre-interview responses, participants reported that recovery indicators in this category would entail improved concentration, an ability to feel safe, a reduced susceptibility to traumatic triggers such as reduced nightmares or the reduced impact of nightmares, abated thoughts of the traumatic event and the feeling of being “stuck.” Additionally, participants stated that they hoped to discuss trauma without emotional and stress reactions, and experience a reduced severity of their “trauma imprint.” Participants did not report any indicators of an enhanced psychological state during TSY or in their post-interview responses. However, comparisons between participants’ pre- and post -CAPS-5 responses indicated overall improvements in the number and severity of the following symptom categories: intrusion symptoms including

reduced nightmares (Wendy, Vi, Yasmin), avoidance symptoms including abated thoughts of the traumatic event (Wendy, Vi), cognitions and mood symptoms such as strong negative feelings (Wendy, Vi), arousal and reactivity symptoms including concentration problems (Wendy, Yasmin), distress or impairment in important areas of functioning (Wendy, Yasmin), and dissociative symptoms including depersonalization and derealization (Vi).

TSY-specific themes of trauma recovery across cases. Apart from the collective themes, participants' conceptualizations of trauma recovery based on the TSY themes were analyzed based on their TSY class experience and beyond the TSY class context from data collected in their group debriefing sessions and post-interviews.

In response to the first TSY theme, participants were asked to conceptualize trauma recovery in terms of the connection to their body in the present moment. The first theme, which emerged from post-session interviews, was *enhanced physiological connection and response to one's body*. Participants' responses were organized in two main categories: (1) physiological connection to the body and movement, and (2) responding to one's body. In the first category, participants shared that trauma recovery included feeling grounded, being pain-free, and experiencing an increased attunement to the body's physiological process. Vi expressed feeling her beating heart during the TSY class, "When I felt my heart beat in that session ... that made me feel really good... I just felt like I was connecting to myself." Participants also explained that trauma recovery in the present moment referred to letting go of any negative feelings and responses, such as stress and anxiety, by moving and relaxing the body through stretching, or by connecting

to a physiological process such as breathing during the class. Additionally, participants understood trauma recovery as a way of connecting to their body in the present moment by consciously responding to their body's needs by making decisions on their body through movement. For example, Yasmin stated, "...being able to make decisions, and body movements, and everything else that I want to do with my body. Know when I need to rest, when I need to get up, whenever."

When participants were invited to extrapolate their understanding of trauma recovery by staying present beyond the TSY class context, several themes developed. Consistent with the theme of an *enhanced physiological connection and response to one's body*, Yasmin stated that she felt more connected to her body when she recalled the TSY instructor's verbal cues to ground the body. In Yasmin's post-interview, she stated, "Yes, I think it made me more aware...just from the terms, the words she used...your feet connected with the earth, and stuff like that. I didn't think about stuff like that until now and that definitely makes me more connected." Similarly, Wendy reported that she paid attention to pain, accepted the pain, and explored the cause for her pain. The second theme that emerged was an *enhanced ability to handle interpersonal relationships*. Participants indicated that they were better able to handle interpersonal relationships in several ways. For example, while Wendy reported an increased ability to empathize with her family member and explore his perspective, Yasmin reported experiencing an increased connection and presence with her children. Additionally, participants reported the development of a calmer disposition outside of the TSY class. For example, Yasmin stated that she felt calmer by engaging in various stretching options in her home.

Regarding the second TSY theme, participants' responses about *making choices* about their body emerged from both the researcher's observations and post-interviews responses. From the responses, one theme emerged, the *freedom of selecting a preferred form, movement, or action*. Within the TSY class, participants exercised choice-making in several ways that exemplified this freedom of form and movement. Through the researcher's observations of participants during the TSY classes, participants selected a form or the variation of a form suggested by the instructor. Additionally, participants explored variations of any given form by using props to modify the form or create a form of their own choice. For example, during yoga rest in the fourth TSY class, after the instructor had cued for participants to bring some movement to their fingers and toes, Vi fluttered her fingers and positioned her hands in prayer position, Wendy balled her hands into a fist, whereas Xahria touched her face. At other times, participants would stay in a form that they seemed to prefer. For example, during the spinal movement form in the seventh TSY class, a participant was observed staying longer in the cat form of the spinal movement with her back arched and her eyes closed, whereas Wendy stayed longer in the cow form of the movement as she engaged in a full stretch while she looked up into the sky. Similarly, participants stepped out of forms freely if they seemed uncomfortable. For example, when participants got into their first forward fold, Yasmin seemed uncomfortable in the form and almost immediately lifted herself up to a seated position.

When participants were invited to conceptualize choice-making beyond the TSY class context, participants extrapolated the theme of *making choices* freely on a variety of issues. The freedom to make choices and engage in actions that exemplified this freedom

was encapsulated in Wendy's response about wearing make-up whenever she wished to. Connected to the theme of the *freedom of selecting a preferred form*, movement, or action, Wendy indicated the ability to express her opinions and consider others' opinions to make an informed collective decision. She also added that she felt good about the choices she made and about herself. The ability to exercise autonomy and be in complete control of the choices seemed to be a prominent feature for participants. Even beyond making behavioral choices, Vi indicated that she had developed the ability to be more aware and in control of her thoughts, in addition to tracing the reason for the thoughts that she has.

In response to the third TSY theme, participants conceptualized trauma recovery in terms of taking actions based on how they feel about their body. Based on participants' post-interviews and the researcher's observations, one key theme surfaced, *the importance of being pro-active to respond to the body's needs*. For example, Yasmin indicated that taking actions meant responding to her physical needs such as suffering from any ailments. Similarly, Vi stated that engaging in action meant regaining control of her life by taking a concrete step to help her stay centered and grounded. For Vi, taking the yoga class signaled a step that she was moving forward in life, as she asserted, "...that's an action that...will let me know that I am in control of my body, and what's happening to my body. It's like a way of keeping me centered, grounded."

When participants were invited to extrapolate their understanding of trauma recovery by taking action outside of the TSY class, participants indicated proactivity in responding to their body's needs in several different ways. Wendy shared that she

ensured she was physically comfortable by making choices informed by her body's pain and sensations. For example, she reported that she previously ignored physical pain in her body to remain in close physical contact with her partner, but has since made slight modifications in her body position to ensure that she is more comfortable while remaining physically close to her partner. Additionally, Wendy indicated that attending the TSY classes had guided their decisions to start making healthy food choices and maintaining a healthy diet in ways such as making home-made meals. Wendy also indicated that taking action as a part of trauma recovery indicated an increased desire to take care of her body based on the changes in her body. For example, she indicated the desire to get better fitting clothes for herself.

For the fourth TSY theme, creating rhythms, participants were asked to conceptualize trauma recovery in terms of control of the pacing and movement of their body as well as their attunement to the pacing and movement of people around them. The major theme that emerged was *increased autonomy over the body independent of others' pace and movement*. Participants' responses from the post-interviews indicated that trauma recovery could be conceptualized in terms of increased self-autonomy over choices made on their body. For example, Wendy stated that "I'm the only one who can choose when to move, what to do with my body." Yasmin conceptualized trauma recovery in terms of augmenting her ability to control the pacing of her movement in spite of the involuntary spasms caused by a physical injury sustained in an abusive intimate partner relationship. Based on the researcher's observations of the TSY classes, participants were observed creating their own rhythm and movement independent of the

instructor in forms that involved movement such as the shoulder circles and spinal movements. Participants did not provide any responses about conceptualizing trauma recovery in terms of the control of the pacing and movement of their body outside of the TSY context. This could be attributed to the concept of pacing and movement of one's own body being more difficult to define or explain outside of the context of the TSY class.

Additionally, participants were asked to conceptualize trauma recovery in terms of control of their attunement to others' pacing and movement. The key theme that emerged was an *increased self- and other awareness of physiology, feelings, and behavior*. From the researcher's observations, mirroring behavior was observed between participants and other participants, as well as participants mirroring the TSY instructor. For example, during the third TSY class, the researcher observed Wendy who seemed unsure about getting into a particular form look at Xahria as a model to help her get into the form. In another TSY class observation, the researcher observed Vi and Wendy's coordinated pace and movement during the spinal movement form (TSY class #6). Based on participants' post-interview responses, Vi stated that her awareness of the synchronicity of other participants' breathing with her breathing happened when she was in control of her own body. In her response, she stated, "... once I'm in control of my body, I noticed also in the class too, that...when we breathe, we breathe at the same time..."

Additionally, participants indicated that they paid attention to others' physical location and movements when they were outside of the class to help guide their decisions

on their own physical positionality. Beyond an increased self-awareness of physiology, participants indicated that their attunement to others' pacing and movement extended to an awareness and identification of others' feelings. Further, Wendy stated that attuning to others' pacing and movement also referred to her interpersonal behavior of offering help to others. For example, prior to the TSY classes, she had difficulty taking care of her family's groceries, but reported that she now was able to help a friend get groceries in addition to taking care of her own family's needs.

Case-specific themes of participants involved in the full study. In addition to the collective themes and TSY-specific themes that emerged across cases, an analysis of each of the individual cases will further our understanding on how each participant conceptualized her trauma recovery process as facilitated by TSY. Themes based on the observed patterns and nuances unique to each participant will be discussed in greater detail within the context of the case. Three out of five participants, Yasmin, Wendy, and Vi completed the full study. Case-specific themes for each of these three individual cases will be explored here.

Yasmin. Four key themes emerged from an analysis of Yasmin's responses in the group debriefing sessions, her pre- and post-interviews, and the researcher's observations. The first theme was *focus on physical challenges*. Yasmin was observed focusing on her physical injury related to a physical trauma she had experienced from her intimate partner relationship. The researcher observed Yasmin paying attention to the affected region of her physical injury by making physical contact with it approximately forty times and looking at the affected region for about twenty times throughout the eight weeks of TSY

classes. Even when a TSY form did not involve that affected region, Yasmin would often touch, fiddle, or flex that affected region. Yasmin also seemed to want to make the instructor and other participants in the TSY class aware of her physical limitation, as suggested in the researcher's observation of the seventh TSY class, early on during the class.

Just then, Yasmin walked in at 6:10 p.m. Yasmin announced that she could not do everything the instructor does because of the physical injury she had sustained. *[Researcher's interpretations: Yasmin made a disclaimer about her limited abilities due to the injury in the affected region possibly because she wanted to prepare the instructor that she would not be able to get into poses for good reason, she wanted to share about herself, or because she had started feeling self-conscious in a previous class (class #5) when she had difficulty getting into a hip stretch then.]* (TSY Class #7).

In addition to focusing on her physical challenge, the researcher also observed Yasmin responding positively to her physical challenge on one occasion during a TSY class where she had difficulty getting into a hip stretch, as the following excerpt suggests. During the fifth TSY class, the instructor cued participants into the form.

Yasmin smiled uncomfortably and wore an awkward expression on her face. *[Researcher's interpretation: She seemed to have difficulty hugging her leg in and was possibly confused about why she could not get into the form or was frustrated that she could not get into the form.]* She took a quick glance at the other participants and said, "I can't do it," as she laughed. *[Researcher's interpretation: Yasmin's response suggested that she could have felt embarrassed and self-conscious that she was unable to get into the form or she could be trying to ask someone for help.]* Upon seeing Yasmin struggle getting into the form, the instructor provided other modification options for her. After several attempts with the various modifications, Yasmin clasped her hands over her right knee, gently pulled her knee toward her, and said she could do that. *[Researcher's interpretation: Based on Yasmin's verbal response, she seemed to be receptive to*

the instructor's modification and appeared successful getting into the modified form.] (TSY Class #5). Yasmin's response suggests a positive response to the physical challenge she had experienced and did not seem deterred. After several attempts, she eventually got into a modified version of the form.

The second theme that emerged in Yasmin's case analysis was *positive interactions with others*. Yasmin was observed initiating conversation with the instructor and participants on several occasions during the TSY classes. For example, during the seventh TSY class, Yasmin asked the instructor, "What's this pose here?" and the instructor responded, "cat-cow." Yasmin stated, "It's my favorite!" The instructor stated, "It helps with compression of the back here."

The instructor smiled at me and Yasmin let out a smile. [Researcher's interpretations: This brief interaction between the instructor and Yasmin seems significant as the participant mentioned that cat/cow was her favorite form and had previously shared that she had tried it out at home a second time during the group debriefing session. Yasmin might have wanted to let the instructor know this was her favorite form or was interested to learn more about this form by finding out the name of the form.] (TSY Class #7).

Apart from this brief positive interaction between Yasmin and the instructor, Yasmin also initiated positive interactions with the other participants toward the end of the TSY intervention (i.e., seventh and eighth TSY classes and debrief sessions). For example, Yasmin shared her paint activity experience earlier in the day, and shared a picture of her paint job on her phone with everyone in the class as she beamed in pride and contentment. She added that she enjoyed munching on her snack while painting. The researcher noted in her observation notes:

This was the first time Yasmin was sharing news with everyone in the class. Yasmin's sharing suggests that she has a desire to reach out and connect with the instructor and participants by disclosing personal information about herself or she wanted to share her accomplishment with the class. (TSY Class #7).

During the final TSY class, Yasmin initiated positive contact with the other participants that further suggested her desire to bond with them and forge closer interpersonal relationships, as evidenced in the researcher's observation notes:

Next, Yasmin displayed a picture of three children. She stated that the three kids represented the three of them [herself and the other two participants] laughing and rejoicing on the last day. Yasmin added that the three children in the picture looked "happy and elated." She stated that these yoga classes were "new to us, like children" that this was "a learning experience" and "now we can do a bit more moves." (TSY class #8).

The theme of Yasmin's positive interactions with others seems to be congruent with Yasmin's self-report of experiencing more positive and calmer interactions with her family members and romantic partner instead of getting "hyped up" with them like she did in the past (Group debrief session #7).

The third theme that surfaced in Yasmin's case analysis was *positive self-image through physical activity*. Yasmin's responses indicated that she experienced positive feelings about herself through augmented physical activity during the TSY classes. The researcher observed Yasmin making quick movements in the various TSY forms such as making a quick descent into the seated forward fold and rapidly transitioning" between standing and sitting. Through TSY, Yasmin reported that "working out" during the classes helped her develop a positive perception of her self. Yasmin shared the benefits of working out including experiencing "a good feeling" getting a workout during the classes

and the “need to feel active, pump faster, and be more active” than she has been in her life. (Group debrief session #4). Yasmin also made several self-reports that her joints felt better and “I felt every muscle in my body move.” Further, Yasmin stated that the TSY classes were pitched at a pace and level of physical activity that she was able to keep up with. Yasmin reported benefitting from the TSY classes in several different ways including healing in the affected region, the feeling that she was “almost in shape” (Group debrief session #3), and an enhanced body-image where “my body feel[s] pretty” (post-interview).

The final theme observed in Yasmin’s case analysis was *increased autonomy through creative movement*. Similar to Wendy, Yasmin seemed to develop greater independence by initiating movements or modifying the forms freely and creatively during the TSY classes. Throughout the 8-week TSY intervention, Yasmin made decisions to get into forms not cued by the instructor. For example, Yasmin would stretch out her legs instead of getting into the shoulder stretch cued by the instructor. Yasmin also added movements to the various TSY forms such as opening or closing her eyes in the spinal movements or standing on her toes in mountain form. Apart from initiating movements, Yasmin also modified forms cued by the instructor by using props such as the block to help relieve pressure in the affected region of her body where she had sustained physical injury. These observations suggest that Yasmin developed greater autonomy to engage creatively in free form movement or in Yasmin’s own words, “freestyling” during the TSY classes, informed by her needs.

Despite the small decrease in Yasmin's post-TSY CAPS scores compared to her pre-TSY CAPS scores, the themes derived from Yasmin's case analysis suggest that she found TSY effective in facilitating her recovery from trauma in various ways. Although there does not appear to be a direct connection between the four TSY domains and the four themes derived from Yasmin's case analysis, the themes *increased autonomy through creative movement* and *positive self-image through physical activity* seem to involve the TSY domains of *making choices* and *taking action*. Although Yasmin seems less certain about the effects of TSY on her attunement to others' pacing and movement, the theme *positive interactions with others* seems to indicate that TSY has a positive impact on her interpersonal relationships with others.

Wendy. Three key themes materialized from an analysis of Wendy's responses in the group debriefing sessions, her pre- and post-interviews, and the researcher's observations. The first theme that emerged from Wendy's responses was *increased autonomy through creative movement*. Based on the researcher's observations, there were several occasions when Wendy made new movements or added movements that were not a part of the instructor's cues to the TSY forms. For example, during yoga rest, the final form in the class, the researcher noted that:

Wendy produced a huge yawn and closed out the class with her hands in prayer, even though the instructor did not cue for any positioning of the hands. (TSY Class #3).

Making new movements during TSY seems to be aligned with Wendy's self-report that TSY helped her make decisions for herself such as her decision to make a

committed effort to attend the TSY classes (Group debrief session #5). Wendy seemed comfortable exploring movements in the various TSY forms. This could be a function of her exercising creativity or her applying her previous yoga experience, as supported by the researcher's observation on the seventh TSY class:

The instructor stated, "Take this time to experience this rest." Both participants had their eyes closed. The instructor added, "Bring your attention to your breath." Wendy had her palms facing up. According to the instructor, Wendy occasionally moved some of her fingers in a circular motion like a hand gesture used during certain meditations or a mudra, keeping her palms facing up on her lap.
[Researcher's interpretations: Wendy could have applied her prior knowledge of mudras in her previous yoga experience or she was creatively experimenting with her hand movement during this form.] (TSY Class #7).

The second theme observed in Wendy's responses was *improved concentration and relaxation*. Wendy was observed making intentionally slow movements with her eyes closed in some of the forms during the TSY classes. There were also a few occasions when she seemed engrossed and stayed in one form for a sustained period of time despite the instructor's cues to proceed to the next form. The researcher's observations of Wendy relaxing by slowing down her movements aligned with Wendy's self-report of "taking my time" where "yoga moves ... give me the tools to slow down." (Group debrief session #8). Wendy's ability to stay in one form for a sustained period of time is consistent with her self-report where she found she was able to focus on her own thoughts, needs, and her body through the TSY classes (Group debrief session #4). Despite the desire to be more active, Wendy reported that yoga slows her down and lets her experience through her imagination. Further, Wendy reported benefitting from a more

relaxed and calmer response to challenging interpersonal situations with “neutral discussion” that did not have to be ‘personal.’ (Group Debrief Session #6).

The third theme observed in Wendy’s responses was a *forged spiritual connection*. Wendy reported experiencing a deeper connection to the universe and her higher power where it “feels like a connection to the universe of God source.” (Group debrief session #6). Wendy described the experience as a connection with the brightness in the horizon and explained that when her eyes were closed during the TSY class, she could see the color of violet, which was “very soothing and comforting.” (Group debrief session #6).

The themes developed from Wendy’s responses seem to correspond with Wendy’s self-perceptions that TSY has a positive impact on her trauma recovery via the TSY themes. In particular, the theme *increased autonomy through creative movement* seems to be aligned with the two TSY themes of *making choices* and *taking actions*. Additionally, the theme *improved concentration and relaxation* seems to match Wendy’s perception that TSY significantly reduced her stress and negative emotions, where after three TSY classes, her post-SUDS responses indicated a baseline of zero stress and anxiety. Although spirituality is not an area of focus in TSY and none of the TSY themes explore spirituality, Wendy seems to have benefitted from forging a spiritual connection through TSY. Further, Wendy’s self-report on the positive impact of TSY on her trauma recovery is aligned with the reduced number of symptoms and reduced total severity of her symptoms reflected on her post-TSY CAPS-5 scores compared to her pre-TSY CAPS scores.

Vi. Three key themes emerged from *Vi*'s responses in the group debriefing sessions, her pre- and post-interviews, and the researcher's observations. One of the three key themes that emerged was *increased safety and security*. In the initial TSY classes (i.e., first to fourth classes), *Vi* exhibited behaviors suggesting feelings of insecurity that seemed to wane in the later classes (i.e., fifth to eighth class). For example, *Vi* kept her eyes open for the entire session during the initial sessions. Beginning with the fifth TSY class, however, *Vi* started closing her eyes for the majority of the time, and only kept them open at the start of the class, or during new forms such as the hip stretch and new forms that were introduced. *Vi* also kept her eyes open during yoga rest for most of the initial TSY classes, but during the sixth TSY class, she kept her eyes closed throughout yoga rest. Closing her eyes for longer durations toward the end of the TSY intervention seems to suggest that *Vi* developed greater comfort, safety, and security in the classes.

Vi also indicated feeling safer and more secure as she transitioned from turning away from others to turning toward others as suggested by her physical positioning. In the second TSY class, as noted in the researcher's observation notes:

Vi turned to face the side of the room away from the rest of the participants as she got into the spinal twists. [*Researcher's interpretations: Turning away from the group seems to suggest that she wanted her private space away from others.*]

This was observed again in the eighth TSY class when *Vi* faced the opposite direction away from the rest of the participants. During this final class, *Vi* had self-disclosed experiencing a trigger during the class. From the researcher's observation notes:

[Researcher's interpretations: Vi could have experienced a trigger that led her to want to isolate herself from the rest of the participants or she could have chosen to do so for no particular reason.]

However, Vi also was observed turning toward others on other occasions. For example, in the third TSY class, after some deliberation, Vi decided to settle in the direction that other participants were facing. During the sixth class, Vi was again observed facing the same direction as the other participant in the back and shoulder stretch. Despite experiencing a trigger during the eighth TSY class, where Vi seemed to revert to turning away from others, there were more documented incidents from the researcher's observations of Vi turning toward others, suggesting that Vi felt safer and more secure during the TSY classes more often than not.

Additionally, Vi was observed physically positioning herself in ways that helped her feel safer and more secure during the classes. For example, in the fifth class, the researcher observed that:

Vi's hands were in front of her as she sat down. *[Researcher's interpretations: Once again, Vi might feel more secure with her hands in front of her or feel more balanced and coordinated with her hands outstretched.]* (Observation of TSY Class #5).

In another observation:

Vi's hands were on either side of the chair as she engaged in leg lifts. *[Researcher's interpretations: She may have held onto the sides of the chair to feel more grounded and safe or she could be experiencing some discomfort in the form.]* (Observation of TSY class #5).

These observations seem to support the notion that Vi's self-initiated changes in her physical positioning helped her increase feelings of safety and security during the TSY practice.

Another theme that surfaced in Vi's responses and the researcher's observations was *navigating triggers, pain, or tension*. Vi seemed to experience triggers during the TSY classes, and had later shared in the eighth group debrief session that she had experienced triggers both during the TSY classes and outside the TSY classes. One of these triggers was observed in the eighth TSY class:

It was then that Vi broke into sobbing for a few moments and her eyes were wet. *[Researcher's interpretations: Vi seemed to have been triggered during the sun breaths due to a flashback or memory of a traumatic event.]* (TSY class #8).

During the same class, Vi was also observed shifting into a closed postural stance on a couple of occasions:

Vi's head bowed low with her hands clasped. *[Researcher's observation: I was not sure if she was crying again as her face was not visible to me from where I was seated. Based on Vi's body posture, she could still be affected by the trigger that could have been due to a flashback or memory of a traumatic event.]* (TSY class #8).

