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MOVING TO HEAL: WOMEN'S EXPERIENCES OF  
THERAPEUTIC YOGA AFTER COMPLEX TRAUMA

Dissertation  
by

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Submitted in partial fulfillment  
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# Moving to heal: Women's experiences of therapeutic yoga after complex trauma

Jennifer I. West

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## Abstract

The study of treatments for complex posttraumatic stress disorder (CPTSD), especially in cases of chronic childhood abuse, has revealed that traditional trauma treatments often lack success due to the complexity of symptom presentation. CPTSD often manifests as a lack of integration between the self and the body. While certain coping strategies used by survivors during the trauma experiences, such as dissociation, may be adaptive in the short-term, prolonged use posttrauma comes at a cost—resulting in a loss of awareness of one's emotional and physical being in the present moment. Mindfulness-based interventions, such as hatha yoga, show promise as alternative or complementary treatments for CPTSD. Furthermore, current trauma treatments have been criticized for their primary focus on psychopathology. More recent conceptualizations of trauma recovery call for a paradigm shift that recognizes not only the need for symptom-reduction, but also the encouragement of positive development and personal growth (i.e., stronger sense of self, relationships with others, and perspective on life). This qualitative study explored the experiences of women with CPTSD in a 10-week, trauma-informed hatha yoga class, specifically examining perceived changes with regard to symptom reduction and personal growth. Six themes were identified through qualitative content analysis. Theme 1 describes the yoga practice and study design characteristics that influenced participants' experiences. Themes 2 through 6 reflect participants' increased feelings of Gratitude and

compassion, Relatedness, Acceptance, Centeredness, and Empowerment (referred to as G.R.A.C.E. themes). Findings are discussed in the context of current literature. Limitations of the study are also presented along with recommendations for future research and clinical work.

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## Chapter 1: Introduction

The current study will explore the use of a particular form of hatha yoga<sup>1</sup>, referred to as trauma-informed hatha yoga (TIY)<sup>2</sup>, as a vehicle towards recovery and personal growth among women with histories of complex trauma. Complex trauma is defined as prolonged and cumulative trauma that is often experienced in the context of specific relationships or environments (Courtois, 2008; Herman; 1992a). This is an important population on which to focus research efforts given the ubiquity of trauma exposure in our society; some estimates suggest a lifetime prevalence of at least one experience of trauma exposure for most people (Bonanno, 2005; Breslau, 2002). Additionally, traumatic experiences are reported by more than half of the women in the general population (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995) and posttraumatic stress disorder (PTSD) is among the most common psychiatric disorders—lifetime prevalence of 10.4% for women and 5% for men (Kessler et al., 1995; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005).

Symptoms of PTSD are often responsive to treatment, however about 40% of people experience chronic, treatment non-responsive symptoms (Kessler et al., 1995).

Interpersonal violence, in particular, is more likely than other types of trauma (e.g., car

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<sup>1</sup>Hatha yoga refers to the physical practice of yoga. This practice typically involves a combination of three of the eight limbs of yoga – Asana (physical postures), Pranayama (focused breathing), and Dhyana (meditation) - the combination of which removes obstacles to address the other limbs. The other five limbs are: Yama (moral behavior towards others), Niyama (moral behavior towards oneself), Pratyahara (sense-withdrawal), Dharana (focused attention), and Samadhi (balance and equanimity). In Western cultures, the word yoga often refers to the physical practice of Hatha yoga. For simplicity, the shorter term “yoga” will be used in the same way in this paper.

<sup>2</sup>Trauma-informed yoga (TIY) is a form of hatha yoga that is sensitive to, and aims to reduce, potential and unnecessary triggering events that may occur in traditional yoga. TIY is designed according to findings from previous research suggesting ways to include trauma sensitive language, postures, movements, breathing exercises, meditation, and class flow. A more detailed description can be found in chapter three.

accidents, natural disaster) to lead to chronic negative outcomes (Breslau et al., 1998; Resnick, Kilpatrick, Dansky, Saunders & Best, 1993). Moreover, women with histories of prolonged trauma in childhood rarely solely exhibit the “pure” form of PTSD (associated with acute trauma) outlined in the DSM-IV (American Psychiatric Association, 1994), but rather more commonly exhibit an additional constellation of symptoms termed complex PTSD<sup>3</sup> (CPTSD; Jackson, Nissenson, & Cloitre, 2010; Herman, 1992a; van der Kolk et al., 2005). In addition to the symptoms defined in the DSM-IV, CPTSD includes problems with self-perception, interpersonal relations, interoceptive awareness, emotional regulation, and systems of meaning (van der Kolk et al., 2005). This complicated symptom constellation can be more difficult to treat than the “pure” PTSD outlined in the DSM-IV (van der Kolk et al., 2005).

### **Complexities of Treating Complex Posttraumatic Stress Disorder**

Not only have few traditional clinical interventions been identified to treat the constellation of CPTSD symptoms, existing treatments tend to be limited in their efficacy. For instance, traditional talk therapy can be less than fruitful as verbally expressing trauma-related information can be threatening or even retraumatizing, and developing a strong therapeutic relationship is difficult due to interpersonal problems and trouble trusting others (Wylie, 2004). Similarly, although exposure treatments have demonstrated utility for many individuals with PTSD, individuals with CPTSD often

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<sup>3</sup> Complex PTSD (CPTSD) is also referred to as Disorders of Extreme Stress Not Otherwise Specified (DESNOS), the symptoms of which are delineated in the DSM-IV under “associated features of PTSD.” Although CPTSD/DESNOS is not identified as its own diagnosis in the DSM-IV, it has been identified in numerous research studies and is currently being considered as a free-standing diagnosis in DSM-V (Friedman, 2010; Luxenberg, Spinazzola, van der Kolk, 2001). Research referring to both CPTSD and DESNOS will be used in this review of literature, however the acronym CPTSD will be used for consistency.

have not developed the skills to tolerate exposure to trauma-related information or to thoughts and memories of the trauma (Ford, 1999).