Apart from experiencing triggers, Vi seemed to be able to develop and apply strategies from TSY to navigate pain, tension, or triggers. One of the strategies Vi applied was breathing. Vi said to the instructor, "I noticed when you breathe, it releases tension." (TSY Class #5). Vi stated that she remembered the instructor inviting participants to breathe into tension in the previous class. Subsequently, when she applied the technique

of “breath[ing] through” the discomfort she had experienced during the hip stretch, she reported that, “it feels good.” (TSY Class #6). Vi’s self-report on the benefits of breathing was validated in the researcher’s observation during the sixth TSY class:

The instructor added, “Gently release and let your leg down.” Vi breathed out an audible out breath at the instructor’s cue. Vi seemed to be breathing more in this hip stretch as evidenced by her blowing breath out from her parted lips when she was in the form. *[Researcher’s interpretations: Vi’s out breath could be a sigh of relief from getting out of the form or she could have been breathing harder in the form due to the tension experienced in her body.]*

The researcher’s observation of Vi breathing into forms where she experienced tension in her body was later reinforced in Vi’s self-report where she asserted that she “...realized breathing is very important. Something that I’ve used outside” and that is “what I’m feeling [i.e., negative feelings] dissipates faster when I’m breathing.” (Group debrief session #8). Other self-reported coping strategies that Vi applied to navigate her triggers include a combination of positive self-talk, breathing, and the perseverance to keep going. Vi stated that she recognized her own limits and when she was triggered, she did not push herself and did what she could do. Vi also reported that the tension and pain she had been experiencing in her neck had dissipated from the second class. Vi reiterated benefitting from reduced pain and tension in her neck after attending TSY classes, “Every time I come, I have less pain.” (Group debrief session #6).

The third theme that emerged in Vi’s responses was *physiological self-discovery*. There were a few instances where Vi was observed curiously exploring her body in the TSY classes. For example, in the 3rd class, the researcher observed:

Vi asked if it was normal to hear cracking sounds in her body and the instructor said it was normal. *[Researcher's interpretations: The questions that Vi asked the instructor about her body seemed as if Vi was unfamiliar with her own body. It almost seemed as if Vi had to turn to the instructor for expert opinion about what was considered normal or less normal about responses in her body.]* (TSY Class #3).

Additionally, Vi was observed:

...engaging in self-exploration when she was visually tracking her hand movement by watching her hands coordinate with her breath. *[Researcher's observations: Vi could have tracked her hand movement because she was curious about her hand movement or she could have experienced sensations when moving her hand.]* (TSY Class #5).

This theme seems to be reinforced by Vi's response of being more attuned with her body "little by little," likening it to "a sun rising ... feels like to me like I've been awakened." (post-interview) Vi also reported a change in physical sensations through TSY such as the return of warmth in her body during the TSY class and noticeably different energy levels on the two sides of her body. Another area Vi noticed a change was the experience of "staying balanced" in her body like "a lotus flower" through TSY.

Vi's pre- and post-CAPS-5 results indicated a reduction in the number of PTSD symptoms and the total severity of the symptoms after the TSY intervention. Apart from the reduction in PTSD scores, the comparison of Vi's pre- and post- group debriefing session ratings of the four TSY themes also suggest that Vi perceived TSY as positively impacting her ability to stay present, make choices, take actions, and create rhythms (i.e., both attuned to the pacing and movement of her self and others). Vi's self-perception that TSY helped facilitate recovery in these four TSY domains is supported by the three

themes that surfaced from Vi's responses and the researcher's observations. Consistent with the researcher's observations of Vi's behaviors during the TSY classes, as indicated by the theme of *increased safety and security*, Vi's SUDS ratings on her pre- and post-debrief session responses suggest that TSY helped Vi reduce her anxiety, stress, fear, and discomfort. Further, Vi's self-perception that TSY helped facilitate her recovery by making choices and taking actions seem aligned with the theme of *navigating triggers, pain, or tension through TSY*. Vi seemed able to exercise choices and take actions by developing strategies to help her cope with the triggers she experienced in class and outside the context of the class. Further, Vi's self-perception that TSY helped her stay present and create rhythms by being more attuned to her own pace and movement is consistent with the theme of *physiological self-discovery* where she was observed and self-reported feeling more self-attuned and connected to her body during TSY.

Research Question Four

The fourth research question is "What is the role of TSY in facilitating women's recovery from trauma?" Three sub-questions have been developed to help us respond to this research question. The first sub-question is "Can yoga help with trauma recovery?" The second sub-question is "What factors in the TSY practice do women consider as important to their recovery from trauma?" The third sub-question is "What are the benefits of TSY on women's recovery from trauma?"

Participants' pre-interview perceptions on yoga and trauma recovery. In response to the first sub-question, "Can yoga help with trauma recovery?" the researcher analyzed participants' responses in their pre-interview prior to the TSY intervention. Out

of the five participants, four participants stated that yoga could help with trauma recovery. Only one participant who completed the full study, Vi, stated, “I don’t know,” indicating that she was uncertain about the effects of yoga.

Factors in TSY classes important in trauma recovery. Key themes were drawn from participants’ responses in their pre- and post-interviews and their group debriefing sessions to answer the second sub-question, “What factors in the TSY practice do women consider as important to their recovery from trauma?” Collective themes emerged for participants around important aspects of the TSY classes that facilitated trauma recovery. Three themes were extrapolated from participants’ responses on what they considered central to trauma recovery in their TSY classes.

The first theme was the *benefits of embodied processes in TSY classes*. Based on the process of attending the TSY classes and their post-TSY responses, two primary categories, *breathing* and *stretching and movement, emerged*. Participants shared that breathing was beneficial in several ways, including releasing any tension or discomfort, reducing stress, and facilitating embodied self-awareness. Additionally, participants reported that stretching and movement were beneficial in that they helped to relax the body.

The second theme was the *benefits of the instructor’s guidance*. The instructor’s presence offered safety and assurance to the participant. Additionally, the instructor’s demonstration of the forms helped students model after her but they also benefitted from her doing the forms together with them. According to Yasmin in the group debrief session #7, it is “... better to have someone show you how to do it and even better to have

someone do it...you emulate it... helps [you] to feel more confident versus someone just asking you to do it.”

The third theme was *conduciveness of TSY class*. Participants reported appreciating class characteristics, such as step-by-step instructions, and felt that the class was designed to cater to the needs of individuals with different fitness levels. For example, Yasmin stated during a group debrief session, “I couldn’t keep up with Zumba” and added that the TSY classes accommodate to the needs of all sizes and physical abilities.

Taken together, the three themes extrapolated from participants’ responses are aligned with all five principles essential in the TSY practice (Emerson, 2009). The themes *the benefits of the instructor’s guidance* and the *conduciveness of TSY class* are consistent with five TSY principles, *instructor qualities*, *creating a safe environment*, *verbal assists*, *exercises (or forms)*, and *invitatory language* (Emerson et al., 2009). Further, the theme *benefits of embodied processes in TSY classes* is aligned with two of three TSY techniques, *breathing* and *forms*. Based on the close matches between the themes identified from participants’ responses and the TSY domains, this suggests that participants found these TSY principles and techniques intentionally designed for complex trauma survivors effective in facilitating their recovery.

Benefits of TSY on women’s trauma recovery. The third sub-question is “What are the benefits of TSY on women’s recovery from trauma?” Apart from the factors in TSY practice that women consider central to their trauma recovery, their self-reports on the benefits of TSY help to answer research question four on the role of TSY in women’s

trauma recovery. The themes were analyzed from participants' group debrief sessions and their post-interview responses, and a number of benefits emerged, including *physiological benefits, emotional benefits, spiritual benefits, cognitive benefits, enhanced perception of self and others, shift in perspective on time, self-care, and the application of positive coping strategies.*

Physiological benefits. One of the themes that emerged was *physiological benefits* or the benefits of TSY on the body. Participants reported an increased awareness of breathing. For example, Vi reported that she became more aware of her breathing during the TSY class. Another benefit was an increased body attunement through physical activity such as stretching and movement. For example, Vi described "being more in tune with my body ... like a sun rising..." Yasmin commented that the physical activity in the TSY classes was like "a workout" that helped her "feel active, pump faster, and be more active than she has been in her life." Other physiological benefits reported by women during TSY include the release or disappearance of tension or pain in the body through activities such as stretching, increased physical strength, increased balance and alignment in the body, an increased attention to muscle soreness, a greater sensitivity to physical warmth, visceral sensations, and energy in the body. Participants also reported better sleep quality in terms of an increased ability to go to sleep more easily and quickly, and an increased quantity of the number of hours of sleep. Related to sleep, participants also reported that yoga helped their body slow down and relax. For example, Yasmin stated that she felt 'hypnotized' during the TSY class and had dozed off in two TSY classes.

Emotional benefits. A second theme that was derived from participants' responses was the *emotional benefits* from the TSY practice. Participants reported that TSY helped to reduce negative feelings and increase positive feelings. Wendy, Yasmin, and Xahria reported that they felt calmer. In addition to feeling calmer, Xahria reported, "I can tell a slight difference in being able to calm myself down" in the third group debrief session. Participants also reported experiencing other positive feelings such as peace, pride, confidence, hopefulness, and an increased sense of permissiveness toward the self. Participants' responses also indicated a reduction in negative feelings such as anxiety, irritability, and being overwhelmed. For example, in the first group debrief session, Xahria reported feeling her anxiety "leaving or dissipating some" during the yoga class.

Spiritual benefits. The theme of *spiritual benefits* surfaced based on one participant's report. Specifically, in the sixth group debriefing session, Wendy stated that she forged a "deeper spiritual connection with the universe" and her 'God source.'

Cognitive benefits. The theme *cognitive benefits* emerged from participants' responses. Participants reported various mental benefits of TSY, including an increased clarity of thoughts. For example, Yasmin reported that she gained the ability to reflect and think about peaceful things by focusing on her breath in the first group debrief session. Participants also reported enhanced cognitive abilities such as improved concentration, an enhanced ability to multi-task, make decisions, and prioritize. For example, Yasmin explained that her concentration had improved to where, "I can sit and talk with somebody, hear them out when writing ... I can think more clearly... I might do

the first thing that comes to my mind, I think stuff more now, I think about the outcome and it ends up being better.” Further, Wendy described experiencing a state of “mental relaxation” after attending the TSY sessions that she likened to “a childlike carefree, innocence, playing in nature” feeling.

Enhanced perception of self and others. Another theme that surfaced from participants’ responses was an *enhanced perception of self and others*. Yasmin reported feeling more attractive as a result of attending the TSY classes. For example, Yasmin stated, “my body feel[s] pretty, doing all the moves, and the mini exercising.” Participants’ perceptions of others also seemed to shift positively after the TSY intervention. For example, Wendy indicated that she did not have enough love to give in the past but has since become more loving toward her family members after the TSY intervention. Additionally, she reported that her enhanced ability to communicate about physical touch with her family member has improved their relationships.

Shift in perspective on time. Pertaining to the theme of a *shift in perspective on time*, participants discussed the benefits of perceiving the present, past, and future in a way that benefitted them. Through TSY, participants reported being more present-centered in terms of their thoughts and their feelings, and were able to separate unhelpful thoughts from the past and the future. For example, Wendy reported in her post-interview:

I’m more able to maintain my thoughts about being in the present and not entertain feelings of anxiety about the future. Because before the yoga I was like really anxious ... I was having a lot of anxiety about ... when am I going to be able to get back to work ... So I’m able to keep my perspective about the

present...open, and letting it flow rather than falling into the anxiety about what's going to happen in the future.

For Vi, she reported that she had acquired the ability to separate her past from the present in a way that helped her stay present and connected to herself:

...I'm able to be more present in the present moment and the past, I've learned how I was behaving, the not breathing, not being fully aware, outside of myself, not really being present and connected with myself, I've noticed now that I'm a little bit more connected with myself and how I feel about things, about why I think what I think.

Relating to the future, Vi and Wendy both reported reduced anxiety about the future.

Participants also expressed an improved outlook on the future. For example, Yasmin stated, "I think the relaxation has helped me get a clear mind and I just think more positive, versus thinking negative. And so, that makes me think about good things for the future."

Self-care. Through the TSY classes, the theme *self-care* emanated. Participants reported multiple ways of taking care of themselves including making healthy eating choices and making a self-care commitment. For example, Wendy asserted that the TSY classes have been helpful as she can experience "a peaceful hour" that she could look forward to and dedicate to herself. Participants also expressed the desire to learn and acquire new information for their well-being. For example, Xahria stated that she had done a google search on *yoga poses* and was trying new poses because yoga helps her "feel good."

Application of positive coping strategies. Another theme that emerged from participants' responses was the *application of positive coping strategies* whenever they were distressed or triggered. In her post-interview, Wendy described her ability to maintain a neutral stance through TSY: "... yoga helps to slow down my breath and my thoughts, then I'm able to catch those judgmental thoughts that I may have about somebody else and be able to put that into perspective that you know, to break it down ..."

Xahria also reported that she acquired an increased inward focus on herself that during the TSY class, she could "tune things out" with an "inward focus" and "let go."

Participants also shared that through TSY, they acquired the ability to better handle challenging interpersonal situations. For example, Wendy stated that she learned to respond to certain irritations with "neutral discussion ... that did not have to be personal." Instead of becoming irritated the way she did in the past, through "calm breathing," she could see the situation as "exhaling and not see it as an argument."

Research Question Five

To determine the likelihood of participants continuing their practice independently, research question five asked "How likely are participants willing to continue their TSY home practice on their own time, independently, without the guidance of a TSY teacher?" Responses for this question were obtained from participants' post-interviews. In response to this question, all three participants (100%) reported that they were very likely to continue their TSY home practice on their own time independently, without the guidance of a TSY teacher. With regard to the frequency and duration of their personal TSY practice, participants' reports ranged from a minimum of once a week for

30 minutes each practice session (Vi), three to four days out of a week for 30 minutes each practice session (Yasmin), or daily for 45 minutes each practice session (Wendy). Participants reported that their preferred activity during the TSY practice would be all the poses that the TSY instructor had used during the yoga class.

Participants reported two types of resources that would increase their likelihood of continuing their TSY practice independently, internal resources within themselves and external resources that could be sought. In terms of internal resources, Vi reported motivation as an internal resource. Vi stated that her TSY class experience and the desire to try different poses was her source of motivation to continue her TSY practice.

In terms of external resources, participants stated that yoga videos or a book explaining the entire practice, or an ongoing yoga class would provide support for ongoing practice. Other external resources included childcare services, flexible scheduling, and the ability to practice outside of the house that would enable the participant to focus on their yoga practice without distractions or responsibilities.

Participant Attrition or Outlier Information

Two participants, Zina and Xahria, did not meet the criteria for full participation in the study. After she left the study, Xahria did not respond to multiple efforts by the researcher to contact her. The researcher got in touch with the other participant, Zina, and obtained information from her about her experience of the study. This was gathered initially through a semi-structured telephone call, followed by two email correspondences, as Zina was unable to complete the phone interview due to her work schedule. During the phone interview, Zina stated that she did not experience any changes or encounter any

problems after the first TSY class. After the second TSY class, Zina stated that she did not know if the class relaxed her too much. Zina described her after class experience as “tired and weak for the next few days.” Zina said that she was unsure if the “low energy and mental state” she had experienced the next morning after the TSY class were attributed to things that were going on in her life or if the class was “draining energy and strength.” Zina stated that her low energy could be attributed to yoga “opening emotions and feelings.” Zina stated that she preferred not to think that these traumatic events had happened, but when the group started talking about emotions during the group debrief sessions using the pictures, her “hidden” emotions returned. However, she stated that her experience of the group debrief sessions were that they were conducted appropriately and helped to clarify participants’ questions and responses.

Zina also added that her experience of the yoga instructor and other participants was pleasant and positive. Zina commented that she did not have enough time to enjoy the sustained benefits of this class and the group beyond the second TSY class. Zina was invited to indicate anything that she found helpful in her trauma recovery through the research study. Zina stated that it was helpful to share unpleasant things that she had experienced with people who had undergone similar situations and issues. Zina was asked how likely she would continue the yoga classes at her own time at home without the guidance of a TSY teacher. Given the choices of “unlikely, undecided, likely, and very likely,” Zina indicated that she was undecided about continuing. Zina stated that she considered yoga too calm and relaxing for her and found jogging and running a better fit for her to help relieve and reduce her stress.

Zina was asked to identify barriers that prevented her from fully participating in the program. She indicated three key barriers, the first being the location of the research study, the second being a time conflict for her, and the third barrier was her personality. When asked to elaborate how personality was a barrier to her participating fully in the program, Zina stated that she is very active and needs to learn to “slow down and enjoy the moment.” Zina added that the most important factor that led her to stop participating in the research study was a combination of family issues and time conflict. Zina added that she did not feel uncomfortable during the course of the research study. An interesting point to note is that Zina thought that she had attended three TSY classes even though she only attended two classes.

Summary

The purpose of Chapter 4 was to present the results of the case study from the analyses conducted to answer the five research questions and hypothesis outlined in Chapter 1. Overall, findings suggest that TSY classes impacted all of the participants who completed the study, though with some differential outcomes. In Chapter 5, the results presented in Chapter 4 will be discussed as they pertain to previous research findings in the literature. The limitations of the current study, implications and recommendations for counselors, counselor educators, supervisors, and researchers will be detailed for future research and practice.

CHAPTER V

DISCUSSION

Based on the extant literature on TSY, researchers (Dick et al., 2014; Mitchell et al., 2014; Van der Kolk et al., 2014) have determined the efficacy of TSY by evaluating participants' PTSD scores using outcome-based quantitative research designs. Although these studies suggest that participation in TSY reduces PTSD symptoms, they offer limited insight into individuals' trauma recovery process. Beyond reporting the outcomes of trauma recovery, this study was developed to lend insight into the processes of trauma recovery, specifically how participants conceptualize trauma recovery, specific factors in TSY that help reduce PTSD symptoms, and the benefits of TSY. Aligned with the intent of the case study research design to delve into the uniqueness of the cases and their contexts in greater specificity (Stake, 1995), this study offered a novel perspective to learn about the inner workings and complexities of trauma recovery as facilitated by TSY through participants' personalized experiences. Illuminating participants' voices seems particularly vital, especially since few researchers have studied the trauma recovery experiences of women impacted by IPV despite the close associations between IPV and PTSD (Allen & Wozniak, 2010). Added to that, this study fills an important gap in the literature by reporting participants' likelihood of continuing their TSY home practice independently, resources that may increase their likelihood of doing so, and suggestions

about how clinicians can make informed decisions about referring TSY to clients and incorporating TSY into their clinical work.

In Chapter 4, the collected data were described, and an overview of the analyses and interpretation of the multiple cases were presented. This chapter includes a discussion of the findings in the context of the extant empirical literature, alongside implications for counseling, suggestions for future research, and limitations of the current study.

Discussion of Results

The five key issues that will be discussed in this chapter are the: (1) multidimensional benefits of TSY, (2) meanings of trauma recovery and the TSY-facilitated trauma recovery process, (3) TSY factors that participants considered significant in trauma recovery, (4) promise and sustainability of TSY home practice, and (5) whether TSY is suitable for all IPV complex trauma survivors. Prior to that, however, the context for the intervention is briefly discussed.

Trauma-Sensitive Yoga (TSY) Classroom Setting

Trauma-sensitive yoga (TSY) is a nascent intervention designed for complex trauma survivors that has not yet received widespread attention in the literature. Four out of the five participants (Vi, Yasmin, Xahria, and Zina) knew little about yoga and only one (Wendy) had practiced yoga in the past. Figure 6 and the information below describe the TSY classroom setting in which the TSY classes were held.

Figure 6. TSY Classroom



TSY Class 1: The TSY instructor and researcher arrived at 5:40 p.m. on a wet and rainy evening at the integrative center where the program was to be held. We entered and set up the chairs in the classroom designated for the TSY class (see Figure 1 above) and turned on the three small orange lantern lights in the room. The orange glow emanating from the lanterns was more comfortable than the glaring white fluorescent lamp, which we later turned off. This was a rectangular-shaped room that could hold about six well-spaced chairs in a windowless room. There was a small side shelf with a few items such as a small Himalayan rock. The room was relatively empty apart from a few embellishments and we were told it is often used for yoga classes, group counseling,

Reiki, and body massages. All participants had visited the room at least once for the pre-interview.

Discussion of Key Findings

In this section, a few key findings have been selected from the analysis in Chapter 4 for deepening our understanding of the complexity of the cases. Previous research will be integrated to build understanding of these issues. Various participant responses will be presented to highlight the findings.

The multidimensional benefits of TSY. Given that trauma is multifaceted and potentially impacts all dimensions of human functioning (Herman, 1998; Jakovljević et al., 2012), it seems germane that trauma recovery similarly encapsulates these multiple dimensions. Further, TSY is a somatic trauma treatment that purportedly facilitates recovery with a somatic focus (Emerson, 2015; Emerson & Hopper, 2011). To date researchers have only investigated and reported the psychological benefits of TSY such as emotional regulation, depression and anxiety, and PTSD symptoms scores (Dick et al., 2014; Mitchell et al., 2014; Van der Kolk et al., 2014). This research study is one of the first studies illuminating the multidimensional benefits of TSY as it has been experienced and reported by participants. These benefits were not only observable during the TSY classes but also outside the TSY class context, as there seemed to be some generalization to other social contexts. For example, Vi and Yasmin both reported the benefits of enjoying a better quality of sleep, as illustrated in the three vignettes below.

Group Debrief Session #5

Vi stated that she was “sleeping better” and that this was a “very relaxing class.” She also added that she was able to “fall asleep and stay asleep faster.” When the researcher asked the participant at which point Vi was able to sleep better, she stated “every time.”

Group Debrief Session #7

When the researcher asked Yasmin what the best outcome was from the class, she responded by stating that the best outcome from this was sleeping. The researcher then asked Yasmin to elaborate on how the class helped her with sleeping, and she stated that in the past, before the classes started, she only got four to five hours of sleep each day, but now she has eight to twelve hours of sleep.

Group Debrief Session #7

Even during class, Yasmin was observed dozing off in two TSY classes. Yasmin uttered the word “hypnotizing” to describe her class experience. She stated, “I don’t even know how [I feel asleep]” until I felt myself drooling.” Yasmin stated that she felt ‘hypnotized’ and “I guess so relaxing.” She described the outcome of the class experience, “Now I go to sleep like normal people ... while my girlfriend is up till 3 a.m.” She added that she would be getting her deep sleep which “helps the brain,” “metabolism,” and “makes me a better person.”

A feature of the current study is the focus on both the process and outcome of trauma recovery as it is facilitated by TSY. For example, a comparison of the CAPS-5 assessment items and participants’ reported multidimensional benefits of TSY revealed a few areas of overlap. Areas of overlap include the quality of sleep, emotional regulation, and cognitive benefits, specifically concentration and perceptions of self and others. In the current study, however, participants’ self-report sheds light on the additional benefits they had experienced beyond the domains identified in the CAPS-5 assessment. For

example, the themes of *self-care* indicating participants' commitment to enhance their well-being, *spiritual benefits*, *a shift in perspective of time*, and the *application of positive coping strategies* were newly reported benefits that went beyond the bounds of the psychological items assessed in the CAPS-5 and the findings of previous researchers. Thus, the findings from this study support the assertion that TSY helps to facilitate trauma recovery multi-dimensionally, potentially increasing the likelihood of meeting the diverse needs of trauma survivors, by offering a more well rounded approach to treating trauma.