Other therapies and approaches, such as the Victim's of Violence Program Ecological model, attempt to circumvent these challenges by focusing on building an understanding of trauma recovery and symptom management among trauma survivors, rather than processing the trauma narrative with them (Harvey & Tummala-Narra, 2007). Additionally, Cloitre and colleagues (2010) are among the few who have explored the effectiveness of skills training in affect and interpersonal regulation (STAIR) as an initial phase of complex trauma treatment. Research on both models has demonstrated the utility of these approaches. However, both models rely on a strong, verbally-oriented therapeutic relationship and verbally-based methods (i.e., top-down processing), and tend not to use physically-oriented methods (bottom-up processing) to address directly the physiological symptoms related to CPTSD and the way trauma is "remembered" in the body (van der Kolk, 1996).

### **Hatha Yoga as an Alternative and Complementary Treatment**

Given that available interventions tend not to fully address the multiple layers of CPTSD symptoms, or are experienced by survivors as too overwhelming, researchers are attempting to identify complementary and alternative treatments that effectively target the array of symptoms associated with CPTSD. Within this area of study, increasing attention is being paid to traditional mindfulness practices, such as yoga and meditation (Emerson, Sharma, Chaudhry, & Turner, 2009; Follette, Palm & Pearson, 2006; Follette, Palm & Rasmussen-Hall, 2004; Fulton, 2009). Some psychotherapy approaches have also

incorporated mindfulness-based techniques, such as Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 1999), mindfulness-based cognitive treatment, (MBCT; Segal, Williams, & Teasdale, 2002), and dialectical behavior therapy (DBT; Linehan, 1993). The common goal of mindfulness-based techniques is to bring awareness into the present moment with acceptance and without judgment.

While there are many ways to cultivate mindfulness, the current study aims to elucidate alternative treatments for CPTSD by focusing on trauma-informed yoga (TIY), which is a form of hatha yoga designed to be trauma-sensitive. Hatha yoga (commonly referred to simply as “yoga” in the western world) is an age-old practice that reputedly offers a range of therapeutic benefits (e.g., interoceptive awareness, greater focus, relaxation of mind and body). Based on literature discussing the benefits of yoga, this body-based intervention may address many of the symptoms that are difficult to target using current therapies, such as muscular tension and pain, dissociation from the body, hyperarousal, and affect regulation (Follette et al., 2006; van der Kolk, 2006). Furthermore, proponents of yoga also suggest positive changes such as: improved self-perception, interoceptive awareness, engagement in life, and interpersonal relationships (Follette et al., 2006). Such benefits raise an important issue currently being discussed in the field of trauma treatment, that of personal growth and positive development after trauma.

### **Towards a More Holistic Conceptualization of Trauma**

In addition to the challenges faced by traditional trauma treatments, current PTSD interventions have also been criticized for their focus on psychopathology without

accounting for the possibility of personal growth after trauma (Johnson, Worell, & Chandler, 2005; Joseph & Linley, 2005; McMillen, Zuraun, & Rideout, 1995; Tedeschi & Calhoun, 1995). According to the latter perspective, people can experience psychological growth following adversity, thus a focus on psychopathology alone does not capture the full experience of individuals who experience both distress and growth and may overlook opportunities to foster growth and empowerment in treatment (Calhoun & Tedeschi, 1998; Johnson et al., 2005; McMillen et al., 1995; Stuhmiller & Dunning, 2000). An increasing number of clinicians and researchers who adhere to this perspective are shifting from a pathogenically oriented framework to an inclusive theoretical scaffolding that also considers the possibility of personal growth (Higgins, 1994). While the primary method of evaluating the efficacy of therapeutic interventions has been to measure reduction in diagnosis-related symptoms (c.f. DeRubeis & Crits-Christoph, 1998), this approach calls for both a measure of symptoms as well as growth and empowerment (Johnson et al., 2005). This is particularly relevant to treatment as the experience of growth is associated greater positive affect, physical health, and subjective well-being (Frazier, Conlon, & Glaser, 2001; Linley & Joseph, 2004a). While the concept of growth has garnered a number of terms in the literature, this study will use the terms “personal growth,” “posttraumatic growth,” and simply “growth” interchangeably.

Various theories have provided a framework to understand personal growth following trauma (e.g., Calhoun & Tedeschi, 1998, 1999; Christopher, 2004; Joseph, 2003, 2004, 2005; Joseph & Linley, 2005) and most agree on three primary forms of growth—improved self-perception, stronger relationships, and greater appreciation for

life (Joseph & Linley, 2005). One of the most comprehensive theories of growth is organismic valuing theory (OVT; Joseph & Linley, 2005) as it integrates the major tenets of other theories to provide a thorough explanation of the process by which growth occurs, and the factors that may influence its occurrence. Although studies have explored how personal growth manifests, and research suggests that growth can be promoted via therapeutic interventions (Joseph & Linley, 2006), there is a dearth of research exploring treatment modalities that are likely to foster such an experience.

### **Current Study**

This dissertation study attempted to fill the gaps in research highlighted above, and examined an alternative treatment to CPTSD. To do so, this study employed a qualitative descriptive approach to explore the experiences of eleven women with CPTSD who completed a 10-week, trauma-informed yoga program. Qualitative content analysis was used to examine the data for experiences of symptom relief, positive development, and personal growth, as well as aspects of TIY that were most salient to participants' experiences. Findings have implications for survivors, helping professionals providing services to women with CPTSD, and researchers who are also furthering our understanding of CPTSD and its treatment.

## **Chapter 2: Literature Review**

### **Introduction**

Considering the array of symptoms associated with complex posttraumatic stress disorder (CPTSD), the current study will explore the use of trauma-informed hatha yoga (TIY) as a supplemental treatment for CPTSD, considering both its capacity to treat symptoms and cultivate personal growth (a detailed description of TIY can be found in the “hatha yoga as a therapeutic tool” section later in this chapter). The following literature review will detail each construct introduced in Chapter 1. The first section describes CPTSD and its impact on survivors, as well as the difficulties in treating CPTSD using traditional therapies. The second section describes past research and theory that proposes mindfulness as an alternative and complementary treatment for CPTSD, focusing specifically on the use of hatha yoga and TIY. The third section explores the construct of personal and posttraumatic growth and will present the organismic valuing theory’s (OVT) conceptualization of fostering growth in a therapeutic context. Finally, the last section will summarize the rationale and significance of the current study.

### **Complex Trauma – Definition and Impact**

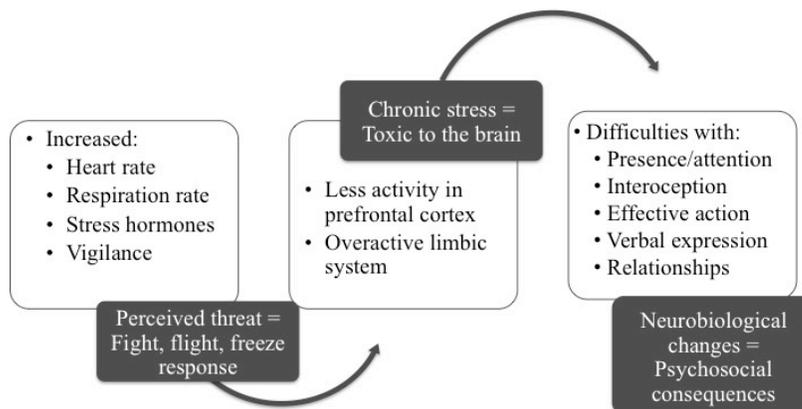
Although the DSM-IV outlines specific criteria that need to be met for a diagnosis of PTSD (American Psychological Association, 1994), in reality there is a range in the presentation and experience of symptoms depending on developmental level, biological functioning, social support, and relationship to the origin of the trauma (van der Kolk, 2006). More specifically, survivors of prolonged interpersonal trauma, particularly during childhood, often present with chronic symptoms and disturbances that are not captured in

the DSM-IV, but are more complex. Such issues include problems with affect- and impulse-regulation, memory and attention, self-perception, interpersonal relations, somatization, and systems of meaning and belief (Courtois, 2008; Ford & Kidd, 1998; Herman, 1992a, 1992b; Pelcovitz et al., 1997; van der Kolk et al., 2005). The diagnosis of CPTSD was created to refer to the symptomatology associated with prolonged and cumulative trauma that is often experienced in the context of specific relationships or environments (Courtois, 2008; Herman, 1992a).

The experience of complex trauma during childhood often leads to CPTSD symptomatology throughout adulthood (van der Kolk, 1996). The DSM-IV field trial for CPTSD suggested that childhood interpersonal trauma can have a significant and pervasive impact on one's personality and relational functioning throughout life (Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997; van der Kolk et al., 2005). In fact, adult survivors of childhood trauma or abuse are shown to have a heightened risk of developing alcoholism, depression, drug abuse, self-injury, suicidality, addiction, and being revictimized (Chu, 1992; Courtois, 2008; Felitti et al., 1997; Linehan, 1993; Saxe et al., 1994).

**Neurobiological impact.** The complex array of symptoms associated with trauma seem to be due, in part, to ways that traumatic experiences can alter one's physiology and brain structure and functioning, which in turn can cause secondary psychological and social issues (see Figure 1 for a visual illustration). For instance, trauma can have a significant impact on the brain stem, creating difficulty with regulating arousal (Cohen et al., 2002). Complex trauma seems to overwhelm one's biological systems with chronic

neurotransmitter abnormalities related to arousal and attention (causing the stress response to be easily triggered). The natural stress response involves the release of hormones that activate the sympathetic nervous system and prepare the body to quickly respond to a threat (Yehuda, 1999, 2000). This response is adaptive in isolated situations as the body “rebalances” itself once the threat is removed. However, when stress is chronic (as in complex trauma), the system is compromised and persistently forced into “overdrive.” Prolonged exposure to threat also seems to activate the parasympathetic nervous system, which elicits a state of immobilization or freezing as an adaptive response to chronic hyper-stimulation (Yehuda, 2001). In other words, chronic trauma can cause the nervous system to become over-responsive, making it difficult for individuals to adjust their level of physiological arousal (Heim & Nemeroff, 2001; Yehuda, 1999, 2000).



*Figure 1.* Complex Trauma: the brain, the body, and the mind

Overreactivity of the sympathetic and parasympathetic nervous system involves various neurohormonal reactions. This includes the overproduction of certain hormones, such as catecholamine (resulting in feelings of anxiety and hyperarousal) as well as the

underproduction of others, such as serotonin (leads to increased reactivity) and cortisol (functions to suppress stress-related responses; Resnick et al., 2006). Broadly speaking, such system dysregulation and exaggerated response to emotional and sensory stimuli often manifest as irritability, impulsivity, anxiety, and aggression (van der Kolk & Saporta, 1993), as well as a decreased ability to effectively respond to, and recover from, stress (Yehuda, 2001). These changes in the sympathetic and parasympathetic nervous systems may lead to the alternating states of hyperarousal and dissociative numbing commonly associated with CPTSD (Streeck-Fischer & van der Kolk, 2000).

In addition to the neurohormal dysregulation, severely traumatized individuals show alterations in the levels of activation of certain brain regions (van der Kolk, 2004). Although research is still exploring these possible alterations and findings can be inconsistent, the general trends suggest less activity in the medial prefrontal cortex, which is associated with executive functioning (e.g., processing and interpreting information), and more activity in limbic structures, primarily the amygdala (van der Kolk, 2004).