Meanings of trauma recovery and the TSY-facilitated trauma recovery process. Understanding trauma survivors' diverse and individualized needs for recovery is key to allowing counselors to cater to their unique treatment needs. However, there have been inconsistent definitions of trauma recovery in the extant literature (Institute of Medicine, 2008). Further, when researchers (Allen & Wozniak, 2010) have studied the trauma recovery process of women impacted by IPV, they have reported a more complex and multidimensional conceptualization of trauma recovery. Additionally, most researchers have reported the efficacy of TSY based primarily on participants' PTSD scores (Dick et al., 2014; Mitchell et al., 2014; Van der Kolk et al., 2014) without taking into account the trauma recovery process in the context of participants' lives. In sync with Hellmuth et al. (2014) and Martinez-Torteya et al. (2009)'s assertions that it is paramount to make sense of the impact of IPV on women's health and wellness, and their subjective experiences beyond what PTSD scores indicate, Warshaw et al. (2013) recommended that researchers gather participants' perspectives through research designs

that allow them to capture qualitative elements. To this end, this study has attempted to capture the rich contextual meanings of women's trauma recovery using the case study research design by focusing on participants' conceptualizations of trauma recovery connected to their IPV-related concerns, and exploring how the treatment melds with their lives, challenges, and belief system.

In the current study, the meanings of trauma recovery are elucidated by a micro-analysis and a macro-analysis of participants' trauma recovery experiences. Findings from these micro-level (case-by-case) and macro-analyses helps to present general thematic impressions as well as specific nuances from each of the three full-study cases.

On a micro-level, an overview of the themes of trauma recovery presented in all three cases revealed that participants had an overall focus on the physical dimension, including physical challenges arising from the traumatic IPV event(s), and attempted to navigate these challenges in various ways physically and psychologically. Both Wendy and Vi had experienced life-threatening physical and sexual violence in their IPV relationships, while Yasmin experienced life-threatening physical and sustained serious injuries assaults in her IPV relationship. Through TSY, participants also seemed to be aware of self-development through increased autonomy and self-discovery that emerged from the physical movement. This finding suggests that the physical component of TSY is pivotal in facilitating the trauma recovery process, consistent with the overarching goal of TSY to proffer a context for individuals to notice visceral feelings and forge somatic connections (Emerson, 2015). Further, the findings from the current study help triangulate the results for each case. Apart from the contextualization of each of the cases,

the various sources of data including the pre- and post-CAPS scores, the group debriefing session responses, the researcher's observations, and participants' interview responses help to develop a fuller and contextualized understanding of trauma recovery as it was experienced by each participant. The focus on capturing the process of trauma recovery helps to reinforce the efficacy of TSY in facilitating trauma recovery beyond the typical outcome-focused report of participants' PTSD scores.

On a macro-level, one of the foci in the current study was to explore how participants conceptualized and experienced the trauma recovery process. In comparing participants' conceptualization of trauma recovery and their reported benefits of TSY, the researcher found overlapping themes in the physiological, emotional, intrapersonal, and interpersonal dimensions. This finding indicates that the benefits of trauma recovery facilitated by TSY matched participants' predictions and expectations of trauma recovery in the context of their IPV-related concerns. This suggests that TSY is an expedient intervention for responding to IPV trauma survivors' diverse recovery needs. Additionally, this finding also reinforces the earlier assertion that TSY helps to facilitate trauma recovery multi-dimensionally.

Another feature of the current study is that participants' rich and unique trauma recovery experiences were observed not only during the TSY classes, but these experiences also appeared to generalize to social contexts outside the class. This finding suggests that the impact of TSY on participants is consistent both during the TSY classes and their lived experiences outside the TSY class context. The findings depict the nuances of recovery experienced by each distinct case and reveal the convergence of the

trauma recovery conceptualizations converge across cases. Below, vignettes of each case's reported experience of their trauma recovery process as it is facilitated by TSY further defines and illustrates their unique portraits. During the group debriefing sessions, participants were asked to select pictures describing their TSY experience.

Vi - Group Debrief Session #5

Vi showed her two picture cards, one was a card with a puzzle. She then elaborated that yoga was "like a puzzle to me" and that "each time I feel different." Vi then showed her next picture card, a picture with stone steps on the water, with lilies strewn on the water. She also added, "Each time, I keep taking next steps."

Wendy - Group Debrief Session #5

Wendy shared her picture card of a bus and stated that, like a hippie, she loves vans and collar wagons. She stated that the road is a map and she felt like "a little trip or journey, driving in the car." She also shared the second picture card with a ship on an ocean with a Bailey whale, describing that it was her experience of coming to sessions, "relaxing." The driving represents the initial effort to try and focus on what to do to "follow the instructions" but afterwards, it is relaxing.

Yasmin - Group Debrief Session #1

Yasmin volunteered to share her responses and showed her picture of a caterpillar stating that she feels like a caterpillar now and will be a butterfly in 8 weeks. When asked what it was like to be a caterpillar now, Yasmin stated that she was "exploring new ideas" and was "unpack[ing]." Yasmin then shared her second picture of two dice and stated that during the class, she could sort of roll the die and "do something different each time" and that every time there was something different. She also added that there were steps during the class and that "every move had different steps." She indicated that she was in control of her body and could do more, less, or something different" each time.

Thus, while each participant had somewhat unique experiences, each seemed to report positive impacts from the TSY classes.

TSY factors that participants considered significant in trauma recovery. To date, few researchers (Dick et al., 2014) have investigated the specific factors effectuating TSY in trauma recovery. In the current study, participants were asked to pick out TSY factors they considered most significant to their trauma recovery and they identified most of the TSY techniques and principles intentionally designed by the TSY developers for trauma recovery. Through a comparison of the themes that emerged from participants' responses and the TSY techniques (Emerson et al., 2009), participants identified at least two out of the three TSY techniques, specifically *breathing* and *forms*. Additionally, participants described *how* they benefitted from these two TSY factors, which proffers a context to better understand how these factors support their recovery in addition to what the TSY developers suggest. For example, apart from noticing their breath and their poses, participants reported the extended benefits on how auxiliary factors in breathing and poses, specifically, awareness of their breathing and stretching, helped facilitate their recovery in ways such as reducing stress, and releasing tension or discomfort. For example:

Vi's Post-Interview

I: Which areas in the yoga classes do you consider to be important in your trauma recovery experiences?

P: The breathing, and the stretching.

I: The breathing and the stretching. Can you say a little bit about both and how they can be important?

P: Erm, 'cos when you have something traumatic happen to you, you're really not breathing, and your body gets very tense, and if you're able to breathe, and if you're able to like stretch or relax your muscles, you will feel different, so that's where I can describe that.

Further, participants' themes were aligned with all five TSY principles (creating a safe environment, verbal assists, invitational language, exercise, and instructor's qualities), and in addition to experiencing these benefits, participants' responses reflected additional specific benefits of these principles not previously explicated in the literature. For example, under TSY instructor qualities, participants identified the instructor's adaptability to make changes in the class instruction and a willingness to adjust the pace to accommodate to students' needs. Further, participants articulated added benefits of these principles beyond those delineated by the TSY developers. For example, Yasmin stated that doing the forms together with the TSY instructor provided a model and increased her self-confidence to do the form:

Group Debrief Session #7:

Yasmin added that it is "...better to have someone show you how to do it and even better to have someone do it [themselves]." Yasmin stated that the step-by-step instructions were helpful in addition to the instructor "doing the movements." "You emulate it...helps to feel more confident versus someone just asking you to do it."

Although participants did not identify one other TSY technique, *mindfulness*, by name, participants indicated that they benefitted from being more self-aware and present,

which seems analogous to increased mindfulness. Similarly, although participants did not explicitly identify a key TSY feature of group yoga practice *forging a sense of community*, as a significant contribution to their recovery from trauma, participants reported its benefit implicitly. For example:

Group Debrief Session #5:

Yasmin said that these classes were “To be a part of something positive” as other participants nodded their head. They also added that they had something to “look forward to,” and that this was a change “from the routine.”

Yoga is an intricate amalgamation of the three core factors, breathing, postures, and mindfulness (Van der Kolk et al., 2014). Given the complexity of these factors, Van der Kolk et al. (2014) suggested that researchers disassemble these factors into finer auxiliary factors and examine the distinctive contributions of each of them. In this study, not only did participants identify factors they considered significant to their trauma recovery, which appear commensurate with the techniques and principles intentionally designed for this treatment modality (Emerson et al., 2009; Emerson, 2015), but they also identified auxiliary factors (such as stretching and noticing their breath). Largely consistent with what TSY experts consider essential for trauma recovery, participants seemed cognizant of both the core and auxiliary factors that helped to facilitate their own trauma recovery and were able to articulate their specific purpose and impact.

According to Van der Kolk et al. (2014), poses or forms are the least studied factor in yoga. Van der Kolk and his colleagues (2014) postulated that yoga poses allow individuals to notice and endure physical sensations. They also use this endurance to

dissociate physical sensations from their emotional reactions to posttraumatic experiences. In this study, the theme of *focus[ing] on physical challenges* emerged in participants' responses, including Yasmin's. Although it is unknown if Yasmin's experience with her physical challenge involved noticing and enduring physical sensations through the TSY forms, this study sets the precedent for researchers to follow-up with participants' physical and emotive experiences with TSY forms.

Further, the themes extrapolated from Yasmin's responses indicated the various functions of the auxiliary factors of TSY forms, such as an increase in physical level activity, an enhanced self-image through increased physical activity, and healing of the affected region. Taken together, this study serves as a preliminary study that paves the way for future research in examining the impact of the three core elements of yoga as well as their auxiliary factors.

The promise and sustainability of TSY home practice. Researchers in the field have not yet explored the promise and sustainability of TSY home practice. This seems a particularly germane and pertinent area of research, given the fact that most individuals practice yoga outside of a class setting (i.e., 81 percent of practitioners have practiced yoga outside of the studio and 24 percent of Americans have practiced yoga independently in the past 12 months) (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). Thus, this study adds new information about the likelihood of participants continuing their TSY home practice independently and identifying resources that would increase their likelihood of doing so. As with any trauma intervention or treatment modality, TSY requires that participants carve out time, amidst other competing demands

in their life. Participants' commitment to attend 8 weeks of TSY classes had not been easy. This challenge seems more pronounced for participants with younger children such as Wendy and Xahria:

Group Debrief Session #5: Wendy also added that committing to coming for yoga for two hours each week was a big change for her as she was never willing to leave her baby even for a while. Hence, she stated that this shift signaled self-care and an ability to make decisions.

In consideration of the attendance rates for the 8-week TSY intervention, where the three full study participants, Vi, Wendy, and Yasmin, attended between 6 and 7 classes, and the two partial study participants, Xahria and Zina, attended between two and four classes, it seems imperative for counselors and researchers to consider how to enhance and support attendance at structured classes and, as an alternative, how to help consumers develop a sustainable TSY practice in their home. It may not always be feasible for IPV trauma survivors to attend TSY classes, given that they are predisposed to multiple risk factors in their work and home life. These risks include the higher tendency for IPV trauma survivors to develop mental and physical health issues (Plichta, 2004; Ting, 2010; World Health Organization, 2013b) and greater financial and economic hardships (Adams et al., 2012).

During the intervention, participants had already shared ways that they had been incorporating TSY outside of their classes and shared the benefits of doing so as illustrated in the following examples:

Group Debrief Session #8: She [Vi] added that she has experienced triggers from outside and sometimes during class itself. However, Vi asserted that she “realized breathing is very important. Something that I’ve used outside.”

Group Debrief Session #7: Yasmin also stated that she did spinal movements and added, “I like that ... I did that at home to feel more relaxed. It was easy and I can emulate the breathing.”

Given participants’ report of benefits from TSY and the commitment it takes for them to attend TSY classes, it seems germane to explore the sustainability of TSY home practice. When participants were asked how likely they were to continue their home practice, all three full study participants indicated interest in continuing their TSY home practice after the intervention study had concluded. Participants’ preferences in continuing their TSY home practice ranged from a minimum of once a week for 30 minutes to a maximum of daily for 45 minutes. Participants also shared internal and external resources that would increase their likelihood of maintaining a TSY home practice.

Vi’s Post-Interview:

I: What resources would increase your likelihood of continuing TSY independently?

P: What resources? Like I saw what was happening when I was taking the class, erm, but I think just getting those DVDs would help.

I: Okay, the yoga DVDs?

P: Yah, I definitely need an instructor still, ‘cos I’m still new to the whole thing, but that would help tremendously.

I: Okay, what else would increase your likelihood of continuing yoga on your own?

P: Erm, motivation in terms of maybe doing, like I like the variety of the classes too. 'Cos we weren't just doing the same thing. Erm, which is why I'm looking forward to doing it with you [i.e., the ten free yoga classes incentive offered by the researcher at the end of the research study]. I like that. Erm, it was very different for me and it was something that I enjoyed so, that is something, as long as you know, we keep doing the breathing, and we have the motivation in terms of you know, doing something a little different in terms of the poses, erm, and like having the DVDs, so, for me personally, just so I have an instructor so I can do it on my own, that would be great.

Wendy's post-interview:

I: And what resources would increase your likelihood of continuing this yoga independently?

P: What resources? The kids away [I: makes reference to participant's older son]. Yes, [older son] too. Yeah, if they can be out of the house so I'm not hearing them.

I: So just children away...

P: Or even in their rooms. Like if he [older son] is down for a nap, he's in his room or outside.

I: So that would enable you to practice...

P: Right, right.

I: So this seems to be the only factor getting in the way of you practicing.

P: Yea, there's lots of things to do at home and sometimes, if it's away from home, it would be easier, because at home, I've still got to wash the diapers, I've got to put the blah blah in the oven, I've got to unload the dishwasher so being at home, if I could focus on just that in the moment rather than thinking about everything else that needs to be done, that would be great.

Learning about these resources and potential obstacles can help TSY instructors and mental health professionals raise awareness of any potential barriers that IPV trauma

survivors may encounter that could deter them from attending TSY classes or, alternatively, maintaining a sustainable TSY home practice.

Other Issues

Apart from the issues discussed afore, it seems warranted to consider whether TSY is appropriate for all trauma survivors who have experienced IPV. In this section, aligned with Stake's (1995) recommendation, both confirming data (attained through triangulation) and where appropriate, disconfirming data will be presented to illuminate greater clarity on these two issues.

Is TSY suitable for all IPV complex trauma survivors? According to Emerson (2015), the developer of TSY, TSY was not developed for people who have experienced a single-incident trauma such as a natural disaster, where other techniques such as EMDR would be more suitable (Emerson, 2015). Rather, TSY was intentionally designed for individuals who have experienced complex trauma and were relationally hurt and abused continuously over a period of time, to develop safety in their own bodies (Emerson, 2015). Apart from Emerson (2015)'s target clinical population for TSY, researchers have not yet investigated the contraindications of TSY for complex trauma survivors.

In this study, all five participants presented with complex trauma. However, the extent of their participation in the TSY intervention and their self-report of the intervention suggest that TSY may not be appropriate for all of them. While the three participants, Vi, Wendy, and Yasmin who engaged in the full study reported that TSY positively impacted the facilitation of their trauma recovery in terms of the TSY themes as well as in ways that extended beyond the existing four TSY themes, other participants

who did not complete the study indicated otherwise. Xahria and Zina, who did not meet the criteria for full participation in the study, seemed to have mixed reactions to TSY. For example, both Xahria and Zina reported that TSY had minimal or no impact facilitating trauma recovery across the four TSY themes in their group debriefing scaling question responses. While Xahria reported only positive benefits of TSY during the group debrief discussion sessions, Zina had mixed responses about her experience of TSY. For example, in the example illustrated below, Xahria reported gaining inward focus through TSY:

Group Debrief Session 4: When asked about any changes Xahria noticed about herself after the TSY classes, Xahria stated that she was also connected to her kids and could hear them outside the room. However, she was able to tune them out and focus on her breathing. She also added that she was more alert today, perhaps due to drinking a cup of coffee before she came to class. She stated that she could “tune things out” [things referring to her children] and not hear every single thing, and had an “inward focus” that she had never been able to experience before when she was around or near her children.

Xahria reported that she had developed anxiety which impacted her ability to function in most areas of her life, as a result of the physical and emotional traumatic experiences that stemmed from her most recent IPV experience. Although Xahria reported she was safe at the time of the study, she was still in contact with her partner because of her children.

The researcher attempted to reach Xahria and made several phone calls but did not manage to reach her after she stopped attending four TSY classes. In the final TSY class that she attended, Xahria had indicated her desire to continue doing more yoga from home:

Group Debrief Session #5:

Xahria stated that she googled yoga poses and had been trying new poses until she was definitely sore from the yoga she tried. Xahria further added that she spent a good amount of the day looking up yoga poses. She stated that she wanted to do more yoga because it helps her “feel good.” Xahria stated that she had started trying out yoga at home and it felt good.

Zina attended the first and second TSY classes and only reported a few benefits from TSY. She also remained relatively quiet during the two group debrief sessions she had attended compared to the other four participants. Zina seemed to have a less positive experience of TSY and reported experiencing a state of flux during the second TSY class, as the example below illustrates:

Group Debrief Session #2: Zina shared her cards first and selected a card where a man was sort of flying in the air. Her second card was filled with black and white concentric circles that described her state of mind. She explained that her mind was not really with her during the yoga class and many thoughts of her work project were filling her head. She added “I am not here” but qualified her statement, making sure that we did not interpret her statement as a “bad feeling.” She said she felt “weird” and that the researcher knows that her mind has been very active, so this was a similar state of mind she experienced during the yoga class. *[Researcher’s interpretations: Zina seems to be careful about framing negative feelings as ‘bad.’ Zina could have possibly been dissociated with her body during the class, was preoccupied with thoughts of work which distracted her from being more involved in the TSY class, or she could have rejected thoughts or emotions associated with her trauma that had arisen during the class].*

Interestingly, Zina’s pre-TSY CAPS scores reflected no PTSD symptoms. She also reported mild or minimal distress and functional impairment on her CAPS report despite her strong negative perceptions when describing her experience of the worst traumatic event that had occurred in her previous IPV relationship about three and a half

years ago. Based on Zina's interview responses, she also seemed to suggest that cultural nuances may have impacted her trauma recovery experiences. Zina had previously explained that despite being severely punished and physically abused as a child, being raised in a culture where child abuse was accepted as a societal norm, she did not realize she had experienced child abuse until recently. In the same vein, even though Zina acknowledged and reported experiencing chronic and severe traumatic incidents on a physical, verbal, and emotional level in her most recent intimate partner relationship, not reporting any PTSD scores or significant impact of the violence based on her CAPS report could be attributed to such cultural differences. Similar to her attempt to qualify her statement that she did not want the group to interpret her non-absence during the TSY class as negative or bad, a few other instances seem to suggest Zina's avoidance of negative emotions.

Taken together, Zina could possibly have been avoiding the emergence of any negative emotions and seemed to present with an avoidant attachment strategy where she may be denying and blocking her feelings and memories associated with the traumatic event. This interpretation seems to be supported in Zina's follow-up phone interview response where she seemed to perceive "opening emotions and feelings" more negatively and equating it to a "low energy and mental state" that were "draining energy and strength." Zina's claim that the calm and relaxing nature of yoga was a poor fit for her compared to higher impact physical activities such as running reinforces the interpretation that Zina tends to want to avoid slower paced and less intense physical activities like yoga that tend to invite these negative memories and emotions to emerge. It

is unknown, then, to what extent TSY classes may be particularly difficult for participants with an avoidant attachment strategy, a consideration worth examining in future research. Although Zina reported an overall positive experience of the yoga instructor and participants, there was a contradiction in her follow-up interview response. For example, Zina stated that the group debriefing sessions were helpful in allowing her to share unpleasant experiences with others who had undergone similar situations and issues. She also stated, however, that despite her preference not to think about these traumatic events, her “hidden” emotions resurfaced when the group started discussing these emotions during the group debriefing sessions.

For individuals like Zina who present with a possible avoidant attachment strategy, TSY intervention and research may not adequately cater to needs or be appropriate as a treatment intervention, at least not in a group setting. This assertion is supported by researchers in the extant literature such as Rothschild (2000), who cautioned that introducing body awareness to certain trauma survivors may be contraindicated. Two types of clients that Rothschild cited who may be less suitable for body oriented interventions are clients who have experienced very severe types of trauma where increased body awareness would accentuate their trauma experience, resulting in overwhelming feelings and possibly leading to deteriorating mental health conditions. The second type of clients are those who may experience “performance anxiety” as a result of being stressed to sensing their body in a particular way that is perfect (Rothschild, 2000, p. 106). Rothschild (2000) recommended that these trauma survivors work with a mental health professional to develop the foundation of therapeutic work,

including developing safety and building the therapeutic relationship to find calmness in themselves before embarking on body awareness work.

Aligned with Judith Herman's (1992, 1998) trauma recovery model, it seems germane to revisit the fundamental first stage of recovery, safety, especially within the context of TSY. Although helping trauma survivors regain control of their body through body awareness experiences such as TSY is beneficent, the amount of time it takes for individuals to engender feelings of safety is dependent on other factors such as the severity, duration, and onset of the traumatic incident(s) (Herman, 1992). It follows that, for certain complex trauma survivors, developing a safe and secure relationship may require extra support such as one-on-one TSY classes or opportunities for clients to process their experiences with a mental health professional between classes. Thus, it seems exigent for mental health professionals to assess the suitability of trauma survivors for TSY before they actually start the TSY program, or ensure that other forms of psychological support are in place for trauma survivors who are involved in a TSY program, especially those who are new to the program.

Limitations of the Study

This study is one of the first studies that fill a gap in the literature on trauma-sensitive yoga (TSY), and is the first known study to qualitatively focus on the voices of women who have experienced trauma through IPV and participated in TSY. Although the case study methodology provides depth into the experiences of individual cases, it has limited generalizability to all women who have experienced IPV and PTSD. Additional

empirical studies investigating the efficacy of TSY as a newly introduced body-oriented approach are warranted to supplement the findings from this study.

Researcher bias may be considered another limitation of this study. The researcher assessed participants for their PTSD scores in the CAPS-5 assessment, conducted the interviews and facilitated the group debriefing sessions, raising the possibility that researcher bias may have influenced the findings. To increase trustworthiness of this study and the researcher's conclusions, however, investigator triangulation and methodological triangulation were applied to triangulate the data (Stake, 1995). The application of these triangulation protocols and naturalistic generalizations, as well as the design of the case study research helps to calibrate this potential limitation where readers are able to make their own interpretations to the findings by reading participants' vignettes alongside the researcher's interpretations (Stake, 1995).