Heightened activity in the amygdala is associated with difficulties assessing the emotional significance of incoming stimuli; the consequence of this is reactivity to ambiguous external stimuli as threatening and frequent activation of the stress response (LaBar, Gatenby, Gore, LeDoux, & Phelps, 1998; Pitman, Orr, Forgue, de Jong, & Claiborn, 1987). Research has also shown atrophy of the hippocampus, which is associated with the storing of highly charged emotional memories (Fanselow, 2000), following exposure to childhood abuse. This may lead to distortion and fragmentation of memories as well as extreme emotional and biological reactivity to reminders of the

trauma (Bremner, Southwick, & Charney, 1999; Davidson et al., 2003; van der Kolk, 2004). Effects on the hippocampus may explain why traumatic memories often lack cohesiveness, and consist of sensory, emotional, or physical memory flashes (van der Kolk, 2001; van der Kolk & Fisler, 1995; van der Kolk, Hopper, & Osterman, 2000). Problems within the limbic system can result in irritability, negative perceptions of current events, overwhelming negative emotion, and highly emotional behavior in inappropriate contexts (Davidson et al., 2003). These difficulties are compounded when another region of the brain, the medial prefrontal cortex, is not properly communicating with the limbic system and mediating these responses (Vasterling, 1998).

Neuroimaging studies have found decreased activity in the medial prefrontal cortex (mPFC) of traumatized people under stress (Markowitsch et al., 2000; Shin et al., 2001). This area of the brain is associated with executive functioning, including self-reflection, problem solving, planning, inhibition, and behavioral response decisions (Carter, Botvinick, & Cohen, 1999). When under perceived stress, individuals with CPTSD may experience weakened analytical capacity, which has consequences of cognitive, emotional, and behavioral disorganization (Cook et al., 2005). The Anterior Cingulate Cortex (ACC) portion of the mPFC, which is associated with the experiential aspects of emotion and the integration of emotion and cognition, has repeatedly been found to play a direct role in symptoms of PTSD (Markowitsch et al., 2000; Shin et al., 2001). Ideally, the ACC's connections with the limbic system (and other areas of the brain) allow it to mediate emotional and stress responses, including the related sympathetic processes, hormonal responses, and behavioral expressions (Devinsky,

Morrell, & Vogt, 1995; Lanius, Bluhm, Lanius, & Pain, 2005; LeDoux, 2000; Morgan, Milad & Quirk, 2001; Romanski, & LeDoux, 1993; Yehuda, 2000). However, traumatized individuals tend to show lowered activity in this region, which translates to a weakened ability to accurately process the meaning of emotional experiences or trauma-related triggers, thus a difficulty identifying an appropriate behavioral response (Cook et al., 2005).

Increased activity in the limbic system combined with decreased activity in the prefrontal cortex explains how a trauma-related trigger can result in re-experiencing one's trauma as if it is happening again in that moment, rather than recognizing it, or accurately processing it, as a memory (Levin, Lazrove, & van der Kolk, 1999). More specifically, when asked to recall trauma-related memories, brain systems respond as if the trauma were happening all over again. This triggers a fear response (i.e., processed in the brain as a threat) and elicits a protective behavior (e.g., avoidance, dissociation) that was adaptive during the trauma, but becomes maladaptive afterwards (van der Kolk, 1996). The direct impact of the mPFC on emotional arousal suggests that if a person is able to increase interoceptive awareness (or awareness of internal states), then emotional control would also be heightened (van der Kolk, 2006). This is discussed further in the treatment section below.

Another structure of the prefrontal cortex associated with symptoms of CPTSD is Broca's area. This area of the brain is associated with expressive language and becomes less active after trauma, which means that verbal expression of experiences or memories

can be quite impaired (Rauch et al., 1996; Shin et al., 1997). This, of course, has clinical implications for treatments that rely on verbal expression, which will be discussed below.

Hemispheric lateralization seems to also contribute to symptoms of PTSD (Rauch et al., 1996; Teicher, Andersen, & Polcari, 2002). Research suggests that there are varying levels of hemispheric involvement in the processing of traumatic memories. In particular, the right hemisphere seems to be more active, while the left hemisphere is less active (Schoore, 2003). The right hemisphere is associated with comprehension and expression of emotional communication, and is connected to the amygdala, which is a part of the brain that assigns emotional significance to incoming stimuli and regulates the stress response (and, again, is part of the brain that can become overactive from chronic trauma). The left hemisphere is associated with verbal communication and organizing steps for problem solving (Davidson, 1998). Increased right and decreased left hemisphere activity creates another barrier for individuals to accurately and efficiently categorize and label internal states (van der Kolk & MacFarlane, 1996).

**Somatization, interoceptive awareness, and effective action.** Somatic complaints and poor interoceptive awareness are common among individuals suffering from PTSD (van der Kolk, 2006). The cycle of hyperarousal, numbed responsiveness, or avoidance of the external environment and internal states make it difficult to attend to and accurately interpret emotion and internal sensations (APA, 1994; Carter et al., 1999; Naparstek, 2004; van der Kolk, 2006). In fact, it is not uncommon for individuals with CPTSD to often feel overwhelmed by inner sensations, which can lead to avoidance of internal states and disconnection or dissociation (van der Kolk, 2006).

Similarly, individuals with histories of childhood physical or sexual abuse tend to have a negative body image and/or no sense of their physical state (Naparstek, 2004; van der Kolk, 2006). A person with a history of interpersonal trauma may experience her body as unsafe, damaged, uncomfortable, uncontrollable, or confusing as it has long been a place of pain, abuse, and maltreatment. Relating to the body in this way can lead to self-harming behaviors, such as substance abuse, eating disorders, and self-injury, as well as negative self-perceptions (Armsworth, Stronck, & Carlson, 1999; Rodriguez-Srednicki, 2001; van der Kolk, 1996; Wenninger & Heiman, 1998). In turn, poor body satisfaction and self-esteem have been correlated with self-critical feelings regarding intimacy and self-worth (Armsworth et al., 1999). Survivors of complex trauma also tend to experience a negative body image, such as describing their bodies as bad, dirty, and damaged (Arnella & Ornduff, 2000; Westerlund, 1992).