The study's short 8-week intervention limits the information on the impact of TSY on participants' trauma recovery experiences over a sustained period of time. Since yoga is typically practiced over protracted periods of time (Van der Kolk et al., 2014), it would be expedient to capture the long-term impact of TSY on participants. Despite this limitation, the study has offered subjective knowledge on TSY through participants' trauma recovery experiences with its focus on the in-depth study of the cases, multiple personal perspectives, and meanings developed.

Implications for Counseling and Suggestions for Future Research

Based on the major findings from the study, several implications emerged for counselors, counselor educators, supervisors, and researchers. These implications are

organized below in the following order: (a) implications for counseling and (b) suggestions for future research.

Implications for Counseling

One of the key implications for mental health professionals is increased knowledge on specific clients who may benefit from TSY and those who may not yet be suitable for this intervention for various reasons. Mental health professionals can screen clients for readiness, timeliness, and suitability of the TSY intervention, as well as ensure that qualified professionals are providing the intervention. This knowledge can help clinicians make informed referral decisions on clients who may or may not benefit from body awareness work, such as Xahria and Zina.

Secondly, yoga is commonly practiced over prolonged periods of time (Van der Kolk et al., 2014) and Americans typically maintain an independent or home yoga practice (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). Accordingly, it may be salient for professionals in the counseling field to be aware of ways to support complex trauma survivors' TSY practice. The results of the current study shed light on the resources and potential obstacles to IPV trauma survivors engaging in home-based TSY practice. TSY instructors and mental health professionals can utilize this information to work with clients and help them navigate these potential obstacles that may impact the sustainability of their TSY practice. Further, learning about these resources and potential obstacles can help TSY instructors and mental health professionals collaborate with community partners to provide resources such as childcare services and TSY videos/books to make TSY home practice more accessible and sustainable.

Thirdly, acquiring information on women's multifarious conceptualizations of trauma recovery and the multidimensional benefits proffered by the TSY intervention can deepen mental health professionals' scope of understanding on the intricacy of the trauma recovery process. With this deepened understanding of the trauma recovery process, mental health professionals can forge the connection between participants' TSY class experiences and their real world contexts, allowing professionals to navigate these TSY-related therapeutic discussions with more relevance to clients. Augmenting mental health professionals' knowledge base with the participant reported benefits in the context of their lives also might enhance clinical practice and services to this clinical population. Mental health professionals could design interventions adjusted to clients' recovery needs, make more informed decisions to refer clients to TSY, and consider ways to complement their clinical interventions for clients who are practicing TSY.

Suggestions for Future Research

Consistent with the current study, most researchers have investigated the efficacy of TSY based on short-term research studies spanning between 8 and 12 weeks (Clark et al., 2014; Dick et al., 2014; Van der Kolk, 2014). Accordingly, long-term effects of TSY beyond 12 weeks have not yet been studied. Longitudinal research examining TSY's efficacy for facilitating the trauma recovery of women impacted by IPV is highly recommended. Extending the TSY intervention may enable participants to report the efficacy and impact of TSY on other areas of their functioning, both intra- and interpersonal, thereby enriching the existing repository of information on TSY.

Related to longitudinal research on TSY, given that participants in the current study reported the multiple benefits of TSY during the intervention and by the end of the 8-week intervention, it would be important for researchers to investigate the sustainability of TSY home practice for IPV trauma survivors who discontinue attending TSY classes. This seems to be a particularly important area of study since the majority of yoga practitioners (i.e., 84 percent of practitioners) practice yoga in the convenience and comfort of their home or a setting outside of a yoga studio (Ipsos poll for Yoga Journal and Yoga Alliance, 2016). In this study, four out of five participants (Vi, Wendy, Xahria, and Yasmin) mentioned practicing yoga at home during the TSY intervention. Participants also reported the benefits of incorporating selected TSY techniques outside the TSY classes throughout the intervention. Researchers could conduct studies to follow-up with participants to determine the extent to which they incorporate these techniques in their daily lives and specific techniques that they find practical and helpful after they discontinue TSY classes. Additionally, researchers could explore whether maintaining a TSY home practice can help support and augment trauma recovery.

The results of this exploratory research study can inform future research. Other than Dick et al. (2014)'s study, there are no known studies explicating the factors of TSY and the contributions of each of these factors in reducing PTSD symptoms (Van der Kolk et al., 2014). Researchers can replicate this study, disassemble the three core factors, breathing, poses, and mindfulness, and draw upon each of the finer auxiliary factors identified by participants in this study as significant to their trauma recovery. Additionally, researchers can focus on TSY forms or poses, the least studied factor in

yoga (Van der Kolk et al., 2014), using the precursory findings on the impact of the auxiliary TSY forms from this study. Using quantitative research methods, researchers can use these empirically validated factors to focus on specific auxiliary factors in TSY integral to survivors' trauma recovery. Engaging in prediction studies can increase specialized and expert knowledge in the field of TSY and trauma treatment research, thereby fine-tuning and enhancing the TSY intervention and practice, which will in turn benefit IPV and potentially other trauma survivors.

Researchers could also determine the efficacy of TSY by conducting experimental research. For example, researchers could use control group designs and TSY compared to other body-based trauma interventions such as the Hakomi experiential psychology or integrative body psychotherapy. Additionally, researchers could examine other dependent variables during the TSY intervention that could potentially impact participants' trauma recovery. These variables include, but are not limited to the chronicity and severity of participants' trauma, the frequency of the TSY intervention (i.e., participants meet twice or thrice a week for shorter durations of the TSY intervention), and participants' resiliency factors such as their social support, cultural identity, and economic stability. Further, researchers could draw upon the results of this study, specifically, participants' self-report of the benefits of TSY, to investigate dependent variables such as participants' spirituality, their use of positive coping strategies, and self-care. This would allow for a fuller and more comprehensive understanding of participants' trauma recovery process.

Another research recommendation would be to develop a set of criteria for screening trauma survivors who can benefit from TSY and, perhaps, more importantly,

those for whom TSY may be contraindicated. Currently, TSY is considered a gentle practice that can benefit most, if not, all complex trauma survivors (Emerson, 2015). There may be complex trauma survivors, however, for whom TSY could be contraindicated. One of the directions researchers could pursue would be to investigate if attachment strategy and style impacts the efficacy of TSY. Additionally, it is possible that attachment strategy and style might interact with modality (group class, individual class, and individual home practice), which bears empirical investigation. In Spinazzola et al.'s (2011) study, the researchers observed higher TSY attrition rates for both adolescent and adult participants in larger-size classes, possibly attributed to participants' greater susceptibility to interpersonal triggers due to their trauma. It seems vital for researchers to verify Spinazzola et al.'s (2011) clinical observations by studying the effect of class size on the efficacy of TSY in future research studies. Studying the interaction between the efficacy of TSY and other variables such as class size, participants' trauma severity, and attachment strategy/style could help enhance the overall efficacy of the intervention and reduce participant attrition. Further, it is possible that, for some clients, more traditional trauma treatment approaches may set the stage for TSY to be more effective.

In a follow-up interview with participants from Van der Kolk et al.'s (2014) study, participants reported an augmented ability to process their experiences and verbally express themselves during psychotherapy because of a higher threshold for managing physical stimuli from their trauma (Foreword from Jennifer West in Emerson, 2015). In spite of such precursory reports suggesting the potential of integrating or supplementing TSY with psychotherapy, researchers have yet to explore the integration of counseling

and TSY. To date, researchers have not explicated how TSY or even yoga can complement counseling for complex trauma survivors. This could potentially lead to clients risking decompensating (Rothschild, 2000) if clinicians use TSY for clients who are unsuitable for any body awareness type intervention. Conversely, some clinicians who work with trauma survivors may shy away from incorporating body awareness approaches such as TSY because of a lack of knowledge or confidence in cases where it could be beneficial. The assimilation between the bottom-up approach in TSY and the top-down processing in psychotherapy would benefit complex trauma survivors as they develop “greater capacity for emotional regulation, somatic awareness, and self-acceptance,” which may in turn promote their interpersonal effectiveness and processing abilities in psychotherapy (Emerson, 2015, p. xviii). Such theoretical propositions from experts in the field, results of the current study, integrated with the findings of previous researchers (Dick et al., 2014; Mitchell et al., 2014; Van der Kolk et al., 2014), suggests that TSY holds promise and potential both as a stand-alone complex trauma intervention and an adjunctive treatment.

In the same vein, researchers could engage in action research or exploratory research studies that identify possible ways mental health professionals can complement TSY with counseling interventions. For example, mental health professionals could benefit from learning the timeliness and extent to which they can draw upon and apply specific TSY elements such as breathing or particular TSY forms to incorporate in counseling as part of their repertoire of strategies in complex trauma-focused client treatment. Research in this area may enable supervisors to apply TSY in their supervision

work with trainees and, in turn, help trainees infuse TSY in complex trauma work with clients. This could help trainees and supervisees strike a balance between underutilizing TSY where it could be helpful and overemphasizing TSY in situations with limited applicability. In turn, doing so may, benefit clients' clinical work and their trauma recovery as they engage in this dual counseling-TSY treatment modality, and the benefits from each modality could possibly inform the other.

Conclusion

Finishing a case study is the consummation of a work of art. A few of us will find a case study, excepting our family business, the finest work of our lifetime. Because it is an exercise in such depth, the study is an opportunity to see what others have not yet seen, to reflect the uniqueness of our own lives, to engage the best of our interpretive powers, and to make, even by its integrity alone, an advocacy for those things we cherish. The case study ahead is a splendid palette (Stake, 1995, p. 136).

The purpose of this study was to better understand women's perceptions of trauma recovery from IPV, as supported by TSY. In particular, the researcher sought to develop an in-depth and unique contextual understanding on women's trauma recovery experiences by studying multiple cases (or participants). Individual and collective themes across cases build a substantive case for TSY facilitating trauma recovery in multidimensional ways, beyond the scope indicated by reduced PTSD scores. TSY also seems to offer a well rounded approach to meeting the diverse needs of women impacted by IPV-related trauma. The findings also suggest that TSY may be contraindicated for certain complex trauma survivors. The major results of the study pave the way for several implications for counselors, counselor educators, supervisors, and researchers.

Accentuating the results of the study, mental health professionals may acquire a deeper understanding on how TSY facilitates the trauma recovery process in women impacted by IPV and learn ways of incorporating TSY into their clinical work by making informed client referrals to TSY, facilitating TSY discussions with clients, and supporting their TSY practice.

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APPENDIX A

IRB APPROVAL



THE UNIVERSITY of NORTH CAROLINA
GREENSBORO

OFFICE OF RESEARCH INTEGRITY
2718 Beverly Cooper Moore and Irene Mitchell Moore
Humanities and Research Administration Bldg.
PO Box 26170
Greensboro, NC 27402-6170
336.256.0253
Web site: www.uncg.edu/orc
Federalwide Assurance (FWA) #216

To: Jennifer Isabelle Ong
Counsel and Ed Development
jenniferisabelleong@gmail.com

From: UNCG IRB

Authorized signature on behalf of IRB

Approval Date: 8/24/2015
Expiration Date of Approval: 8/23/2016

RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)
Submission Type: Initial
Expedited Category: 6.Voice/image research recordings,7.Surveys/interviews/focus groups
Study #: 15-0344
Study Title: Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)

This submission has been approved by the IRB for the period indicated. It has been determined that the risk involved in this research is no more than minimal.

Study Description:

The purpose of this research study is to inquire a deeper understanding of how women impacted by intimate partner violence (IPV) recover from trauma through a trauma-sensitive yoga (TSY) intervention. The study seeks to inform researchers and counselors ways in which TSY facilitates trauma recovery, and has important implications for potentially improving the quality of life for women with IPV and PTSD. The collective case study research design will be utilized to explore how trauma-sensitive yoga (TSY) could help facilitate the trauma recovery of participants within the context of their subjective experiences.

Investigator's Responsibilities

Federal regulations require that all research be reviewed at least annually. It is the Principal Investigator's responsibility to submit for renewal and obtain approval before the expiration date. You may not continue any research activity beyond the expiration date without IRB approval. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.

Signed letters, along with stamped copies of consent forms and other recruitment materials will be scanned to you in a separate email. **Stamped consent forms must be used unless the IRB has given you approval to waive this requirement.** Please notify the ORI office immediately if you have an issue with the stamped consents forms.

You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented (use the modification application available at <http://integrity.uncg.edu/institutional-review-board/>). Should any adverse event or unanticipated problem involving risks to subjects or others occur it must be reported immediately to the IRB using the "Unanticipated Problem-Adverse Event Form" at the same website.

Please be aware that valid human subjects training and signed statements of confidentiality for all members of research team need to be kept on file with the lead investigator. Please note that you will also need to remain in compliance with the university "Access To and Retention of Research Data" Policy which can be found http://policy.uncg.edu/research_data/.

CC:
Craig Cashwell, Counsel and Ed Development

APPENDIX B
SITE APPROVAL



LETTER OF SUPPORT

August 12, 2015

To Whom It May Concern:

Jennifer Isabelle Ong has approval to advertise her flyer for her dissertation research study entitled "Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)" in *Natural Triad Magazine*.

She intends to utilize a nomination approach to identify participants by asking me to suggest study participants. This approach is acceptable and supported by *Natural Triad Magazine*.

Sincerely,

Julie Milunic, Publisher/Editor
julie@naturaltriad.com

The Center for Holistic Healing

1623 York Ave Suite 102 High Point NC 27265
336-841-4307 www.chhtree.com

LETTER OF SUPPORT

SITE APPROVAL

Jennifer Isabelle Ong has approval to advertise her flyer for her dissertation research study entitled "Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)" at The Center for Holistic Healing.

She intends to utilize a nomination approach to identify participants by asking me to suggest study participants. This approach is acceptable and supported by The Center for Holistic Healing.

Sincerely,

Heather Mask, LPC – Center Owner

336-841-4307

thecenter@chhtree.com



FOR YOUTH DEVELOPMENT
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

SITE APPROVAL

Jennifer Isabelle Ong has approval to advertise her flyer for her dissertation research study entitled "Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)" at the Spears Family YMCA.

Sincerely,

Beth McKinney
Wellness Director
Spears Family YMCA
336-387-9631
beth.mckinney@ymcagreensboro.org

SPEARS FAMILY YMCA
3216 Horse Pen Creek Road, Greensboro, NC 27410
P 336 387 9622 F 336 387 9620 W spearsymca.org

The mission of the YMCA of Greensboro is to put Judeo-Christian principles into practice through programs that build a healthy spirit, mind, and body for all.



THE UNIVERSITY of NORTH CAROLINA
GREENSBORO

School of Education
Department of Counseling and Educational Development

228 Curry Building
PO Box 26170, Greensboro, NC 27402-6170
336-334-3423 Phone 336-334-3433 Fax
<http://www.uncg.edu/ced>

All counseling degree programs are CACREP accredited

August 3, 2015

To Whom It May Concern:

Jennifer Isabelle Ong has my approval to advertise her flyer for her dissertation research study entitled "Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)" within the Department of Counseling and Educational Development at UNCG.

Sincerely,

J. Scott Young, Professor and Chair
336-334-3464
jsyoung3@uncg.edu

SITE APPROVAL

Jennifer Isabelle Ong has approval to advertise her flyer for her dissertation research study entitled "Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)" at the

Vida pour Tea LLC

(Name of site/organization/department)

Vida pour Tea LLC / Sarah Chapman (owner)

Print Name and Designation

(336) 609-4207

Print Phone Number

Vidapourtea@gmail.com

Print E-mail address

412 State Street

Print Physical Address

Greensboro, NC 27405



Site Approval

Jennifer Isabelle Ong has approval to advertise her flyer for her dissertation research study entitled "Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)" at the Women's Resource Center of Greensboro.

Ashley Brooks/Executive Director

Women's Resource Center of Greensboro

628 Summit Ave, Greensboro NC 27405

Ashley@WomensCenterGso.org

336-275-6090

Ashley Brooks 8/18/2015

**eliminating racism
empowering women**

**ywca
greensboro**

August 19, 2015

SITE APPROVAL

Jennifer Isabelle Ong has approval to advertise her flyer for her dissertation research study entitled
"Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by
Intimate Partner Violence (IPV)" at the YWCA Greensboro, 1807 E. Wendover Avenue.

YWCA Greensboro
Teen Parent Mentor Program
Healthy Moms Healthy Babies
1807 E. Wendover Avenue
Greensboro, NC 27455



__Christina Dobson, Program Director__

Print Name and Designation

__336-273-3461, x. 202__

Print Phone Number

__cdobson@ywcagsonc.org__

Print E-mail address

__1807 E. Wendover Avenue__

Print Physical Address

1807 East Wendover Ave. Greensboro, North Carolina 27405

T: (336) 273-3461 F: (336) 273-7141

www.ywcagsonc.org

Eliminating racism, empowering women and promoting peace, justice, freedom and dignity for all.



APPENDIX C

RESEARCH PARTICIPATION

Research Participation Recruitment Flyer for Participants

Invitation to Participate in Research Study: Yoga for Women who have Experienced Intimate Partner Violence



Purpose of Study: The purpose of the research study is to explore the influence of yoga on women impacted by intimate partner violence.

What the Study will Involve: A maximum number of 8 participants will be selected for this study. Participants get to participate in free eight-week yoga classes (each yoga class has a value worth of \$15) and group debriefing sessions from October to December 2015. Participants will complete a 30-minute questionnaire, and a few 90-minute interviews and assessments.

Duration and Venue of Study: Participants will meet face-to-face weekly for eight weeks starting from 10/27/2015 to 12/22/2015 at the Center for Holistic Healing in High Point, North Carolina.

Criteria for Participation:

- Adult women 18 years and above
- Speak English
- Live close enough to High Point, North Carolina, to participate fully in the study
- Has experienced physical, emotional, and/or sexual violence in their intimate partner relationship
- Has left the abusive partner for at least 6 months
- Not be experiencing any current level of physical or psychological threat from the previously abusive partner, or any current relationship partner
- Be free of any current suicidal ideation or severe mental health issues that may potentially impact the ability to participate in the study
- Is not currently seeing a counselor or mental health professional
- Is not currently doing yoga

Approved IRB
10/19/15

Incentives:

- All potential participants who participate in the first screening phase of the study and complete all screening documents will:
 - receive a personal thank you card and a \$10 Amazon, Target, or Starbucks e-gift card within a month
- All participants who complete at least seven out of eight weeks of the research study will:
 - receive a written report of their scores
 - receive a free yoga mat and a certificate of appreciation
 - get weekly cash payments of \$5 for each of the eight sessions participated
 - receive another ten weeks of free yoga classes (each yoga class has a value worth of \$15)
 - Receive childcare services at no cost

If you are interested in participating in this study, please call the researcher, Isabelle Ong, from The University of North Carolina at Greensboro at (336) 944-7821

Approved IRB
10/19/15

Recruitment Follow-Up

Dear *NAME*,

I am writing to invite you to participate in a study entitled "*Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)*." The purpose of this study is to gain a better understanding of women's trauma recovery experiences through yoga. I am a doctoral student at the University of North Carolina at Greensboro. As a participant in my research study, you will be asked to share your experiences with trauma recovery by completing a demographic questionnaire that will take about 30 minutes and participate in a few 90-minute interviews and assessments. You will also be invited to participate in 8 weekly 60-minute yoga classes followed by 30-minute group debrief sessions.

Please know that the information you share is voluntary and will remain confidential.

I identified you as a prospective participant because I believe you may have experienced, and be able to help women impacted by intimate partner violence and have experienced trauma, and thus, be able to contribute to research in this area. To be eligible to participate, you must (a) be a female, (b) be at least 18 years of age or older, (c) speak English, (d) live close enough to High Point, North Carolina, to participate fully in the intervention, (e) self-identify as having experienced physical, emotional, and/or sexual violence in their previous intimate partner relationship(s), (f) have left the abusive partner and relationship for at least 6 months, (g) not be experiencing any current level of physical or psychological threat from the previously abusive partner, or any current relationship partner, (h) be free of any current suicidal ideation or severe mental health issues that may potentially impact their ability to participate in the study, (i) meet the criteria for subthreshold (mild) or full post-traumatic stress disorder (PTSD) symptoms, as defined by the Clinician-Administered PTSD Scale (CAPS-5), (j) not be currently seeing a counselor or mental health professional, and (k) not be currently practicing yoga.

Again, I believe that you would be an excellent participant for this study. Your time commitment for this study is approximately 18 hours.

For your time and help with phase one of the study, you will receive a personal thank you card and a \$10 Amazon, Target, or Starbucks e-gift card. If you are selected for phase two of the study, and complete at least seven out of eight weeks of the research study you will receive a written report of your scores, a free yoga mat and a certificate of appreciation. You will also get weekly cash payments of \$5 for each of the eight sessions participated and receive another ten weeks of free yoga classes (each yoga class has a value worth of \$15)

If you like more information about the study or would be willing to participate, please e-mail the primary researcher, Isabelle Ong, at jjong@uncg.edu or phone (336)-944-7821.

Thank you very much for your time and consideration!

Approved IRB
10/13/15

Isabelle
Principal Investigator
The University of North Carolina at Greensboro

Approved IRB
10/13/15

APPENDIX D

NOMINATION SCRIPT AND INFORMATION SHEET FOR NOMINATORS

Appendix C: Nomination Script

Hi, I am a doctoral student at UNCG and am wondering if you would be willing to nominate prospective participants for my dissertation study. You are being asked to serve as a nominator because you are currently a director of an agency at one of the nominated sites serving women impacted by intimate partner violence. Please note that should you choose to participate, I will not identify you in any way or have the capability to identify who you chose to nominate.

The research study I am conducting is entitled "Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)", and it is directed by Dr. Craig S. Cashwell. The purpose of the study is to explore the trauma recovery experiences of women who are impacted by intimate partner violence.

I am seeking your assistance to identify prospective participants. In order to be eligible to participate, participants must:

- a) Be adult women 18 years and above
- b) Speak English
- c) Live close enough to High Point, North Carolina, to participate fully in the study
- d) Have experienced physical, emotional, and/or sexual violence in their intimate partner relationship
- e) Has left the abusive partner for at least 6 months
- f) Not be experiencing any current level of physical or psychological threat from the previously abusive partner, or any current relationship partner
- g) Be free of any current suicidal ideation or severe mental health issues that may potentially impact the ability to participate in the study
- h) Meet the criteria for subthreshold (mild) or full post-traumatic stress disorder (PTSD) symptoms
- i) Is not currently seeing a counselor or mental health professional
- j) Is not currently doing yoga

In criterion (h), I will assess potential participants for posttraumatic stress disorder (PTSD). To help you identify prospective participants with PTSD, the Diagnostic Statistical Manual-5 defines PTSD as: (A) the exposure to actual or threatened death, serious injury, or sexual violence; (B) the presence of intrusion and recurring symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred; (C) persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred; (D) negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred; (E) marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred; (F) the duration of the disturbances in criteria B, C, D, and E lasts for more than a month; (G) the disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning; (H) the disturbance is not attributable to the physiological effects of a substance or another medical condition (American Psychiatric

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10/13/15

Association, 2013). Examples of traumatic events that can trigger PTSD include combat, abuse or victimization, and accidental or natural disasters

Based on the eligibility criteria and the definition of trauma. I ask that you nominate potential participants by contacting them, informing them about the study, and providing them with my contact information should they choose to participate. I have included an information sheet that you may use when you contact them.