Additionally, many traumatized individuals do not see their bodies as belonging to them or under their control; they frequently disconnect from their bodily experience as past experiences have taught them that it feels better to separate oneself from this unsafe place (van der Kolk, 2006; Westerlund, 1992). In fact, when asked to focus on internal sensations in the body, many report becoming overwhelmed with trauma-related perceptions, sensations, and emotions; experiencing a lack of integration with parts of their body or a sense of disembodiment or emptiness; and some even report not being able to experience an inner sense of themselves at all (Attias & Goodwin, 1999; van der Kolk, 2006; Westerlund, 1992). Such disconnection can cause a great deal of problems as a person cannot properly care for oneself or seek appropriate treatment when one is

unaware or disconnected from one's physical experiences, capabilities, and needs (van der Kolk, 2006). More specifically, when feelings, internal states, and physical sensations are intolerable or unrecognizable, termed alexithymia, identifying and executing an appropriate response to emotionally-charged situations becomes essentially impossible (McLean, Toner, Jackson, Desrocher, & Stuckless, 2006; van der Kolk & Ducey, 1989). Moreover, without being able to use internal states and emotions as useful information about the present moment, traumatized individuals cannot determine their current needs or take effective action to get those needs met (van der Kolk & Ducey, 1989).

In addition to poor interoceptive awareness, physical comorbidities and somatization have also been linked to the neurobiological, physiological, and affective consequences of complex trauma (van der Kolk et al., 1996; Van Ommeren et al., 2002). Given the high rate of somatic complaints among traumatized individuals, it seems that trauma is "remembered" in the body and that trauma's impact (e.g., chronic hyperarousal) can have a long-term impact on physical health. Common physical problems include chronic pain and gynecological issues (Drossman, 1995; Leserman, Li, Drossman, & Hu, 1998; Roth et al., 1997; Walling et al., 1994), frequent visceral sensations (e.g., heart palpitations, irregular breathing, headaches, muscle tension, and feeling empty inside; Naparstek, 2004), or immune system dysfunction (Wilson, van der Kolk, Burbridge, Fislser, & Kradin, 1999). In fact, individuals with histories of complex trauma are at significantly increased risk for many illnesses, including chemical dependencies, obesity, heart disease, cancer, stroke, diabetes, and so on (Felitti et al., 1997; Saxe et al., 1994). The increased risk for physical comorbidities along with

decreased capacity to recognize, tolerate, and utilize internal states may suggest the need to focus on increasing one's interoceptive awareness and capability for taking effective action as a therapeutic goal (discussed in treatment section below).

**Psychosocial impact.** When considering the fact that each of the issues noted above may likely be compounded in the life of one individual with CPTSD, it is easy to imagine the range of detrimental effects complex trauma has on psychosocial functioning. More specifically, the experience of trauma and dealing with its aftermath can lead to significant impairments in self-perception, interpersonal relationships, and systems of meaning (Calhoun & Tedeschi, 2006; Herman, 1992b). Negative self-perception—such as viewing oneself as damaged, ineffectual, or undesirable—seems almost an inevitable consequence of complex trauma (Luxenberg, Spinazzola, & van der Kolk, 2001; van der Kolk, et al., 2005). This may be due to a belief that one caused the traumas or elicited the abuse for being inherently bad or worthless. Feedback from the environment may also perpetuate or support these beliefs as one struggles to manage symptoms of CPTSD in the context of interpersonal interactions.

Chronic trauma can also have significant effects on interpersonal functioning (Calhoun & Tedeschi, 2006; Fleming, Mullen, Sibrhrope, & Bammer, 1999; Luxenberg et al., 2001). Living one's life through the lens of the past, and trouble accurately perceiving the present, makes it difficult to genuinely and deeply engage in relationships. Moreover, disconnection from emotional and bodily states prevents a person from truly knowing oneself, and consequently limits the possibility of fully sharing oneself with another (Luxenberg et al., 2001). Furthermore, having experienced betrayals of trust in

the past makes it difficult to develop supportive relationships given a persistent sense of mistrust. In a similar way, individuals exposed to abusive environments often lack a template for healthy relationships, and thus struggle to identify, develop, and maintain them. Instead, many chronically traumatized individuals find themselves involved in various dysfunctional relationships, including being revictimized (Fleming et al., 1999; van der Kolk et al., 2005).

Chronically traumatized individuals have gained many “life lessons” from their past experiences, and this may lead to a sense that life brings bad things, existential isolation, spiritual or religious questioning, or lack of a sense of purpose or meaning in life (Calhoun & Tedeschi, 2006; Herman, 1992a; Luxenberg et al., 2001). People may also feel unable to affect change in their lives; or they may foreclose on (or disbelieve in) their futures (Herman, 1992a; Luxenberg et al., 2001; van der Kolk et al., 2005).

To summarize, CPTSD results in the constant reliving of the trauma through visual memories, intrusive thoughts, emotional states, or bodily sensations. Often these triggers are unexpected and unbidden, and lead to a cycle of hyperarousal, avoidance, and dissociation. Regular experiences of hyperarousal and avoidance greatly reduce one’s ability to engage in daily life. Furthermore, problems with attention and concentration as well as accurately processing incoming messages from the external environment prevent someone from actively engaging in, and responding to, their present moment experience. Unfortunately, a person cannot effectively navigate the world or comfortably engage in relationships when he or she is experiencing such a highly activated stress response to stimuli in the environment, without being attuned to messages of the internal self, or

without the ability to use emotions as signals to internal states (van der Kolk, 1996). Only when a person is sufficiently calm can he or she focus on context, interactions, and present moment experience. Consequently, part of treating CPTSD must also focus on increasing awareness of internal experiences and providing clients with tools to manage the sensations that arise within (van der Kolk, 2006).