I sincerely appreciate your time and consideration!

Approved IRB
10/13/15

Information Sheet for Nominators

Dear *Name*:

I would like to nominate you to participate in a research study entitled “Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)”. The purpose of the study is to explore the trauma recovery experiences of women who are impacted by intimate partner violence. The primary researcher of the study is Isabelle Ong, and she is currently a doctoral student at the University of North Carolina at Greensboro.

I identified you as someone who can contribute to research in this area. To be eligible to participate, you must: (a) be an adult woman 18 years and above, (b) speak English, (c) live close enough to High Point, North Carolina, to participate fully in the study, (d) have experienced physical, emotional, and/or sexual violence in their intimate partner relationship, (e) have left your abusive partner for at least 6 months, (f) not be experiencing any current level of physical or psychological threat from the previously abusive partner or any current relationship partner, (g) be free of any current suicidal ideation or severe mental health issues that may potentially impact the ability to participate in the study, (h) meet the criteria for subthreshold (mild) or full post-traumatic stress disorder (PTSD) symptoms, (i) not be currently seeing a counselor or mental health professional, and (j) not be currently doing yoga.

The study includes two phases. In the first phase of the study, you will be asked to complete a demographic questionnaire that will take about 30 minutes and participate in a few 90-minute interviews and assessments. For your time and help with phase one of the study, you will receive a personal thank you card and a \$10 Amazon, Target, or Starbucks e-gift card.

If you are selected for the second phase of the study, you will be invited to participate in 8 weekly 60-minute yoga classes followed by 30-minute group debrief sessions, and a few 90-minute interviews and assessments. If you are selected for phase two of the study, you will get weekly cash payments of \$5 for each of the eight yoga classes that you participate in. If you complete at least seven out of eight weeks of the research study you will receive a written report of your scores, a free yoga mat, a certificate of appreciation, and receive another ten weeks of free yoga classes. Childcare services will be provided for participants at no cost.

If you would like more information about the research study, or would be willing to participate, please call the primary researcher, Isabelle Ong, at (336)-944-7821.

Thank you very much for your time and consideration!

Your Name

Approved IRB

10/13/15

APPENDIX E
INFORMED CONSENT FORMS

INFORMED CONSENT

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO

CONSENT TO ACT AS A HUMAN PARTICIPANT

Project Title: Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by IPV

Principal Investigator: Principal Investigator: Isabelle Ong, MA, M.Ed., NCC; LPCA
Principal Investigator and Faculty Advisor: Dr. Craig Cashwell, PhD

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your participation in the study is voluntary. You may choose not to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. There may not be any direct benefit to you for being in the research study. There also may be risks to being in research studies. If you choose not to be in the study or leave the study before it is done, it will not affect your relationship with the researcher or the University of North Carolina at Greensboro.

Details about this study are discussed in this consent form. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You may print this consent form for your records before you move forward. If you have any questions about this study at any time, you should ask the researchers named in this consent form. Their contact information is below.

What is the study about?

This is a research project. Your participation is voluntary. The purpose of this study is to better understand the trauma recovery experiences of women impacted by Intimate Partner Violence who have PTSD, through yoga.

Why are you asking me?

You are being asked to participate because you are: (1) an adult woman 18 years and above; (2) speak English; (3) live close enough to High Point, North Carolina, to participate fully in the study (4) have experienced physical, emotional, and/or sexual violence in their intimate partner relationship (5) has left the abusive partner for at least 6 months (6) not experiencing any current level of physical or psychological threat from the previously abusive partner, or any current relationship partner (7) free of any current suicidal ideation or severe mental health issues that may potentially impact the ability to participate in the study (8) meet the criteria for subthreshold (mild) or full post-traumatic stress disorder (PTSD) symptoms, as defined by the Clinician-Administered PTSD Scale (CAPS-2) (9) are not currently seeing a counselor or mental health professional and (10) are not currently doing yoga.

UNCG IRB
Approved Consent Form
Valid from:
10/29/15 to 8/23/18

What will you ask me to do if I agree to be in the study?

You are asked to complete a demographic questionnaire, and an initial semi-structured interview facilitated by the primary investigator, for the first part of the study. The interview is estimated to take approximately 90 minutes. The researcher will ask you for permission to contact you by phone if you decide to discontinue participation in the study. If you are selected for the second part of the study, you will have the option to participate in weekly 60-minute trauma-sensitive yoga classes followed by 30-minute group debrief sessions for eight weeks. Before and after each yoga class, you will be asked to complete some scaling questions and you may be asked about your responses to these questions during each group debrief session. During each group debrief session, you will also be asked follow-up questions about your experience in the trauma-sensitive class. The researcher's general observations about your class experience and your scaling questions may be made during the group debrief session without specific mention of your name. For specific questions relating to your individual responses to the scaling questions and class experience, the researcher may speak to you privately. You will be encouraged to share as much as you feel comfortable about your experience in the yoga classes. You may choose to refrain from answering any questions. All information shared by you, the participant, is voluntary and will pertain to your experience with trauma recovery, and your experience in the yoga classes. There is a possibility that the discussion may cause stress, anxiety, sadness, and other emotional reactions that may be uncomfortable. Care will be taken to ensure that we, as the researchers, will ensure that you are as comfortable talking about your trauma recovery experiences in a safe environment. At the end of 8 weeks, you will be asked to complete a second semi-structured interview, which is estimated to take approximately 90 minutes.

If you have questions, want more information or have suggestions, please contact Isabelle Ong at (336) 944-7821 or e-mail at jiong@uncg.edu or faculty advisor, Craig Cashwell, PhD at cscashwe@uncg.edu.

If you have any concerns about your rights, how you are being treated, concerns, or complaints about this project or benefits or risks associated with being in this study, please contact the Office of Research Integrity at UNCG toll-free at (855) 251-2351.

Is there any audio/video recording?

The interviews will be audio recorded so we, as the researchers, can review the recordings to ensure an accurate and precise understanding of your response. Because your voice will be potentially identifiable by anyone who hears the tape, your confidentiality for things you say on the tape cannot be guaranteed although the researcher will try to limit access to the tape as described below. We will transfer all audio-recordings to a folder on the password-protected computer within 24 hours after the completion of the semi-structured interviews. After transcribing the tapes, the audio recordings will be erased. We will limit access to the tape as described below.

What are the risks to me?

The Institutional Review Board at the University of North Carolina at Greensboro has determined that participation in this study poses minimal risk to participants. There could

UNCG IRB
Approved Consent Form
Valid from:
10/29/15 to 8/23/18

be minimal physical risk through yoga activity. Yoga activity may result in acute muscle and/or joint pain, pulled muscles, brief changes in blood pressure, light headedness, dizziness, or delayed onset muscle soreness (DOMS). To minimize these risks, it is important that you do not exceed the recommended intensity of the yoga activity and not participate in the activity when you are sick or are not feeling well.

There could also be emotional distress due to the topic of trauma recovery being discussed. The discussion on trauma recovery can elicit many emotions such as sadness, anger, guilt, depression, anxiety, and irritability. Please know you have the option not to respond to any questions that cause you to feel uncomfortable or emotionally distressed. We will attempt to reduce these emotions during the interviews by not forcing participants to talk, inviting participants to share only what they feel comfortable sharing, and by asking participants if anyone would like to speak to the researcher after the interviews. Also, due to the fact that you will be sharing your experiences with other participants during the group debrief sessions, we cannot guarantee confidentiality that other participants will not share what you said with others.

If other mental health concerns emerge during or after the interviews, we encourage you to contact Sandhills Center - a mental health provider in Guilford County. They can be reached at 1.800.256.2452. You can also call Cone Behavioral Health, a mental health provider in Guilford County. They can be reached at 336.832.9700.

If you have questions, want more information or have suggestions, please contact Isabelle Ong at (336) 944-7821 or e-mail at ijong@uncg.edu. You can e-mail the faculty supervisor, Dr. Craig Cashwell, at ccashwe@uncg.edu.

If you have any concerns about your rights, how you are being treated, concerns or complaints about this project or benefits or risks associated with being in this study, please contact the Office of Research Integrity at UNCG toll-free at (855)-251-2351.

Are there any benefits to society as a result of me taking part in this research?

There may be many benefits to society as a result of you participating in this study. By gathering data from you through your participation in the yoga classes and group debrief sessions, we hope to gain a better understanding of how women impacted by intimate partner violence recover from trauma by practicing yoga. We also hope to share our findings with other mental health professionals so they will be aware of what helps women impacted by intimate partner violence recover from trauma. Ultimately, we hope that the findings from this research study will allow mental health professionals to incorporate yoga as part of their services to enhance women's ability to recover from trauma and intimate partner violence.

Are there any benefits to me for taking part in this research study?

One benefit from the study is that you will be able to participate in free yoga classes and group debrief sessions, and receive a written report on your pre- and posttraumatic stress disorder (PTSD) scores in the form of a graph, a month after the post-interview. At the completion of the study, you may be offered the option of continuing with an additional

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ten weeks of yoga classes.

Will I get paid for being in the study? Will it cost me anything?

There are no costs to you for participating in this study. All potential participants who participate in the screening process and complete all screening documents will receive a personal thank you card and a \$10 Amazon, Target, or Starbucks e-gift card within a month. If you are selected for phase two of the study, you will get weekly cash payments of \$5 for each session that you participate in. If you complete at least seven out of eight sessions of the research study you will receive a written report of your scores, a free yoga mat, and a certificate of appreciation. You will also be offered the opportunity to continue receiving yoga classes for an extended ten weeks at no cost. Childcare services will be provided for participants at no cost.

How will you keep my information confidential?

The information you share will be kept confidential. Confidential data collection procedures have been put into place. Each participant will be assigned a study identification number and a pseudonym to maintain your confidentiality. Your identifying information will be consolidated in a spreadsheet that is kept separate from your response data. Only the primary researcher will have access to your identifying information for the purpose of identifying and contacting you for the research study. All data pertaining to you will be kept secure in password-protected computer files on a password-protected computer. All information obtained from demographic questionnaires, interviews, and audio files, will be stored securely on a password-protected computer. When reviewing the interview results, audio files, or researcher notes, your name or other identifiable information will not be attached to those pieces of data.

Toward the end of the study and once data collection has been completed, all identifying information, such as your name and contact information will be removed from all databases and replaced with a randomly created ID number. The master list linking your name to the study ID number will be stored in a separate folder in the researcher's password-protected computer. All identifiable data including the master list will be destroyed one year following the study.

Data from this project will be written about and presented for educational purposes. All information obtained in this study is strictly confidential unless disclosure is required by law. We have a legal duty to report any harm to self or others, abuse, neglect, or abandonment of a child, a person with a disability, or an elderly person that is disclosed by participants during the study.

What if I want to leave the study?

You have the right to refuse to participate or to withdraw at any time, without penalty. If you do withdraw, the researcher will follow-up with you with a phone interview and you will receive a \$10 Amazon, Target, or Starbucks e-gift card if you participate in the interview. If you choose to withdraw, you may request that any of your data, which has been collected, be destroyed unless it is in a de-identifiable state. The investigators also

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have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

What about new information/changes in the study?

If significant new information relating to the study becomes available which may relate to your willingness to continue to participate, this information will be provided to you.

Voluntary Consent by Participant:

By signing this consent form, you are agreeing that you read, or it has been read to you, and you fully understand the contents of this document and are openly willing consent to take part in this study. All of your questions concerning this study have been answered.

By signing this form, you are agreeing that you are 18 years of age or older and are agreeing to participate.

Signature: _____ Date: _____

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Valid from:

10/29/15 to 8/23/16

Yoga Teacher Statement of Confidentiality Form



THE UNIVERSITY *of* NORTH CAROLINA
GREENSBORO

University of North Carolina at Greensboro

**RESEARCH CONFIDENTIALITY
AGREEMENT**

FOR RESEARCH INVOLVING HUMAN PARTICIPANTS

I _____ have agreed to assist with _____ for
the research project entitled _____ **IRB #** _____

I agree not to discuss or disclose any of the content or personal information contained within the data, tapes, transcriptions or other research records with anyone other than the Principal Investigator, _____, the faculty advisor, _____ or in the context of the research team. I agree to maintain confidentiality at all times and to abide by the UNCG Policy and Procedure for Ethics in Research and the UNCG Policy on the Protection of Human Subjects in Research.

Date: / /

Signature

Principal Investigator

To be completed by all members of the research team with access to personal data on human research participants.

File a copy with the PI.

Yoga Teacher Liability Student Waiver Agreement

I _____ (print name) understand that yoga includes physical movements as well as an opportunity for relaxation, stress re-education and relief of muscular tension.

As is the case with any physical activity, the risk of injury, even serious or disabling, is always present and cannot be entirely eliminated. If I experience any pain or discomfort, I will listen to my body, adjust the posture and ask for support from the teacher. I will continue to breathe smoothly.

Yoga is not a substitute for medical attention, examination, diagnosis or treatment. Yoga is not recommended and is not safe under certain medical conditions.

I affirm that I alone am responsible to decide whether to practice yoga. I hereby agree to irrevocably release and waive any claims that I have now or hereafter may have against Corinne Ong, RYT-200.

Date: _____

Signature of Student: _____

Address: _____

Email: _____

Phone: _____

Corinne Ong, MS, PhD, RYT – Yoga Alliance (pending October 2015)
corinneongpp@gmail.com

APPENDIX F

DEMOGRAPHIC QUESTIONNAIRE

1. First Name and Last name: _____

2. In what state do you reside? _____

3. What is your current age? _____

4. Gender:
 - Female
 - Male
 - Other: _____

5. Please select one of the following categories for ethnicity:
 - Hispanic or Latino
 - Not Hispanic nor Latino

6. Please indicate one or more races that apply to you:
 - American Indian, Native American, or Alaskan Native
 - Asian
 - Hispanic
 - Black or African American (non-Hispanic Black)

- Native Hawaiian or Other Pacific Islander
- Anglo (non-Hispanic White)
- Multi-racial
- Other: _____
- Unknown

7. Relationship Status: (please select the best answer)

- Single
- Dating
- Partnered/living together-not married without children
- Partnered/living together-not married with children
- Married with children
- Married without children
- Separated
- Divorced
- Widowed
- Unknown
- Other: _____

8. Do you have children?

- Yes (If yes, how many children do you have? _____)
- No

9. Please indicate your educational level:

- Less than 12 years
- GED/High school
- Some College
- Vocational Training
- Associate degree
- Bachelor's degree
- Master's degree
- Doctoral degree
- Unknown
- Level of Education: _____

10. What is your employment status:

a) Employment is:

- Full-time
- Part-time
- Temporary

b) Please select one statement that best describes your current activity:

- Employed full or part-time or have accepted a position
- Enrolled, accepted, or planning to attend college or professional school
- Seeking Employment (select only if not employed and not enrolled in college)

- Seeking admission to college or professional school (select if not employed and not enrolled in school)
 - Not seeking employment (select if not employed and not looking for employment)
 - Other, Please specify: _____
- c) If you draw a salary, your estimated monthly income is: \$ _____ per month.
- Number of people in your household _____

11. Have you experienced trauma?

Trauma is defined as an extreme form of stress brought about by life-threatening situation(s) or experience(s), overwhelms a person's ability to cope, and results in lack of control and helplessness (Center for Nonviolence and Social Justice, 2014; Scaer, 2014).

- Yes
- No

12. Please select which traumatic event(s) you have experienced in your lifetime.

Please **select all that apply and write the age or age range when the event occurred.**

For example, write 'age 5' for childhood physical abuse and 'ages 23-25' for abuse in an intimate partner relationship in the blanks provided.

- _____ Automobile accident
- _____ Adult Medical trauma (diagnosis of a critical illness, disability, anesthesia, or surgery)
- _____ Childhood physical abuse (witnessed or self-experienced)
- _____ Childhood sexual abuse (witnessed or self-experienced)
- _____ Childhood neglect (witnessed or self-experienced)
- _____ Childhood medical trauma
- _____ Crime (robbery, torture)
- _____ Date rape
- _____ Death of a significant person
- _____ Divorce
- _____ Intimate partner violence (physical, emotional, sexual, spiritual abuse in the relationship)
- _____ Miscarriage
- _____ Military combat
- _____ Natural disaster
- _____ Pediatric medical trauma (birth trauma, circumcision, fetal and/or neonatal trauma)
- _____ Physical assault
- _____ Sexual assault and/or rape

- _____ Other: _____

Sources of trauma adapted from Scaer (2014).

13. Do you have any experience with yoga?

- Yes
- No (If not, skip to question 17)

14. What is your experience with yoga (please select all that apply)?

- No experience
- I have tried one yoga class
- I have tried a few (2 to 3) yoga classes
- I practice yoga sometimes (once or twice a month)
- I practice yoga regularly (at least once a week)
- I practice yoga frequently (more than once a week)

15. If you have ever practiced yoga, what style of yoga have you tried (please select all that apply)?

- Ashtanga yoga
- Bikram yoga
- Hot yoga
- Iyengar Alignment-based Yoga
- Jivamukti yoga

- Kirpalu Yoga
- Kundalini yoga
- Power yoga
- Restorative yoga
- Vinyasa yoga
- Yin yoga
- Other (please describe briefly): _____
- Unknown

16. What have your previous experiences with yoga been like, if any? Please describe briefly.

17. Do you have any injuries, recent surgery, or health conditions I should be aware of?

- Yes
 - If yes, please describe briefly:

- No

18. Are you currently seeing a mental health professional? (screening question)

If not, please answer Question 19.

- Yes (If yes, skip question 19)
- No

19. Have you ever seen a mental health professional (such as a counselor, psychologist, social worker, or psychiatrist)

- Yes
 - If yes, please describe the purpose and outcome of the visit briefly:

- No

APPENDIX G

CLINICIAN-ADMINISTERED PTSD SCALE FOR DSM-5 (CAPS-5)

National Center for PTSD

CLINICIAN-ADMINISTERED PTSD SCALE FOR DSM-5

PAST WEEK VERSION

Name: _____ ID#: _____
Interviewer: _____ Date: _____
Study: _____

Frank W. Weathers, Dudley D. Blake, Paula P. Schnurr,
Danny G. Kaloupek, Brian P. Marx, & Terence M. Keane

National Center for Posttraumatic Stress Disorder
May 1, 2015

NOTE: This is the PAST WEEK version of the CAPS-5, which should be used only to evaluate PTSD symptom severity over the past week. PTSD diagnostic status should be evaluated with the PAST MONTH version of the CAPS-5.

Criterion A: Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways:

1. Directly experiencing the traumatic event(s).
2. Witnessing, in person, the event(s) as it occurred to others.
3. Learning that the traumatic event(s) occurred to a close family member or close friend. In cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental.
4. Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse). Note: Criterion A4 does not apply to exposure through electronic media, television, movies, or pictures, unless this exposure is work related.

NOTE: Criterion A should already have been evaluated in a prior administration of the PAST MONTH version of the CAPS-5. Thus, for most applications of the PAST WEEK version, Criterion A does not need to be re-evaluated.

[Administer Life Events Checklist or other structured trauma screen]

I'm going to ask you about the stressful experiences questionnaire you filled out. First I'll ask you to tell me a little bit about the event you said was the worst for you. Then I'll ask how that event may have affected you over the past week. In general I don't need a lot of information – just enough so I can understand any problems you may have had. Please let me know if you find yourself becoming upset as we go through the questions so we can slow down and talk about it. Also, let me know if you have any questions or don't understand something. Do you have any questions before we start?

The event you said was the worst was (EVENT). What I'd like for you to do is briefly describe what happened.

Index event (specify):

<p>What happened? (How old were you? How were you involved? Who else was involved? Was anyone seriously injured or killed? Was anyone's life in danger? How many times did this happen?)</p>	<p>Exposure type:</p> <p>Experienced ___</p> <p>Witnessed ___</p> <p>Learned about ___</p> <p>Exposed to aversive details ___</p> <p>Life threat? NO YES [self ___ other ___]</p> <p>Serious injury? NO YES [self ___ other ___]</p> <p>Sexual violence? NO YES [self ___ other ___]</p> <p>Criterion A met? NO PROBABLE YES</p>
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For the rest of the interview, I want you to keep (EVENT) in mind as I ask you about different problems it may have caused you. You may have had some of these problems before, but for this interview we're going to focus just on the past week. For each problem I'll ask if you've had it in the past week, and if so, how often and how much it bothered you.

Criterion B: Presence of one (or more) of the following intrusion symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred:

1. (B1) Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s). Note: In children older than 8 years, repetitive play may occur in which themes or aspects of the traumatic event(s) are expressed.

<p>In the past week, have you had any <u>unwanted memories</u> of (EVENT) while you were awake, so not counting dreams? [Rate 0=Absent if only during dreams]</p> <p>How does it happen that you start remembering (EVENT)?</p> <p>[If not clear:] (Are these <u>unwanted memories</u>, or are you thinking about [EVENT] on purpose?) [Rate 0=Absent unless perceived as involuntary and intrusive]</p> <p>How much do these memories bother you?</p> <p>Are you able to put them out of your mind and think about something else?</p> <p>[If not clear:] (Overall, how much of a problem is this for you? How so?)</p> <p>Circle: Distress = Minimal Clearly Present Pronounced Extreme</p> <p>How often have you had these memories in the past week? # of times _____</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of distress</i> Moderate = at least 1 X week / distress clearly present, some difficulty dismissing memories Severe = at least 2 X week / pronounced distress, considerable difficulty dismissing memories</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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2. (B2) Recurrent distressing dreams in which the content and/or affect of the dream are related to the event(s). Note: In children, there may be frightening dreams without recognizable content.

<p>In the past week, have you had any <u>unpleasant dreams</u> about (EVENT)?</p> <p>Describe a typical dream. (What happens?)</p> <p>[If not clear:] (Do they wake you up?)</p> <p>[If yes:] (What do you experience when you wake up? How long does it take you to get back to sleep?)</p> <p>[If reports not returning to sleep:] (How much sleep do you lose?)</p> <p>How much do these dreams bother you?</p> <p>Circle: Distress = Minimal Clearly Present Pronounced Extreme</p> <p>How often have you had these dreams in the past week? # of times _____</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of distress</i> Moderate = at least 1 X week / distress clearly present, less than 1 hour sleep loss Severe = at least 2 X week / pronounced distress, more than 1 hour sleep loss</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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3. (B3) Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring. (Such reactions may occur on a continuum, with the most extreme expression being a complete loss of awareness of present surroundings.) Note: In children, trauma-specific reenactment may occur in play.

<p>In the past week, have there been times when you <u>suddenly acted</u> or <u>felt</u> as if (EVENT) were <u>actually happening</u> again?</p> <p><i>[If not clear:] (This is different than thinking about it or dreaming about it – now I'm asking about flashbacks, when you feel like you're actually back at the time of [EVENT], actually reliving it.)</i></p> <p>How much does it seem as if (EVENT) were happening again? <i>(Are you confused about where you actually are?)</i></p> <p>What do you do while this is happening? <i>(Do other people notice your behavior? What do they say?)</i></p> <p>How long does it last?</p> <p><u>Circle:</u> Dissociation = Minimal Clearly Present Pronounced Extreme</p> <p>How often has this happened in the past week? # of times _____</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
<p><i>Key rating dimensions = frequency / intensity of dissociation</i> Moderate = at least 1 X week / dissociative quality clearly present, may retain some awareness of surroundings but relives event in a manner clearly distinct from thoughts and memories Severe = at least 2 X week / pronounced dissociative quality, reports vivid reliving, e.g., with images, sounds, smells</p>	

4. (B4) Intense or prolonged psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

<p>In the past week, have you gotten <u>emotionally upset</u> when <u>something reminded you</u> of (EVENT)?</p> <p>What kinds of reminders make you upset?</p> <p>How much do these reminders bother you?</p> <p>Are you able to calm yourself down when this happens? <i>(How long does it take?)</i></p> <p><i>[If not clear:] (Overall, how much of a problem is this for you? How so?)</i></p> <p><u>Circle:</u> Distress = Minimal Clearly Present Pronounced Extreme</p> <p>How often has this happened in the past week? # of times _____</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
<p><i>Key rating dimensions = frequency / intensity of distress</i> Moderate = at least 1 X week / distress clearly present, some difficulty recovering Severe = at least 2 X week / pronounced distress, considerable difficulty recovering</p>	

5. (B5) Marked physiological reactions to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

<p>In the past week, have you had any <u>physical reactions</u> when <u>something reminded you of (EVENT)?</u></p> <p>Can you give me some examples? <i>(Does your heart race or your breathing change? What about sweating or feeling really tense or shaky?)</i></p> <p>What kinds of reminders trigger these reactions?</p> <p>How long does it take you to recover?</p> <p><u>Circle:</u> Physiological reactivity = Minimal Clearly Present Pronounced Extreme</p> <p>How often has this happened in the past week? # of times _____</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of physiological arousal</i> Moderate = at least 1 X week / reactivity clearly present, some difficulty recovering Severe = at least 2 X week / pronounced reactivity, sustained arousal, considerable difficulty recovering</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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Criterion C: Persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred, as evidenced by one or both of the following:

6. (C1) Avoidance of or efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

<p>In the past week, have you tried to <u>avoid thoughts</u> or <u>feelings</u> about (EVENT)?</p> <p>What kinds of thoughts or feelings do you avoid?</p> <p>How hard do you try to avoid these thoughts or feelings? <i>(What kinds of things do you do?)</i></p> <p>[if not clear:] <i>(Overall, how much of a problem is this for you? How would things be different if you didn't have to avoid these thoughts or feelings?)</i></p> <p><u>Circle:</u> Avoidance = Minimal Clearly Present Pronounced Extreme</p> <p>How often in the past week? # of times _____</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of avoidance</i> Moderate = at least 1 X week / avoidance clearly present Severe = at least 2 X week / pronounced avoidance</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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7. (C2) Avoidance of or efforts to avoid external reminders (people, places, conversations, activities, objects, situations) that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

<p>In the past week, have you tried to avoid things that remind you of (EVENT), like certain people, places, or situations?</p> <p>What kinds of things do you avoid?</p> <p>How much effort do you make to avoid these reminders? <i>(Do you have to make a plan or change your activities to avoid them?)</i></p> <p><i>[If not clear:] (Overall, how much of a problem is this for you? How would things be different if you didn't have to avoid these reminders?)</i></p> <p><u>Circle:</u> Avoidance = Minimal Clearly Present Pronounced Extreme</p> <p>How often in the past week? # of times _____</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of avoidance</i> Moderate = at least 1 X week / avoidance clearly present Severe = at least 2 X week / pronounced avoidance</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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Criterion D: Negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

8. (D1) Inability to remember an important aspect of the traumatic event(s) (typically due to dissociative amnesia and not to other factors such as head injury, alcohol, or drugs).

<p>In the past week, have you had difficulty remembering some important parts of (EVENT)? <i>(Do you feel there are gaps in your memory of [EVENT]?)</i></p> <p>What parts have you had difficulty remembering?</p> <p>Do you feel you should be able to remember these things?</p> <p><i>[If not clear:] (Why do you think you can't? Did you have a head injury during [EVENT]? Were you knocked unconscious? Were you intoxicated from alcohol or drugs?) [Rate 0=Absent if due to head injury or loss of consciousness or intoxication during event]</i></p> <p><i>[If still not clear:] (Is this just normal forgetting? Or do you think you may have blocked it out because it would be too painful to remember?) [Rate 0=Absent if due only to normal forgetting]</i></p> <p><u>Circle:</u> Difficulty remembering = Minimal Clearly Present Pronounced Extreme</p> <p>In the past week, how many of the important parts of (EVENT) have you had difficulty remembering? <i>(What parts do you still remember?)</i> # of important aspects _____</p> <p>Would you be able to recall these things if you tried?</p> <hr/> <p><i>Key rating dimensions = amount of event not recalled / intensity of inability to recall</i> Moderate = at least one important aspect / difficulty remembering clearly present, some recall possible with effort Severe = several important aspects / pronounced difficulty remembering, little recall even with effort</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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9. (D2) Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (e.g., "I am bad," "No one can be trusted," "The world is completely dangerous," "My whole nervous system is permanently ruined").

<p>In the past week, have you had strong negative beliefs about yourself, other people, or the world?</p> <p>Can you give me some examples? (<i>What about believing things like "I am bad," "there is something seriously wrong with me," "no one can be trusted," "the world is completely dangerous"?</i>)</p> <p>How strong are these beliefs? (<i>How convinced are you that these beliefs are actually true? Can you see other ways of thinking about it?</i>)</p> <p><u>Circle:</u> Conviction = Minimal Clearly Present Pronounced Extreme</p> <p>How much of the time in the past week have you felt that way, as a percentage?</p> <p>% of time _____</p> <p>Did these beliefs start or get worse after (EVENT)? (<i>Do you think they're related to [EVENT]? How so?</i>) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
<p><i>Key rating dimensions = frequency / intensity of beliefs</i></p> <p>Moderate = some of the time (20-30%) / exaggerated negative expectations clearly present, some difficulty considering more realistic beliefs</p> <p>Severe = much of the time (50-60%) / pronounced exaggerated negative expectations, considerable difficulty considering more realistic beliefs</p>	

10. (D3) Persistent, distorted cognitions about the cause or consequences of the traumatic event(s) that lead the individual to blame himself/herself or others.

<p>In the past week, have you blamed yourself for (EVENT) or what happened as a result of it? Tell me more about that. (<i>In what sense do you see yourself as having caused [EVENT]? Is it because of something you did? Or something you think you should have done but didn't? Is it because of something about you in general?</i>)</p> <p>What about blaming someone else for (EVENT) or what happened as a result of it? Tell me more about that. (<i>In what sense do you see [OTHERS] as having caused [EVENT]? Is it because of something they did? Or something you think they should have done but didn't?</i>)</p> <p>How much do you blame (YOURSELF OR OTHERS)?</p> <p>How convinced are you that [YOU OR OTHERS] are truly to blame for what happened? (<i>Do other people agree with you? Can you see other ways of thinking about it?</i>)</p> <p>[Rate 0=Absent if only blames perpetrator, i.e., someone who deliberately caused the event and intended harm]</p> <p><u>Circle:</u> Conviction = Minimal Clearly Present Pronounced Extreme</p> <p>How much of the time in the past week have you felt that way, as a percentage?</p> <p>% of time _____</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
<p><i>Key rating dimensions = frequency / intensity of blame</i></p> <p>Moderate = some of the time (20-30%) / distorted blame clearly present, some difficulty considering more realistic beliefs</p> <p>Severe = much of the time (50-60%) / pronounced distorted blame, considerable difficulty considering more realistic beliefs</p>	

11. (D4) Persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame).

<p>In the past week, have you had any <u>strong negative feelings</u> such as fear, horror, anger, guilt, or shame?</p> <p>Can you give me some examples? <i>(What negative feelings do you experience?)</i></p> <p>How strong are these negative feelings?</p> <p>How well are you able to manage them?</p> <p>[If not clear:] <i>(Overall, how much of a problem is this for you? How so?)</i></p> <p><u>Circle:</u> Negative emotions = Minimal Clearly Present Pronounced Extreme</p> <p>How much of the time in the past week have you felt that way, as a percentage?</p> <p>% of time _____</p> <p>Did these negative feelings start or get worse after (EVENT)? <i>(Do you think they're related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of negative emotions</i> Moderate = some of the time (20-30%) / negative emotions clearly present, some difficulty managing Severe = much of the time (50-60%) / pronounced negative emotions, considerable difficulty managing</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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12. (D5) Markedly diminished interest or participation in significant activities.

<p>In the past week, have you been <u>less interested</u> in <u>activities</u> that you used to enjoy?</p> <p>What kinds of things have you lost interest in or don't do as much as you used to? <i>(Anything else?)</i></p> <p>Why is that? [Rate 0=Absent if diminished participation is due to lack of opportunity, physical inability, or developmentally appropriate change in preferred activities]</p> <p>How strong is your loss of interest? <i>(Would you still enjoy [ACTIVITIES] once you got started?)</i></p> <p><u>Circle:</u> Loss of Interest= Minimal Clearly Present Pronounced Extreme</p> <p>Overall, in the past week, how many of your usual activities have you been less interested in, as a percentage? % of activities _____</p> <p>What kinds of things do you still enjoy doing?</p> <p>Did this loss of interest start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = percent of activities affected / intensity of loss of interest</i> Moderate = some activities (20-30%) / loss of interest clearly present but still has some enjoyment of activities Severe = many activities (50-60%) / pronounced loss of interest, little interest or participation in activities</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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13. (D6) Feelings of detachment or estrangement from others.

<p>In the past week, have you felt <u>distant</u> or <u>cut off</u> from other people?</p> <p>Tell me more about that.</p> <p>How strong are your feelings of being distant or cut off from others? (Who do you feel closest to? How many people do you feel comfortable talking with about personal things?)</p> <p><u>Circle:</u> Detachment or estrangement = Minimal Clearly Present Pronounced Extreme</p> <p>How much of the time in the past week have you felt that way, as a percentage?</p> <p>% of time _____</p> <p>Did this feeling of being distant or cut off start or get worse after (EVENT)? (Do you think it's related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of detachment or estrangement</i> Moderate = some of the time (20-30%) / feelings of detachment clearly present but still feels some interpersonal connection Severe = much of the time (50-60%) / pronounced feelings of detachment or estrangement from most people, may feel close to only one or two people</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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14. (D7) Persistent inability to experience positive emotions (e.g., inability to experience happiness, satisfaction, or loving feelings).

<p>In the past week, have there been times when you had <u>difficulty experiencing positive feelings</u> like love or happiness?</p> <p>Tell me more about that. (What feelings are difficult to experience?)</p> <p>How much difficulty do you have experiencing positive feelings? (Are you still able to experience any positive feelings?)</p> <p><u>Circle:</u> Reduction of positive emotions = Minimal Clearly Present Pronounced Extreme</p> <p>How much of the time in the past week have you felt that way, as a percentage?</p> <p>% of time _____</p> <p>Did this trouble experiencing positive feelings start or get worse after (EVENT)? (Do you think it's related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of reduction in positive emotions</i> Moderate = some of the time (20-30%) / reduction of positive emotional experience clearly present but still able to experience some positive emotions Severe = much of the time (50-60%) / pronounced reduction of experience across range of positive emotions</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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Criterion E: Marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

15. (E1) Irritable behavior and angry outbursts (with little or no provocation) typically expressed as verbal or physical aggression toward people or objects.

<p>In the past week, have there been times when you felt especially irritable or angry and showed it in your behavior?</p> <p>Can you give me some examples? <i>(How do you show it? Do you raise your voice or yell? Throw or hit things? Push or hit other people?)</i></p> <p><u>Circle:</u> Aggression = Minimal Clearly Present Pronounced Extreme</p> <p>How often in the past week? # of times _____</p> <p>Did this behavior start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of aggressive behavior</i> Moderate = at least 1 X week / aggression clearly present, primarily verbal Severe = at least 2 X week / pronounced aggression, at least some physical aggression</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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16. (E2) Reckless or self-destructive behavior.

<p>In the past week, have there been times when you were taking more risks or doing things that might have caused you harm?</p> <p>Can you give me some examples?</p> <p>How much of a risk do you take? <i>(How dangerous are these behaviors? Were you injured or harmed in some way?)</i></p> <p><u>Circle:</u> Risk = Minimal Clearly Present Pronounced Extreme</p> <p>How often have you taken these kinds of risks in the past week? # of times _____</p> <p>Did this behavior start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / degree of risk</i> Moderate = at least 1 X week / risk clearly present, may have been harmed Severe = at least 2 X week / pronounced risk, actual harm or high probability of harm</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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17. (E3) Hypervigilance.

<p>In the past week, have you been especially <u>alert</u> or <u>watchful</u>, even when there was no specific threat or danger? (<i>Have you felt as if you had to be on guard?</i>)</p> <p>Can you give me some examples? (<i>What kinds of things do you do when you're alert or watchful?</i>)</p> <p style="padding-left: 40px;">[If not clear:] (<i>What causes you to react this way? Do you feel like you're in danger or threatened in some way? Do you feel that way more than most people would in the same situation?</i>)</p> <p><u>Circle:</u> Hypervigilance = Minimal Clearly Present Pronounced Extreme</p> <p>How much of the time in the past week have you felt that way, as a percentage?</p> <p>% of time _____</p> <p>Did being especially alert or watchful start or get worse after (EVENT)? (<i>Do you think it's related to [EVENT]? How so?</i>) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of hypervigilance</i> Moderate = some of the time (20-30%) / hypervigilance clearly present, e.g., watchful in public, heightened awareness of threat Severe = much of the time (50-60%) / pronounced hypervigilance, e.g., scans environment for danger, may have safety rituals, exaggerated concern for safety of self/family/home</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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18. (E4) Exaggerated startle response.

<p>In the past week, have you had any <u>strong startle</u> reactions?</p> <p>What kinds of things made you startle?</p> <p>How strong are these startle reactions? (<i>How strong are they compared to how most people would respond? Do you do anything other people would notice?</i>)</p> <p>How long does it take you to recover?</p> <p><u>Circle:</u> Startle = Minimal Clearly Present Pronounced Extreme</p> <p>How often has this happened in the past week? # of times _____</p> <p>Did these startle reactions start or get worse after (EVENT)? (<i>Do you think they're related to [EVENT]? How so?</i>) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of startle</i> Moderate = at least 1 X week / startle clearly present, some difficulty recovering Severe = at least 2 X week / pronounced startle, sustained arousal, considerable difficulty recovering</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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19. (E5) Problems with concentration.

<p>In the past week, have you had any <u>problems with concentration</u>?</p> <p>Can you give me some examples?</p> <p>Are you able to concentrate if you really try?</p> <p style="text-align: center;">[If not clear:] <i>(Overall, how much of a problem is this for you? How would things be different if you didn't have problems with concentration?)</i></p> <p><u>Circle:</u> Problem concentrating = Minimal Clearly Present Pronounced Extreme</p> <p>How much of the time in the past week have you had problems with concentration, as a percentage?</p> <p>% of time _____</p> <p>Did these problems with concentration start or get worse after (EVENT)? <i>(Do you think they're related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of concentration problems</i> Moderate = some of the time (20-30%) / problem concentrating clearly present, some difficulty but can concentrate with effort Severe = much of the time (50-60%) / pronounced problem concentrating, considerable difficulty even with effort</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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20. (E6) Sleep disturbance (e.g., difficulty falling or staying asleep or restless sleep).

<p>In the past week, have you had any <u>problems falling or staying</u> asleep?</p> <p>What kinds of problems? <i>(How long does it take you to fall asleep? How often do you wake up in the night? Do you wake up earlier than you want to?)</i></p> <p>How many total hours do you sleep each night?</p> <p>How many hours do you think you should be sleeping?</p> <p><u>Circle:</u> Problem sleeping = Minimal Clearly Present Pronounced Extreme</p> <p>How often in the past week have you had these sleep problems? # of times _____</p> <p>Did these sleep problems start or get worse after (EVENT)? <i>(Do you think they're related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of sleep problems</i> Moderate = at least 1 X week / sleep disturbance clearly present, clearly longer latency or clear difficulty staying asleep, 30-90 minutes loss of sleep Severe = at least 2 X week / pronounced sleep disturbance, considerably longer latency or marked difficulty staying asleep, 90 min to 3 hrs loss of sleep</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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Criterion F: Duration of the disturbance (Criteria B, C, D, and E) is more than 1 month.

NOTE: Items 21 and 22 are not applicable for the PAST WEEK version. They are listed here without prompts only to maintain correspondence with item numbering on the PAST MONTH version. Onset and duration of symptoms should be assessed with

- 21. Onset of symptoms
- 22. Duration of symptoms

Criterion G: The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

- 23. Subjective distress

<p>Overall, in the past week, how much have you been bothered by these (PTSD SYMPTOMS) you've told me about? [Consider distress reported on earlier items]</p>	<ul style="list-style-type: none"> 0 <i>None</i> 1 <i>Mild, minimal distress</i> 2 <i>Moderate, distress clearly present but still manageable</i> 3 <i>Severe, considerable distress</i> 4 <i>Extreme, incapacitating distress</i>
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- 24. Impairment in social functioning

<p>In the past week, have these (PTSD SYMPTOMS) affected your relationships with other people? How so? [Consider impairment in social functioning reported on earlier items]</p>	<ul style="list-style-type: none"> 0 <i>No adverse impact</i> 1 <i>Mild impact, minimal impairment in social functioning</i> 2 <i>Moderate impact, definite impairment but many aspects of social functioning still intact</i> 3 <i>Severe impact, marked impairment, few aspects of social functioning still intact</i> 4 <i>Extreme impact, little or no social functioning</i>
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- 25. Impairment in occupational or other important area of functioning

<p>[If not clear:] Are you working now?</p> <p>[If yes:] In the past week, have these (PTSD SYMPTOMS) affected your work or your ability to work? How so?</p> <p>[If no:] Why is that? (Do you feel that your [PTSD SYMPTOMS] are related to you not working now? How so?)</p> <p>[If unable to work because of PTSD symptoms, rate at least 3=Severe. If unemployment is not due to PTSD symptoms, or if the link is not clear, base rating only on impairment in other important areas of functioning]</p> <p>Have these (PTSD SYMPTOMS) affected any other important part of your life? [As appropriate, suggest examples such as parenting, housework, schoolwork, volunteer work, etc.] How so?</p>	<ul style="list-style-type: none"> 0 <i>No adverse impact</i> 1 <i>Mild impact, minimal impairment in occupational/other important functioning</i> 2 <i>Moderate impact, definite impairment but many aspects of occupational/other important functioning still intact</i> 3 <i>Severe impact, marked impairment, few aspects of occupational/other important functioning still intact</i> 4 <i>Extreme impact, little or no occupational/other important functioning</i>
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Global Ratings

26. Global validity

<p>Estimate the overall validity of responses. Consider factors such as compliance with the interview, mental status (e.g., problems with concentration, comprehension of items, dissociation), and evidence of efforts to exaggerate or minimize symptoms.</p>	0	<i>Excellent, no reason to suspect invalid responses</i>
	1	<i>Good, factors present that may adversely affect validity</i>
	2	<i>Fair, factors present that definitely reduce validity</i>
	3	<i>Poor, substantially reduced validity</i>
	4	<i>Invalid responses, severely impaired mental status or possible deliberate "faking bad" or "faking good"</i>

27. Global severity

<p>Estimate the overall severity of PTSD symptoms. Consider degree of subjective distress, degree of functional impairment, observations of behaviors in interview, and judgment regarding reporting style.</p>	0	<i>No clinically significant symptoms, no distress and no functional impairment</i>
	1	<i>Mild, minimal distress or functional impairment</i>
	2	<i>Moderate, definite distress or functional impairment but functions satisfactorily with effort</i>
	3	<i>Severe, considerable distress or functional impairment, limited functioning even with effort</i>
	4	<i>Extreme, marked distress or marked impairment in two or more major areas of functioning</i>

28. Global improvement

<p>Rate total overall improvement since the previous rating. Rate the degree of change, whether or not, in your judgment, it is due to treatment.</p>	0	<i>Asymptomatic</i>
	1	<i>Considerable improvement</i>
	2	<i>Moderate improvement</i>
	3	<i>Slight improvement</i>
	4	<i>No improvement</i>
	5	<i>Insufficient information</i>

Specify whether with dissociative symptoms: The individual's symptoms meet the criteria for posttraumatic stress disorder, and in addition, in response to the stressor, the individual experiences persistent or recurrent symptoms of either of the following:

29. (1) Depersonalization: Persistent or recurrent experiences of feeling detached from, and as if one were an outside observer of, one's mental processes or body (e.g., feeling as though one were in a dream; feeling a sense of unreality of self or body or of time moving slowly).

<p>In the past week, have there been times when you felt as if you were separated from yourself, like you were watching yourself from the outside or observing your thoughts and feelings as if you were another person?</p> <p>[If no:] <i>(What about feeling as if you were in a dream, even though you were awake? Feeling as if something about you wasn't real? Feeling as if time was moving more slowly?)</i></p> <p>Tell me more about that.</p> <p>How strong is this feeling? <i>(Do you lose track of where you actually are or what's actually going on?)</i></p> <p>What do you do while this is happening? <i>(Do other people notice your behavior? What do they say?)</i></p> <p>How long does it last?</p> <p><u>Circle:</u> Dissociation = Minimal Clearly Present Pronounced Extreme</p> <p>[If not clear:] <i>(Was this due to the effects of alcohol or drugs? What about a medical condition like seizures?)</i> [Rate 0=Absent if due to the effects of a substance or another medical condition]</p> <p>How often has this happened in the past week? # of times _____</p> <p>Did this feeling start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]?)</i> How so? <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p>Key rating dimensions = frequency / intensity of dissociation Moderate = at least 1 X week / dissociative quality clearly present but transient, retains some realistic sense of self and awareness of environment Severe = at least 2 X week / pronounced dissociative quality, marked sense of detachment and unreality</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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30. (2) Derealization: Persistent or recurrent experiences of unreality of surroundings (e.g., the world around the individual is experienced as unreal, dreamlike, distant, or distorted).