### **Treatment of Complex Posttraumatic Stress Disorder**

Due to the way that trauma can impact one's mind, body, and interpersonal relationships, there are number of challenges in effectively treating individuals with CPTSD (Damasio, 1994; van der Kolk, 1994). For instance, difficulties expressing traumatic experiences pose obvious challenges to engaging in talk therapy or healing through verbal narrative. Furthermore, poor interoceptive awareness and identifying internal sensations makes it difficult for a person to express her feelings, voice her needs, or gain through therapy relying on insight and understanding. A general distrust of others also creates a barrier to building a strong therapeutic alliance. The combination of such issues challenge traditional psychotherapies, including some of the most commonly used therapeutic approaches for PTSD. For instance, traditional insight-oriented psychotherapy, such as psychodynamic psychotherapy, cannot override or reorganize the over-reactive physiological responses caused by traumatic reminders or memories of the trauma (van der Kolk, 1996). Moreover, being asked to recall the trauma in any form of narrative treatment can elicit trauma-related physical sensations, hyper- or hypo-arousal, and overwhelming feelings (van der Kolk, 2006). Similar reactions might even be elicited by the mere idea of being in a close therapeutic relationship, given past interpersonal

pain. As such, helping traumatized people to process and integrate their experiences through this type of treatment can be very difficult.

Exposure treatments, or therapies that deliberately expose clients to trauma-related stimuli, have been considered treatments of choice as they are thought to desensitize a person to trauma triggers. While such approaches may target “pure” symptoms of PTSD (e.g., symptoms of arousal and avoidance), research is showing that exposure treatment is typically less effective with CPTSD. For example, van der Kolk and colleagues (2007) compared EMDR (Eye Movement Desensitization and Reprocessing, an exposure treatment) with a placebo group (using fluoxetine) and found that participants with histories of childhood trauma did not improve nearly as well as did participants with adult-onset trauma. At six-month follow-up to the exposure treatment, 83.3% of participants with adult-onset trauma showed good end-state functioning (assessed by a clinician-administered scale of PTSD symptoms) versus only 25% of participants with childhood trauma, most of whom showed only partial response or even deterioration.

Exposure treatments also tend to have high attrition rates. In fact, a randomized control trial by McDonagh-Coyle and colleagues (2005) found that women with PTSD from childhood abuse had a significantly higher dropout rate in an exposure-based CBT condition than a present-centered, non-exposure treatment and a waitlist control (41%, 9%, and 13%, respectively). A study by Resick and colleagues compared cognitive processing therapy with prolonged exposure and a minimal attention condition; the dropout rates for the two active (exposure-based) treatment groups were 26.8% and

27.3%, respectively while the minimal attention condition was 14.9% (Resick, Nishith, Weaver, Astin, & Feuer, 2002).

Additionally, Scott and Stradling (1997) noted that while exposure treatments have proven efficacious in controlled studies, they tend to be less accepted in clinical practice. Their review evaluated two primary studies of exposure treatment and found that only one of fourteen clients completed image habituation for homework in one study and only 57% completed audiotape exposure in the other. Dropouts or non-compliance occurred among those with the highest levels of symptom severity. At best, these individuals cannot experience the benefits of exposure treatment; at worst, such treatments can be detrimental to their well-being (Becker & Zayfert, 2001). These findings have led Lanius and colleagues (2010) to suggest that the very symptoms exposure therapy tries to address may actually be preventing participation, as clients with CPTSD feel overwhelmed by the exposure and attempt to avoid triggers.

Many clinicians and some researchers (Zayfert et al., 2005) have also posited that, beyond dropout, exposure treatment can have negative outcomes. More specifically, people with CPTSD often have trouble engaging in exposure treatment in a safe manner (Ford, 1999) and some even report an increase in symptoms (e.g., self-harm, dissociation) if they have not developed effective emotion regulation skills prior to exposure treatment (Taylor, 2010; Ford & Kidd, 1998; Zayfert et al., 2005). For instance, dissociation may allow a person to avoid the traumatic stimuli used in treatment, and thus remove the opportunity for habituation, resulting in an ineffective treatment (Ladwig et al., 2002, Michelson, June, Vives, Testa, & Marchione, 1998; Rufer et al., 2006). Moreover,

dissociative reactions may serve a protective function against overwhelming feelings or experiences, and by removing this “protection,” a person may not be able to tolerate or cope with re-exposure (Lanius et al., 2010). In fact, according to some researchers, removing this “protection” may lead to retraumatization (Chu, 1998; Courtois, 1999). Finally, like insight-oriented therapies, exposure techniques tend not to address the interrelated problems of CPTSD, such as awareness of bodily states, interpersonal problems, and self-concept that often accompany CPTSD (van der Kolk, 2006).

Treatments that take an ecological approach to treatment and focus less on trauma processing and more on the sequelae of symptoms (such as the dimensions model of trauma recovery; Harvey, 2007), may target some of these “harder to reach” symptoms. For instance, the Victims of Violence Program’s ecological approach recognizes that people exist within multiple contexts and thus treatment involves intervening on multiple levels, including within one’s family and community. Such interventions may be very useful in addressing interpersonal problems and issues with quality of life that other approaches do not. However this technique, and others that are similar, are language-based and continue to use trauma related concepts as the basis to therapy, which can also be experienced as triggering. Such approaches also do not directly address the physiological symptoms and awareness of bodily states that accompany CPTSD (van der Kolk, 2006).