<p>In the past week, have there been times when things going on around you seemed unreal or very strange and unfamiliar?</p> <p><i>[If no:] (Do things going on around you seem like a dream or like a scene from a movie? Do they seem distant or distorted?)</i></p> <p>Tell me more about that.</p> <p>How strong is this feeling? <i>(Do you lose track of where you actually are or what's actually going on?)</i></p> <p>What do you do while this is happening? <i>(Do other people notice your behavior? What do they say?)</i></p> <p>How long does it last?</p> <p><u>Circle:</u> Dissociation = Minimal Clearly Present Pronounced Extreme</p> <p><i>[If not clear:] (Was this due to the effects of alcohol or drugs? What about a medical condition like seizures?) [Rate 0=Absent if due to the effects of a substance or another medical condition]</i></p> <p>How often has this happened in the past week? # of times _____</p> <p>Did this feeling start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]?)</i> <i>How so?</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely</p> <hr/> <p><i>Key rating dimensions = frequency / intensity of dissociation</i> Moderate = at least 1 X week / dissociative quality clearly present but transient, retains some realistic sense of environment Severe = at least 2 X week / pronounced dissociative quality, marked sense of unreality</p>	<p>0 Absent</p> <p>1 Mild / subthreshold</p> <p>2 Moderate / threshold</p> <p>3 Severe / markedly elevated</p> <p>4 Extreme / incapacitating</p>
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CAPS-5 SUMMARY SHEET

Name: _____ ID#: _____ Interviewer: _____ Study: _____ Date: _____

A. Exposure to actual or threatened death, serious injury, or sexual violence		
Criterion A met?	0 = NO 1 = YES	

B. Intrusion symptoms (need 1 for diagnosis)	Past Week	
	Sev	Sx (Sev \geq 2)?
(1) B1 – Intrusive memories		0 = NO 1 = YES
(2) B2 – Distressing dreams		0 = NO 1 = YES
(3) B3 – Dissociative reactions		0 = NO 1 = YES
(4) B4 – Cued psychological distress		0 = NO 1 = YES
(5) B5 – Cued physiological reactions		0 = NO 1 = YES
B subtotals	B Sev =	# B Sx =

C. Avoidance symptoms (need 1 for diagnosis)	Past Week	
	Sev	Sx (Sev \geq 2)?
(6) C1 – Avoidance of memories, thoughts, feelings		0 = NO 1 = YES
(7) C2 – Avoidance of external reminders		0 = NO 1 = YES
C subtotals	C Sev =	# C Sx =

D. Cognitions and mood symptoms (need 2 for diagnosis)	Past Week	
	Sev	Sx (Sev \geq 2)?
(8) D1 – Inability to recall important aspect of event		0 = NO 1 = YES
(9) D2 – Exaggerated negative beliefs or expectations		0 = NO 1 = YES
(10) D3 – Distorted cognitions leading to blame		0 = NO 1 = YES
(11) D4 – Persistent negative emotional state		0 = NO 1 = YES
(12) D5 – Diminished interest or participation in activities		0 = NO 1 = YES
(13) D6 – Detachment or estrangement from others		0 = NO 1 = YES
(14) D7 – Persistent inability to experience positive emotions		0 = NO 1 = YES
D subtotals	D Sev =	# D Sx =

E. Arousal and reactivity symptoms (need 2 for diagnosis)	Past Week	
	Sev	Sx (Sev \geq 2)?
(15) E1 – Irritable behavior and angry outbursts		0 = NO 1 = YES
(16) E2 – Reckless or self-destructive behavior		0 = NO 1 = YES
(17) E3 – Hypervigilance		0 = NO 1 = YES
(18) E4 – Exaggerated startle response		0 = NO 1 = YES
(19) E5 – Problems with concentration		0 = NO 1 = YES
(20) E6 – Sleep disturbance		0 = NO 1 = YES
E subtotals	E Sev =	# E Sx =

PTSD totals	Past Week	
	Total Sev	Total # Sx
Sum of subtotals (B+C+D+E)		

F. Duration of disturbance (22)	Current
	NOT APPLICABLE

G. Distress or impairment (need 1 for diagnosis)	Past Week	
	Sev	Cx (Sev \geq 2)?
(23) Subjective distress		0 = NO 1 = YES
(24) Impairment in social functioning		0 = NO 1 = YES
(25) Impairment in occupational functioning		0 = NO 1 = YES
G subtotals	G Sev =	# G Cx =

Global ratings	Past Week
(26) Global validity	
(27) Global severity	
(28) Global improvement	

Dissociative symptoms (need 1 for subtype)	Past Week	
	Sev	Sx (Sev \geq 2)?
(29) 1 – Depersonalization		0 = NO 1 = YES
(30) 2 – Derealization		0 = NO 1 = YES
Dissociative subtotals	Diss Sev =	# Diss Sx =

APPENDIX H

PRE- AND POST- SEMI-STRUCTURED INTERVIEW QUESTIONS AND PROBES

This interview protocol consists of two interviews, a pre-interview and a post-interview.

Pre-Interview

Introductory Comments:

Thank you for contributing your time to this interview today. The interview will be audiotaped and transcribed as per the informed consent form. The purpose of this interview is to help me learn more about how women impacted by intimate partner violence heal from their traumatic experiences. This interview will take about 90 minutes (including the CAPS-5 interview) and will primarily involve the discussion of your traumatic recovery experiences. Please feel free to draw or write your responses on the paper provided at any time. Please let me know if you feel uncomfortable as I move from one question to another in the interest of time. Please be aware that you are free to decline answering any question I may ask of you.

Research Question	Interview Question	Probes
<p>RQ 1) Prior to intervention, how do participants with a history of IPV conceptualize recovery from trauma, as it pertains to the four trauma-sensitive yoga (TSY) themes (i.e. being present, making choices, taking effective action, and creating rhythms)?</p>	<p><i>Pre-interview</i></p> <p>1a) Please consider the impact of trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: connection to your body in the present moment?</p> <p>1b) Please consider the impact of trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: making choices about your body?</p> <p>1c) Please consider the impact of</p>	<p>-Alternative question: How do you know if you have recovered from the trauma experienced in past abusive relationships in terms of: (a) connection to your body in the present moment, (b) making choices about your body, (c) taking actions based on how you feel about your body, (d) control of the pacing and movement of your body, and (e) attunement to the pacing and movement of people around you.</p>

	<p>trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: taking actions based on how you feel about your body?</p> <p>1d) Please consider the impact of trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: control of the pacing and movement of your body?</p> <p>1e) Please consider the impact of trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: your attunement to the pacing and movement of people around you?</p> <p>Purpose of this question: to gain an understanding of participants' conceptualization of trauma recovery before the TSY intervention.</p>	
<p>RQ 3: How do participants' conceptualizations about recovery from trauma and IPV inform our understanding about the trauma recovery process (as it is facilitated by TSY), beyond what their pre- and post-intervention PTSD scores suggest?</p>	<p><i>Pre-interview</i></p> <p>1) What are your personal goals for healing from trauma?</p> <p>Purpose of this question: to gain an understanding of participants' conceptualization of trauma recovery process before the TSY intervention in the form of their personal goals for healing.</p>	<p>-Probe: ask participants to describe their short- and long-term trauma recovery goals in terms of their body (physical), psychological, emotional, social, and spiritual aspects.</p>

	<p><i>Pre-interview</i></p> <p>2) Where do you see yourself on this healing journey?</p> <p>Purpose of this question: to gain an understanding of participants' self-identified perceptions of their trauma recovery process before the TSY intervention.</p>	<p>-Alternative question: How far along are you away from complete recovery?</p> <p>-Probe: Ask participants to describe what it takes for them to heal from trauma completely.</p>
<p>RQ 4: What is the role of TSY in facilitating women's recovery from trauma?</p>	<p><i>Pre-interview</i></p> <p>3) Do you think yoga can help you heal from trauma? If yes, ask the follow-up question.</p> <p>Purpose of this question: to gain an understanding of participants' perceptions on how yoga can help facilitate trauma recovery, if any, before the TSY intervention.</p>	<p>Follow-up question: How do you think yoga can help you heal from trauma?</p> <p>-Probe: ask participants to describe how they think yoga can help them heal in terms of their bodily (physical), psychological, emotional, social, and spiritual aspects.</p>
	<p>4) Do you have any questions or comments?</p> <p>5) Do you have any additional thoughts or issues that were not addressed in the interview?</p> <p>Purpose of questions 5 and 6: participants' free-response to capture any responses they might have related to the interview or TSY intervention.</p>	
<p>Other Possible Interview/Research Questions</p>	<p><i>Pre-interview</i></p> <ul style="list-style-type: none"> • What other activities or practices do you currently use to help you heal? If so, tell me about these practices. 	<p>Probe: Ask participants to generate a list and describe anything they have done that has helped them feel better. These may include thoughts, actions, ideas, or rituals in your daily life.</p>

Thank you for the opportunity to interview you. I have learned a lot from you. Your participation and contribution to this research study is invaluable, and will benefit

other women impacted by intimate partner violence and the trauma recovery research community.

Post-Interview

Introductory Comments:

Thank you for contributing your time to this interview today and for agreeing to let me interview you again. The interview will be audiotaped and transcribed as per the informed consent form. The purpose of this interview is to help me learn more about how women impacted by intimate partner violence survive, cope with, and recover from their traumatic experiences. I am particularly interested in learning how things have changed for you since the last interview. Like the first interview, this interview will take about 90 minutes (including the CAPS-5) and will primarily involve the discussion of your traumatic recovery experiences. Please feel free to draw or write your responses on the paper provided at any time. As before, please let me know if you feel uncomfortable as I move from one question to another in the interest of time. Please also be aware that you are free to decline answering any question I may ask of you.

Research Question	Interview Question	Probes
RQ 3: How do participants' conceptualizations about recovery from trauma and IPV inform our understanding about the trauma recovery process (as it is facilitated by TSY), beyond what their pre- and post-intervention PTSD scores suggest?	<i>Post-interview</i> 1) To what extent have you met your personal goals for healing from trauma through the yoga classes? Purpose of this question: to explore the extent to which participants have met their trauma recovery goals through TSY.	-Probe: revisit the list of participant goals in the pre-interview to aid their recall in their recovery process.
	<i>Post-interview</i> 2) Where do you see yourself on this healing journey now? Purpose of this question: to gain an understanding of participants' conceptualization of the trauma recovery process after the TSY intervention.	-Alternative question: How far along are you away from complete recovery?
RQ 4: What is the role of TSY in facilitating women's recovery from trauma?	<i>Post-interview</i> 3) Have you noticed any changes yoga has helped you in your recovery from trauma? a. If no, why not? (and skip question 4). b. If yes, how has it been	Probe: If participant's response is a 'yes', ask them to describe how yoga has helped them recover in terms of their body (physical), psychological, emotional,

	<p>helpful?</p> <p>Purpose of this question: to gain an understanding of participants' perceptions on how yoga has helped facilitate trauma recovery, if any, after the intervention (TSY).</p>	<p>social, and spiritual aspects.</p>
	<p><i>Post-interview</i></p> <p>4) A) Which areas in the yoga classes do you consider to be important in your trauma recovery experiences? B) Was the group debriefing important to you healing? Why or why not?</p> <p>Purpose of this question: to identify areas in TSY that play an important role in participants' trauma recovery process.</p>	<p>Probe: Ask participants to describe the elements that play a significant role in their trauma recovery, in terms of the yoga class environment, teacher qualities, assists, language or cues used, sense of community, and other areas not mentioned above.</p>
<p>RQ 5: Based on self-report, how likely are participants to continue their TSY home practice at their own time, independently without the guidance of a TSY teacher?</p>	<p><i>Post-interview</i></p> <p>5) How likely are you to continue these yoga classes at your own time at home, without the guidance of a TSY teacher? 6) What resources would increase your likelihood of continuing TSY independently?</p> <p>Purpose of this question: to explore the sustainability of TSY home practice without the guidance of a TSY teacher</p>	<p>-Probe: Ask participants to select one of the following:</p> <ul style="list-style-type: none"> • Not at all • Once a month or less • Once a week • Twice a week • 3-4 times a week • 5-6 times a week • Everyday <p>-Probe: Ask participants to explain their reason for the selected frequency of their home practice, if any.</p>
	<p>7) Do you have any questions or comments? 8) Do you have any additional thoughts or issues that were not addressed in the interview?</p> <p>Purpose of questions: free-response to capture any responses participants</p>	

	might have related to the interview or intervention.	
Other Possible Interview/Research Questions	<p><i>Post-interview</i></p> <p>How likely are you to continue using these activities or practices (read the list provided by participants in the pre-interview).</p> <p>What else could be done to enhance your experience from the yoga classes?</p>	<p>Probe: Ask participants to list any suggestions that may enhance their experience of the yoga classes, including the TSY instructor, class size, class environment, verbal cues...</p>

Thank you for the opportunity to interview you. I have learned a lot from you. Your participation and contribution to this research study is invaluable, and will benefit other women impacted by intimate partner violence and the trauma recovery research community.

APPENDIX I

GROUP DEBRIEFING SESSIONS QUESTION PROTOCOL

PRE-TSY SCALING QUESTIONS

Being Present

I feel connected to my body in the present moment.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Making Choices

I feel free to make choices about my body.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Taking Effective Action

I can take actions based on what I feel in my body (e.g. standing if my back feels sore).

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Creating Rhythms

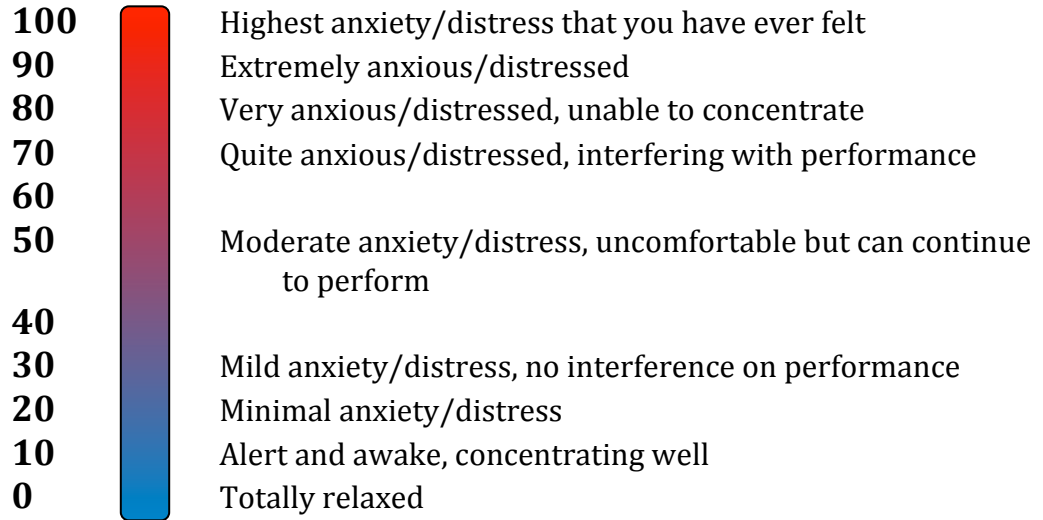
I feel attuned to the pacing of my body movement.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

I feel attuned to the pacing of the body movements of other people.

1 **2** **3** **4** **5**
Strongly Disagree Undecided Agree Strongly

Subjective Units of Distress Scale (SUDS)



POST-TSY

SCALING QUESTIONS

Being Present

I feel connected to my body in the here and now.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Making Choices

I feel free to make choices about my body.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Taking Effective Action

I can take actions based on what I feel in my body (e.g. standing if my back feels sore).

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Creating Rhythms

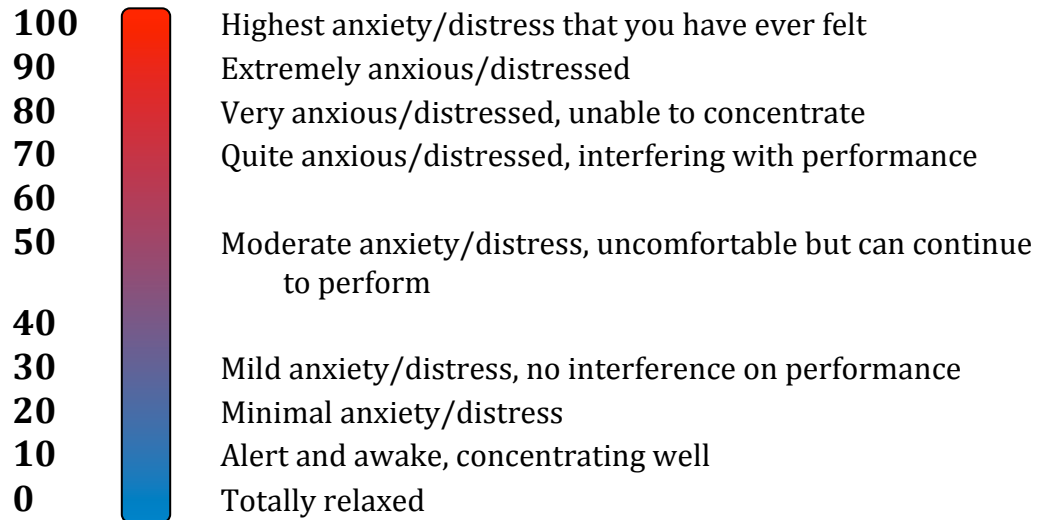
I feel attuned to the pacing of my body movement.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

I feel attuned to the pacing of the body movements of other people.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Subjective Units of Distress Scale (SUDS)



FOLLOW-UP OPEN-ENDED QUESTIONS

1. Any cross-check follow-up questions for individual participants or the group as a whole based on the researcher's observations of the TSY class.
2. What was your experience in the TSY class today? (You can use a metaphor or select one of these pictures to describe your experience).
3. Has the TSY class been helpful outside of the class setting? If yes, how so?
4. Have you noticed any shifts in terms of your thoughts, feelings, or behaviors? If so, please describe these shifts.
5. What are your final thoughts or suggestions?

APPENDIX J

OBSERVATION PROTOCOL AND TSY INSTRUCTOR REFLECTIONS

Foreshadowed Pre-established codes or ‘etic issues’

Research Question	Connection to Pre- and Post-Interview Questions	Coding categories or “potential correspondences”
<p>RQ 1) Prior to intervention, how do participants with a history of IPV conceptualize recovery from trauma, as it pertains to the four trauma-sensitive yoga (TSY) themes (i.e. being present, making choices, taking effective action, and creating rhythms)?</p>	<p><i>Pre-interview</i></p> <ul style="list-style-type: none"> • Please consider the impact of trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: connection to your body in the present moment? • Please consider the impact of trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: making choices about your body? • Please consider the impact of trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: taking actions based on how you feel about your body? • Please consider the impact of trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: control of the pacing and movement of your body? • Please consider the impact of 	<p>Trauma recovery codes:</p> <ul style="list-style-type: none"> • Being present • Making choices • Taking action • Creating rhythms • Other:

	<p>trauma from your past abusive relationships on you. Based on the impact of trauma on you, what does recovery from trauma look like in terms of: your attunement to the pacing and movement of people around you?</p> <p>Purpose of this question: to gain an understanding of participants' conceptualization of trauma recovery before the TSY intervention based on the four TSY themes.</p>	
<p>RQ 3: How do participants' conceptualizations about recovery from trauma and IPV inform our understanding about the trauma recovery process (as it is facilitated by TSY), beyond what their pre- and post-intervention PTSD scores suggest?</p>	<p><i>Pre-interview</i></p> <ul style="list-style-type: none"> • What are your personal goals for healing from trauma? <p>Purpose of this question: to gain an understanding of participants' conceptualization of their trauma recovery process before the TSY intervention in the form of their short- and long-term goals for healing.</p> <p><i>Post-interview</i></p> <ul style="list-style-type: none"> • To what extent have you met your personal goals for healing from trauma through the yoga classes? <p>Purpose of this question: to explore the extent to which participants have met their trauma recovery goals through TSY.</p>	<p>Trauma recovery process codes:</p> <ul style="list-style-type: none"> • Being present • Making choices • Taking action • Creating rhythms • Other:
	<p><i>Pre-interview</i></p> <ul style="list-style-type: none"> • Where do you see yourself on this healing journey? <p>Purpose of this question: to gain an understanding of participants' self-identified perceptions of their trauma recovery process before the TSY intervention.</p> <p><i>Post-interview</i></p>	<p>No codes have been developed for this section.</p>

	<ul style="list-style-type: none"> Where do you see yourself on this healing journey now? <p>Purpose of this question: to gain an understanding of participants' conceptualization of the trauma recovery process after the TSY intervention.</p>	
<p>RQ 4: What is the role of TSY in facilitating women's recovery from trauma?</p>	<p><i>Pre-interview</i></p> <ul style="list-style-type: none"> Do you think yoga can help you heal from trauma? If yes, describe how yoga can help you heal from trauma? <p>Purpose of this question: to gain an understanding of participants' self-identified perceptions on how yoga can help facilitate trauma recovery, if any, before the TSY intervention.</p> <p><i>Post-interview</i></p> <ul style="list-style-type: none"> Have you noticed any changes yoga has helped you in your recovery from trauma? If no, why not? (and skip question 4). If yes, how has it been helpful? <p>Purpose of this question: to gain an understanding of participants' perceptions on how yoga has helped facilitate trauma recovery, if any, after the intervention (TSY).</p>	<p>TSY-facilitated recovery codes:</p> <ul style="list-style-type: none"> Being present Making choices Taking action Creating rhythms Other:
	<p><i>Post-interview</i></p> <ul style="list-style-type: none"> Which areas in the yoga classes do you consider to be important in your trauma recovery experiences? <p>Purpose of this question: to identify areas in TSY that play an important role in participants' trauma recovery process.</p>	<p>Factors in TSY codes (also known the 9 Principles in TSY):</p> <ul style="list-style-type: none"> Being present Making choices Taking action Creating rhythms Creating a welcoming environment Teacher qualities Assists (verbal) Invitatory language or

		cues <ul style="list-style-type: none"> • Forging a sense of community • Others:
--	--	--

Researcher’s Personal Notes: In the correspondence and pattern method, the researcher will develop pre-established codes or ‘etic issues’ (Stake, 1995, p. 80) based on the research questions before data is collected. The researcher will identify patterns by foreshadowing and developing issues and codes, as recommended by Stake (1995). These foreshadowed codes and issues are also known as coding categories or “potential correspondences”, which will function as “a template for the analysis” (Stake, 1995, pp. 78, 84).

Post-Intervention codes

[or ‘emic issues, topics, patterns and the context specific to each participant (case) based on participant interviews and observation of TSY classes and group debrief session notes]

Participant (Case) #1

Date of observation:

Date of write-up:

<i>TSY Class #</i>	*Emic issues and topics	*Emic Behaviors and Patterns	*Specific Context
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

*these emic issues, behaviors, and context drawn from the researcher’s interviews and observation notes, and are independent of the pre-established or ‘etic’ observation coding categories

Researcher’s Notes: During the process of reviewing the data, the researcher will identify ‘emic issues’ (Stake, 1995, p.78), patterns, and topics when reviewing the interviews and observation notes, independent of the pre-established coding categories. These emic issues emerge later in the analysis, and are considered essential to participants (Stake, 1995). The researcher will analyze the data for behaviors, issues, and contexts, and identify ‘correspondence’, or patterns and consistency within the specific context of the case (Stake, 1995, p. 78).

Researcher’s Observation Form

Observer:	Site:	Date:	Time: to: Duration:	Date and Time of write-up:	
Yoga Instructor:	Students Present:	Class: (circle one) 1 2 3 4 5 6 7 8 9 10			
Time:	Events and Activities During TSY Class:		Comments on Issues:		
Description of yoga class room environment	Description of interactional dynamics (indicate verbal and/or non- verbal)	(Enumerate) Reference made to Themes in TSY	Reference to trauma recovery experiences across multiple dimensions	Teacher Qualities	Reference made to:
	student- student interaction L-H	Experiencing the present moment ()	Physical	Invitatory Language used L-H	
	student- instructor interaction L-H	Making choices ()	Psychological	Verbal Assists L-H	

		Creating rhythms ()	Emotional		
	Verbal denotes any verbal responses; non-verbal denotes body movement and facial expression	Taking effective action ()	Social		
			Spiritual		
			Other		

- L refers to low, H refers to high
- () requires a number to be filled in the parentheses

TSY Instructor Reflections and Notes

TSY Class # _____

Date: _____

Please write down any broad observations from class today. These observations may include any highlights you observed in class.

Thank you!

APPENDIX K

TIMELINE AND MANAGEMENT PLAN

There will be four key phases in the proposed study, mainly, the preparation phase, the pre-intervention phase, the intervention phase, and the post-intervention phase. For the preparation phase, the researcher will prepare a brief write-up of the proposed case and meet the director of the domestic violence agency to obtain special permission to conduct the study. The researcher will also start making contact with the yoga instructor before the research study begins to be well acquainted with the spaces, persons prior to the pre-intervention phase, as per Stake (1995)'s recommendation. The pre-intervention phase will take place from 7 October 2015 where potential participants will be screened for PTSD by taking the CAPS-5 and the demographic questionnaire. Recruited participants will take the pre-interview within a one-week time period a week before 27 October 2015, the first time point of this intervention case study. The actual intervention phase will take place from 27 October 2015 to 15 December 2015.

A week after the last intervention has been carried out, or the second time point of the intervention case study, the researcher will administer the CAPS-5 and post-interview with participants. The researcher will also offer participants the option of taking advantage of the research incentives which have been detailed afore.

APPENDIX L

A DESCRIPTION OF THE TRAUMA-SENSITIVE YOGA (TSY)

INTERVENTION

In this section, a brief synopsis of the TSY intervention, the 4 major TSY themes, planned and actual sequence of poses used in the research study will be described.

Trauma-sensitive yoga (TSY) is a yoga practice developed with the specific purpose of treating complex trauma. TSY shares in common physical forms and breathing with most yoga forms practiced in the United States but is distinctive in terms of the way the yoga classes are facilitated. TSY is comprised of forms, breathing, and mindfulness. The forms are “postural exercises” (Emerson, 2015, p. 3), the breathing comprises of various ways of breathing, and mindfulness is targeted on the practitioner’s bodily experience or interoception (Emerson, 2015). TSY forms and breathing are framed as invitations and opportunities for practitioners to exercise their visceral subjective experience and actualize their internal locus of control (Emerson, 2015). Further, TSY departs from meaning making through emotional and cognitive channels, but emphasizes practitioners’ bodily experiences in terms of creating awareness of and interacting with their bodies (Emerson, 2015).

Four major themes undergird TSY, namely, being present, making choices, taking effective action, and creating rhythms (Emerson, 2015). (1) Being present. TSY emphasizes on practitioners’ somatic experience of their bodies and instructors focus on creating opportunities for practitioners to notice and experiment different ways of how they feel in the moment. It is a somatic experience devoid of cognitive or emotional

processes; (2) Making choices. To facilitate choice-making and empowerment in practitioners, TSY instructors use invitational language to offer practitioners options on what they can do with their body. Practitioners are then encouraged to make choices concerning their body experience in the present moment. Aligned with empowering practitioners, physical touch and physical assists are not used in TSY as they are contraindicative to traumatized individuals and may be perceived as a threat or danger to them; (3) Taking effective action. Through the use of invitational language, TSY instructors also provide practitioners with opportunities to take self-motivated intentional or non-intentional physical actions based on how they feel in their bodies. These opportunities for change in physical movement are framed in terms of experimenting with forms or breathing exercises in the present moment; (4) Creating rhythms. Through self-awareness and choice-making based on their bodily experiences, practitioners are encouraged to be attuned to their own movement and breathing. Additionally, practitioners may share the space with others by coordinating their pace and movement with others through mutual interaction.

Sequence of Yoga Forms

To facilitate TSY, David Emerson developed a portfolio of yoga forms that TSY instructors may use with their students (Emerson, 2015). According to Emerson (2015), the forms are not mapped with specific therapeutic goals and yoga instructors are encouraged to consider the overarching goal of treating trauma. Additionally, the yoga forms provide the context for facilitating the four TSY themes so each form will emphasize a recommended TSY theme (Emerson, 2015). There is no particular order to

the forms, the yoga forms can be repeated, and modifications can be applied where necessary to cater to anybody or physical health condition (Emerson, 2015). For the purposes of this appendix, the forms will be organized according to their TSY theme: (1) interoception and present moment: seated mountain form, lateral neck stretch, back and shoulder stretch variation 2, hip stretch 1, shoulder stretch 1, shoulder stretch 2, leg lift variations 1 and 2, seated warrior variations 1 and 2, and rest pose; (2) choice-making: shoulder circles, gentle spinal twist, forward fold variations 1, 2, and 3, and seated warrior variations 3 and 4; (3) taking action: back and shoulder stretch variation 1; (4) rhythm-interpersonal: sun breath 1 variation 1; rhythm-intrapersonal: gentle spine movement, sun breath variation 2.

TSY Lesson Plan

In this research study, the planned and actual TSY selection, sequence of poses and the rationale for modifications to the planned poses are detailed in the table below.

	Lesson Plan Sequence of Poses	Actual Class Sequence of Poses	Comments, Comparisons, Reflections
TSY CLASS 1	Mountain pose Sun breaths (2 variations) Lateral Neck Stretch Shoulder Circles Gentle Spinal Twist Leg Lift Yoga Rest	The instructor forgot the shoulder circles.	-The instructor added the grounding script, introduction to TSY, and options to rest or take a break in this first class. -Gentle spinal movement will be added to future classes.
TSY CLASS 2	Mountain pose Sun breaths (2 variations) Lateral Neck Stretch Shoulder Circles (2 varieties) Shoulder Stretch Gentle Spinal Twist Gentle Spinal Movement Forward Fold 3 Leg Lift Yoga Rest	Same as planned.	-Continue same sequence in class #3.
TSY CLASS 3	Mountain pose Sun breaths (2 variations) Lateral Neck Stretch Shoulder Circles (2 varieties) Shoulder Stretch Gentle Spinal Twist Gentle Spinal Movement Forward Fold 3 Leg Lift Yoga Rest	Same as planned.	-to add sun breath variation 3 and back and shoulder stretch in class #4.
TSY CLASS 4	Mountain pose Sun breaths (3 variations) Lateral Neck Stretch Shoulder Circles (2 varieties) Shoulder Stretch Gentle Spinal Twist Gentle Spinal Movement Forward Fold (3 varieties) Back and Shoulder Stretch Leg Lift Yoga Rest	Same as planned.	-To remove gentle spinal twist as that movement is already in the shoulder stretch.
TSY	Mountain Pose	-Only did hip stretch 1	-remove gentle spinal

CLASS 5	Sun Breaths (3 variations) Lateral Neck Stretch Shoulder Circles (2 varieties) Gentle Spinal Movement Forward Fold (3 varieties) Back and Shoulder Stretch Mountain Pose to Sitting Leg Lift Hip Stretch 1, 2.1, 2.2. Yoga Rest	-In shoulder circles, instructor demonstrated cactus arms in shoulder circles since the first class. -The mountain pose to sitting transition took place 2 to 3 times.	twist -remove 2 shoulder stretches -Added hip stretch
TSY CLASS 6	Mountain Pose Sun Breaths (3 variations) Lateral Neck Stretch (3 variations) Shoulder Circles (2 varieties) Gentle Spinal Movement Forward Fold (3 varieties) Back and Shoulder Stretch Mountain Pose to Sitting Leg Lift Hip Stretch 1, 2.1, 2.2, 2.3, 2.4 Yoga Rest	Same as planned.	-To remove leg lift -to remove hip stretch 2.3 and 2.4 for a more inclusive classroom -Include hip stretches
TSY CLASS 7	Mountain Pose Sun Breaths (3 variations) Lateral Neck Stretch (3 variations) Shoulder Circles (2 varieties) Gentle Spinal Movement Forward Fold (3 varieties) Back and Shoulder Stretch Mountain Pose to Sitting Hip Stretch 1 Seated Warriors 1, 2, 3 Yoga Rest	Same as planned.	-To remove hip stretch 2 because it is exclusive to one participant. Other participants reported that this form has created some discomfort. -Included seated warrior
TSY CLASS 8	Mountain Pose Sun Breaths (3 variations) Lateral Neck Stretch (3 variations) Shoulder Circles (2 varieties) Gentle Spinal Movement Forward Fold (3 varieties) Back and Shoulder Stretch Mountain Pose to Sitting Hip Stretch 1 Seated Warriors 1, 2, 3, 4 Yoga Rest	-Same as planned. Instructor wanted to bring attention to the feet and provide more grounding as participants sometimes shuffle their feet in class.	-New form in this class is the seated warrior.

APPENDIX M

TRAUMA-SENSITIVE YOGA (TSY) INSTRUCTOR TRAINING

The researcher provided a 25-hour training to the TSY instructor prior to the intervention. Based on the 8 chapters in David Emerson's most recent book on trauma-sensitive yoga, entitled "Trauma-sensitive yoga in therapy: Bringing the body into treatment" and a journal article entitled "Trauma-sensitive yoga: Principles, practice, and research", the researcher developed outlines for each chapter in the book and one chapter on the article to make the material more used-friendly for the instructor's reference. A sample of the training schedule is detailed below:

Day 1

- Chapter 1: What is Trauma-Sensitive Yoga?
- TSY principles Article
- Chapter 6: Muscle Dynamics and Breathwork + Sun Breaths

Day 2

- Chapter 2: Interoception: Sensing the Body
- Chapter 5: Being Present
- Video Part 1 (2 hours)

Day 3

- Chapter 3: Bringing Choice into Therapy
- Video Part 2 (2 hours)
- Q & A

Day 4

- Chapter 4: Taking Effective Action
- Review Chapter 8: Portfolio of Yoga Practices
- Video Part 3 (2 hours)
- Q & A

Day 5

- Chapter 7: Rhythm
- Review Chapter 8: Portfolio of Yoga Practices
- Video Part 4 (2 hours)

- Q & A

Day 6

- Review Chapter 8: Portfolio of Yoga Practices
- Video Part 5 (2 hours)
- Q & A

In every chapter outline, the chapter highlights, key definitions, and questions were detailed. The researcher met with the instructor for 1.5 hours each time, reviewed the material with the instructor, and provided opportunities for discussing and clarifying the material presented.

In addition to the material covered in the book, both the researcher and instructor watched a 10-hour video of TSY entitled “Yoga and the traumatized body: A workshop for clinicians and other healthcare providers” facilitated by David Emerson for clinicians and other health care providers. The researcher and instructor took down notes of the workshop. The video supplements the material in the book and includes information on the early caregiving environment, trauma in the body, the effect of yoga on trauma, challenges in yoga classes, successful yoga challenges for clients with trauma, and the frameworks in TSY. Additionally, the video included small practice sessions for attendees in the workshop.

Further, the researcher provided opportunities for the TSY instructor to practice facilitating the TSY classes with her over a four-hour duration.

APPENDIX N

CRISIS AND MENTAL HEALTH SERVICES FOR GUILFORD COUNTY

RESOURCE LIST

Crisis and Emergency Situations

If this is a medical or a life-threatening emergency, please call **911**

Sandhills Center Access Center is available 24 hours a day, 7 days a week. Customer Service Specialists will assist you to find a crisis provider that is well-matched with your needs. Your local number is: **800-256-2452**

If you already have a service provider, call them first. Providers who know you are usually best prepared to assist you in a crisis.

Have Support Come to You...

Crisis situations are often best resolved at home. Mobile Crisis Teams are available 24 hours a day in all counties. Professional counselors will speak with you and your family during a visit. They have an average response time of 2 hours. This service is provided by:

Therapeutic Alternatives

877-626-1772

Go To A Crisis Center...

Many counties have a specialized crisis center where you can walk in for a crisis assessment and referrals to additional services. Appointments are not needed. The crisis center in your county is provided by:

RHA Behavioral Health Services

211 South Centennial St, High Point NC 27260

336-899-1505

Monday - Friday, 8:00 a.m. - 5:00 p.m.

Monarch

201 North Eugene St, Greensboro NC 27401

336-676-6840

Sunday - Saturday, 24 hours/day

Mental Health/Behavioral Health Resources

- **Mental Health Association**
 - This website includes listings of local providers.
 - <http://www.mhag.org/>
 - **Greensboro:**
 - **Phone:** 336-373-1402
- **Guilford Center – ACCESS 24**
 - 24 hour/7 day a week access to **Mental Health/Behavioral Health Care Information and Referral** to resource line
 - **Phone:** 1-800-853-5163
 - **TTY:** 1-866-518-6778
- **Moses Cone Behavioral Health**
 - 24 hour/7 day a week access to trained mental health professionals
 - **Helpline:** 832-9700 or 1-800-711-2635
- **Suicide Prevention Lifeline**
 - **Hotline:** 1-800-273-TALK (8255)

Sexual Assault/Domestic Violence Resources

- **Family Services of the Piedmont**
 - Sexual Assault, Domestic Violence and Referrals
 - **Phone:**
 - Greensboro: (336) 273-7273
 - High Point: (336) 889-7273

Non-Emergency Services

Women's Resource Center

- <http://www.womenscentergso.org/>
- **Address:**
628 Summit Ave
Greensboro, NC 27405
- **Phone:** 275-6090

Retrieved from:

- Crisis Solutions North Carolina at <http://crisissolutionsnc.org/> and
- The University of North Carolina at Greensboro at <http://shs.uncg.edu/cc/resources/community>

APPENDIX O

PILOT STUDY

TSY Class Pilot Study Questions for Phases 1 and 2

Phase 1: The first phase of the pilot study will take approximately 2 hours and consists of a 1.5-hour long pre-interview comprising of the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) assessment and semi-structured interview questions, followed by a 30-minute feedback session. No prerequisite is necessary for participation. 2 participants are required for the first phase of the pilot study. The first participant will complete the past month version of the CAPS-5 and the second participant will complete the past week CAPS-5 assessment. 2 participants have signed up for phase 1.

The *first phase* of the study will entail two procedures:

1. CAPS-5 administration
2. 30-minute feedback session
 - I. What was your experience (thoughts and feelings) of the way the CAPS-5 assessment was administered?
 - II. What could have been done to improve the way the assessment was administered? (Prompt: If this assessment could be re-administered, what would you do same or different?)

Please review participants' inclusion criteria for the full study:

"You are being asked to participate because you are: (1) an adult woman 18 years and above; (2) speak English; (3) live close enough to High Point, North Carolina, to participate fully in the study (4) have experienced physical, emotional, and/or sexual violence in their intimate partner relationship (5) has left the abusive partner for at least 1 year (6) not experiencing any current level of physical or psychological threat from the previously abusive partner, or any current relationship partner (7) free of any current suicidal ideation or severe mental health issues that may potentially impact the ability to participate in the study (8) meet the criteria for subthreshold (mild) or full post-traumatic stress disorder (PTSD) symptoms, as defined by the Clinician-Administered PTSD Scale (CAPS-2) (9) are not currently seeing a counselor or mental health professional and (10) are not currently doing yoga."

- III. Based on the review of participants' inclusion criteria above, what recommendations do you have to make the CAPS-5 assessment more effective for trauma survivors?

IV. Do you have any questions or final thoughts?

Phase 2: The second phase of the pilot study will take approximately 1.5 hours comprising of participation in a 60-minute trauma-sensitive yoga (TSY) class followed by a 30-minute group feedback session. No prerequisite is necessary for participation. 3 participants are required for the second phase of the pilot study.

4 participants have signed up for phase 2.

- I. What was your experience (thoughts and feelings) of the TSY class set up and environment? What suggestions do you have for increasing participants' level of comfort in the TSY class?
- II. What was your experience (thoughts and feelings) of the way the TSY class was facilitated?
- III. What suggestions do you have for enhancing the TSY class experience for intimate partner violence trauma survivors?
- IV. Please review the group debriefing session questions below. Please provide any suggestions you may have for the question protocol that will be administered to trauma survivors after each TSY class.

Group Debriefing Sessions Questions Protocol

1. What was your experience in the TSY class today? (You can use a metaphor or select one of these pictures to describe your experience).
2. Has the TSY class been helpful outside of the class setting? If yes, how so?
3. Have you noticed any shifts in terms of your thoughts, feelings, or behaviors, or any aspect of your life? If so, please describe these shifts.
4. What are your final thoughts or suggestions?

Sample E-mail to Recruit Participants for the Pilot Study

Re: Invitation to Participate in Pilot Study

Dear doctoral students,

You are cordially invited to participate in my pilot study entitled “Trauma-Sensitive Yoga: A Collective Case Study of the Trauma Recovery of Women Impacted by Intimate Partner Violence (IPV)”. My pilot study comprises of two phases. The first phase of the pilot study will take approximately 2 hours and consists of a 1.5-hour long pre-interview comprising of the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) assessment and semi-structured interview questions, followed by a 30-minute feedback session. No prerequisite is necessary for participation. 3 participants are required for this first phase of the pilot study.

The second phase of the pilot study will take approximately 1.5 hours comprising of participation in a 60-minute trauma-sensitive yoga (TSY) class followed by a 30-minute group feedback session. No prerequisite is necessary for participation. 3 participants are required for the second phase of the pilot study.

You may choose to participate in one or both phases of the study. Please e-mail me your interest (and dates and times you are available on the week of 9/9/2015 starting from 9/9/2015 and the week of 9/14/2015) if you would like to participate in the pilot study.

I look forward to hearing from you.

Sincerely,

Isabelle

Participant's Response to CAPS-5 Worst Month Assessment:

Question 1: What were participants' experiences (thoughts and feelings) of the way the CAPS-5 assessment was administered?

Response: The participant enjoyed the way the questions were asked as the questions were framed in a constructive way that did not make her feel emotional. The participant reported that the CAPS-5 was administered with great precision and empathy, and she felt no judgment from the administrator. The pace of the test was consistent and thorough. The participant also felt that the structure and consistency of the questions in every symptom category helped her reflect on her own experiences within a safe context. The participant felt unprepared for the heaviness of the questions mid-way through the interview that she attributed to her personal reflection of her experiences, but asserted she was not distressed or upset.

Question 2: What changes could be made to improve the way the assessment was administered?

Response: The participant reported that she was not prepared for the difficulty of some of the questions she would be answering in the CAPS-5 as she did not know what to expect from the assessment. The participant suggested that participants could be informed upfront about how the assessment would be administered, the structure of the question items, to help them anticipate the heaviness of the questions asked and to feel more prepared for the process. The participant added that she felt support and comfort from the test administrator.

Question 3: Considering that participants in the full study are trauma survivors, what do the pilot study participants recommend to enhance the way the CAPS-5 assessment is administered? Do you have any final thoughts or questions?

Response: The participant felt that the CAPS-5 was effective in measuring PTSD symptoms and appreciated the administrator's understanding and constant check-ins throughout the process that helped her feel safer sharing her experiences.

Question 4: What is the length of time needed to administer the CAPS-5 assessment?

Response: The length of time taken to administer the CAPS-5 worst month version was approximately 1 hour and 40 minutes.

Participant's Responses to CAPS-5 Past Week Assessment:

Question 1: What were participants' experiences (thoughts and feelings) of the way the CAPS-5 assessment was administered?

Response: The participant reported that the CAPS-5 was administered clearly. However, there were a few question items containing scaling questions that were unclear to her and she had to give more thought to responding. An example of a question with a scale is: "Did the strong negative beliefs about yourself, other people, or the world start or get worse after the traumatic event? (question 9, CAPS-5). Circle 'trauma-relatedness=definite, probably, or unlikely'". The participant also reported that she found it difficult to respond to question 9 (In the past week, have you had strong negative beliefs about yourself, other people, or the world?) as it was a lengthy question overly packed with information. The participant also reported that she was uncertain if the

question items for each symptom question category needed to be connected to the traumatic event as the connection was not explicitly stated in the question item.

Question 2: What changes could be made to improve the way the assessment was administered?

Response: The participant suggested that the administrator give a disclaimer to participants at the beginning of the assessment so they could expect to scale selected questions. For questions with a scale, the participant suggested that it might be helpful for the administrator to first present a prompt to scale the frequency of the symptom before the question was asked to avoid any confusion. In response to the participant's difficulty responding to question 9, the participant suggested that the administrator break up question 9 into three parts separately: yourself, other people, or the world to allow participants the opportunity to respond to each part of the question. In response to the participant's uncertainty regarding the connection with the traumatic event, she suggested that the administrator give a disclaimer to participants that the questions in each item category may or may not be connected to the traumatic event.

Question 3: Considering that participants in the full study are trauma survivors, what do the pilot study participants recommend to enhance the way the CAPS-5 assessment is administered? Do you have any final thoughts or questions?

Response: The participant cautioned that participants who have recently experienced the traumatic event might be at higher risk of being triggered by the interview questions as the questions require participants to recall the details and examples of the traumatic event. The participant stated that it would be helpful for the administrator to inform participants

that this is a safe space for them, that they could take their time, they could stop at any time or discontinue, or choose to go into as much detail as they like. The participant suggested that it was helpful for the administrator to provide regular check-ins throughout the interview. Additionally, the participant reported that the administrator may need to be prepared to handle intense emotional and mental reactions, as well as potential crises from participants during the assessment. For example, one suggestion made was for the researcher to provide opportunities for participants to process challenging emotions. The participant emphasized the importance for the administrator to be supportive towards participants during the interview through her presence and to be observant of participants' nonverbal and verbal responses. The participant suggested that the researcher could paraphrase or provide alternative language for participants who may struggle to comprehend the assessment questions due to their lower socio-economic background or educational level.

Question 4: What is the length of time needed to administer the CAPS-5 assessment?

Response: The length of time taken to administer the CAPS-5 past week version was approximately 1 hour.

APPENDIX P

CAPS-5 CLUSTER SCORES BY CASE

Case		Intrusion Symptom Scores	Avoidance Symptom Scores	Cognitions and Mood Scores	Arousal and Reactivity Symptoms Scores	PTSD Total Scores	Distress or Impairment Scores	Dissociative Symptom Scores
Wendy's Pre-TSY CAPS Scores	Symptom severity	14	6	11	11	42	7	0
	Number of symptoms	5	2	4	4	15	3	0
Wendy's Post-TSY CAPS Scores	Symptom severity	0	0	2	8	10	2	0
	Number of symptoms	0	0	0	3	3	0	0
Vi's Pre-TSY CAPS Scores	Symptom severity	12	8	26	9	55	8	3
	Number of symptoms	4	2	7	3	16	3	1
Vi's Post-TSY CAPS Scores	Symptom severity	4	3	13	10	30	9	0
	Number of symptoms	2	1	3	4	10	3	0
Yasmin's Pre-TSY CAPS Scores	Symptom severity	3	4	2	4	13	6	0
	Number of symptoms	1	1	1	2	5	3	0
Yasmin's Post-TSY CAPS Scores	Symptom severity	0	5	4	0	9	4	0
	Number of symptoms	0	2	2	0	4	1	0