As noted in Chapter 1, Cloitre and colleagues (2010) have begun to focus on the physiological symptoms through treatment approaches that begin with skills training in affect and interpersonal regulation (STAIR). More specifically, the authors compared

STAIR followed by prolonged exposure to two control conditions of supportive counseling followed by exposure and STAIR followed by supportive counseling. This randomized controlled study of 104 women with PTSD related to childhood abuse found that women who were assigned to the STAIR followed by exposure treatment demonstrated greater improvements in emotion regulation and interpersonal problems than the two control conditions. This approach provides support for a phase-based approach (initially focusing on skills followed by exposure) in the treatment of PTSD related to chronic early-life trauma. However, as with the previous treatment approaches, it attempts to use verbally-based approaches and a focus on thoughts and emotions to address the physiological symptoms, and does not give direct attention the development of bodily awareness to address how trauma is held in the body.

Medications, such as SSRIs (selective serotonin reuptake inhibitors), have shown to be somewhat useful as they can address some of the neurochemical problems and alleviate distress related to PTSD (Davidson, 2000; van der Kolk, 2004). However, medications do not seem to be able to alter the underlying issues related to disruptive behaviors and emotions, nor do they provide ways for the traumatic event to be processed and put into perspective as an element of one's personal history. Although many treatment approaches offer some benefit for trauma survivors, there continues to be an ongoing exploration of alternative approaches to effectively target the array of symptoms as well as the nuanced and complex impact of chronic trauma on self-appraisal, relational schemas, attentional capacity, and orientation to one's body.

According to Minton, Ogden, and Pain (2006), most therapies use top-down processing and deal primarily with thoughts and emotion, and do not give proper attention to body sensations and recognizing internal states (bottom-up processing). The authors suggest a synthesizing of the two. Similarly, van der Kolk (2006) posits an increasingly common perspective in the field of trauma treatment, which is that clients must heal the “internal residues of the past” in order to address the symptoms, memories, thoughts, and feelings of a past trauma that intrude into current experiences. Moreover, if past trauma is “held” in the body through heightened physiological states, automatic response patterns, sensory perception and processing, emotions and thoughts, effective therapies may need to foster increased interoceptive awareness and self-regulation in order to safely get in contact with and ameliorate those symptoms. Indeed, some research has suggested that these physiological symptoms need to be addressed before other therapeutic interventions can be effectively implemented (van der Kolk, 2006).

Researchers that have taken into account the multi-dimensional nature of CPTSD have begun to explore alternative and complementary treatments that specifically address these areas (cf. Kempson, 2007). For instance, some contemporary treatment approaches (e.g., body-oriented treatments, sensorimotor approaches) are aimed at increasing interoceptive awareness (versus avoidance or disconnection) of internal states and external environment, and teaching self-regulation of physiological arousal (Chemtob, Tolin, van der Kolk, & Pitman, 2000; Kempson, 2007; Minton et al., 2006; van der Kolk, 2004). Such treatments may help a person overcome their trauma reactions as they strengthen their capacity to be engaged in the present moment versus a constant reliving

of the past. A therapeutic goal, for example, may be to help trauma survivors identify and acknowledge emotional states and body sensations, distinguish them from past trauma experiences, and experience them as tolerable and safe rather than threatening and in need of an emergency response. These approaches may be considered “mindfulness-enhanced” as they work to raise awareness of present moment experiences rather than past trauma experiences, and create opportunities for making conscious choices on how to respond to present moments. In other words, with awareness of the here and now comes a more accurate picture of any given situation, thereby making it easier to identify options for problem-solving rather than reacting to residual sensations.

### **Mindfulness in Clinical Settings**

The origins of mindfulness practice—cultivating conscious attention and awareness—are based in Eastern philosophies and contemplative traditions, such as Buddhism (Folette et al., 2006; Baer, 2003). In ancient texts, the term mindfulness connotes awareness, attention, and remembering. Over time the term has been defined in a variety of ways, many of which contain the concepts of nonjudgmental awareness of present moment experience. For instance, one definition is “bringing one’s complete attention to the present experience on a moment to moment basis” (Marlatt & Kristeller, 1999, p. 68), another definition is “paying attention...on purpose, in the present moment and nonjudgmentally” (Kabat-Zinn, 1994, p. 4), and yet another is “keeping one’s consciousness alive to the present reality” (Hahn, 1976, p. 11).

The concept of mindfulness within the context of psychotherapy uses these broad definitions as a foundation to integrate into therapeutic practice (Siegel, Germer, &

Olendzki, 2009). More specifically, some of these mindfulness-based therapeutic approaches have a particular focus on building awareness, which might mean attending to the internal experiences, such as bodily sensations, thoughts, and emotions that are taking place in each moment, as well as attending to the environment using senses, such as sights and sounds (Kabat-Zinn, 1994; Linehan, 1993). Taking an attitude of non-judgmental acceptance is also emphasized as it is thought to encourage in the moment objectivity and compassion. In other words, thoughts, emotions, and sensations are observed carefully, but are not labeled as good or bad, true or false, valid or invalid, and so on (Marlatt & Kristeller, 1999). Such awareness also allows a person to see the ever-changing nature of sensations and experiences, and that even uncomfortable sensations will eventually come to an end. This is a critical realization for individuals who feel imprisoned by trauma-related memory sensations (van der Kolk, 2009).

According to Ronald Siegel—a professor at Harvard Medical School and editor of *Mindfulness and Psychotherapy*—and his colleagues, the purpose of mindfulness is to practice recognizing, acknowledging, and accepting feeling states, redirecting attention, regulating emotions, and experiencing emotions in a new way, rather than expending energy trying to control or suppress intense emotions (Siegel et al., 2009). In fact, one of the primary differences between traditional therapies and therapy that attempts to cultivate mindfulness is the focus on shifting one's relationship to personal experience versus trying to change maladaptive thoughts, feelings, and behaviors. In essence, mindfulness emphasizes learning to accept (rather than reject or avoid) all feelings, including inevitable discomfort and pain, and allow for the experience of all emotion

(Siegel et al., 2009).

In addition to nonjudgmental acceptance of present moment awareness, mindfulness practice is intended to build one's capacity to find stability in any situation, or develop strategies to manage stress and the workings of the mind (Bhikkhu, 2007). For instance, mindfulness practice often starts off with choosing an object of attention, such as breath, and continually bringing awareness back to the breath whenever the mind wanders. Thanissaro Bhikkhu—an American Buddhist monk, teacher, and author—suggests that this will help a person develop a sense of calm, a stronger focus on breath, and eventually a greater awareness of sensation that the breath brings into the body or in the present experience overall (Bhikkhu, 2007). In fact, some researchers hypothesize that focused, nonjudgmental observation of anxiety-related sensations, without defaulting to avoidance or dissociation, may lead to greater control over emotional reactivity (Kabat-Zinn et al., 1992).

Mindfulness-based practices also purport to strengthen the relaxation response and reduce physiological arousal (Baer, 2003). When individuals develop the ability to acknowledge their emotions in a nonjudgmental manner, they are better able to tolerate their emotions rather than avoid them. In doing so, people observe the consequences and meaning of their emotional symptoms, develop more effective coping strategies based on this new knowledge, and ideally extinguish the frequency of triggering a heightened stress response (Baer, 2003).

If these claims are true, a mindfulness-enhanced treatment could be very beneficial for trauma survivors who see the world through a lens of the traumatic past. Recent

literature on PTSD has hypothesized that mindfulness-based techniques may be useful in increasing awareness and clarity of one's current situation (Baer, 2003). More specifically, mindfulness practices allow individuals to come into the present moment as it is, and to see that in this moment the trauma is over, she has survived, and she is safe (Follette et al., 2006). In this state, one may realize that thoughts and feelings are often fleeting, learned reactions to prior experience rather than reality in the present moment, and that she can tolerate, and be safe with, such thoughts and feelings (Follette & Pistorello, 2007). Put in practical terms, as trauma survivors vacillate between arousal and avoidance, the practice of mindfulness may cultivate a sense of calm and safety during situations that would typically cause hyperarousal and will bring their attention to present moment experience during situations that would typically elicit avoidance.

Mindfulness-based, or mind-body, approaches posit a direct connection between the mind (i.e., thoughts and emotions) and physical and psychological health (Goleman & Gurin, 1993). As such, mindfulness practices may address CPTSD symptoms by rebuilding connections between body and brain (Follette & Vijay, 2008; Kempson, 2007; van der Kolk, 2006). Believed to be a skill that can be learned, mindfulness purports to alter the way people respond to everyday difficulties, psychological problems, and even existential challenges (Siegel et al., 2009). In fact, brain imaging and neuroplasticity studies have suggested that the practice of meditation strengthens areas of the brain associated with introspection, attention, and well-being (e.g., Davidson et al., 2003). Furthermore, the increase in attunement to internal states resulting from the practice of mindfulness is correlated with activation of brain regions associated with feelings of

relatedness to others (Siegel, 2007). Results from such studies suggest the possibility to change the functioning of our brain through the practice of mindfulness.

Previous research demonstrates the benefit of practicing mindfulness in both clinical and non-clinical populations (Baer, 2003). Indeed, intervention and correlational studies show that trait measures of mindfulness are correlated with various cognitive and affective indicators of mental health and well-being among a range of populations—college students, community adults, and clinical samples (Baer, 2003). For instance, Kabat-Zinn and colleagues (1992) found significant improvements from pre- to post-treatment on several measures of anxiety and depression among 22 participants with generalized anxiety and panic disorders who underwent the mindfulness-based stress reduction course (no control group). Treatment gains were found to remain at a three-year follow-up (Miller, Fletcher, & Kabat-Zinn, 1995). Similarly, in Brown and Ryan's (2003) study, 327 college students and 239 adults from 48 states ranging in age from 18-77 completed a mail survey of self-report measures (including the Mindful Attention Awareness Scale) to explore the role of mindfulness in psychological well-being. Findings suggested that mindfulness is associated with lower levels of emotional disturbance, including depressive symptoms, anxiety, stress, neuroticism, and negative affectivity. Similarly, it was correlated with higher positive affectivity, vitality, life satisfaction, self-esteem, optimism, self-actualization, autonomy, competence, relatedness, and greater clarity about emotional experience (Brown & Ryan, 2003).

Furthermore, such approaches have shown to be successful in treating a variety of mental health concerns, including anxiety disorders (e.g., Kabat-Zinn et al., 1992; Miller

et al., 1995), mood disorders (e.g., Teasdale, Segal, and Williams, 1995; Williams, Teasdale, Segal, & Soulsby, 2000), stress (e.g., Kabat-Zinn, 1982, 1990), and eating disorders (e.g., Kristeller & Hallet, 1999). Some of the most widely used therapeutic approaches that involve mindfulness are Dialectical Behavior Therapy (DBT; Linehan, 1993), cognitive-behavioral treatments created for chronically traumatized individuals (CBT; Cloitre, Koenen, & Cohen, 2002), Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982, 1990), and Acceptance and Commitment Therapy (ACT; Hayes, 2004; Hayes, Strosahl, & Wilson, 1999). These approaches offer skills for relaxation, self-management, self-acceptance, cognitive change, relapse prevention, and so on (Baer, 2003). However, similar to the traditional therapies described above, the primary techniques of these approaches tend to rely on verbally-based relationships, thus making it difficult for many individuals with CPTSD.

There are also a variety of non-verbally based ways to cultivate mindfulness, which are relatively new to the field, such as biofeedback, imagery, and guided relaxation. Given the somatic complaints, physical comorbidities, and troubles connecting with one's own body, treatments that begin with non-verbal, body-based work may be quite fruitful. Such approaches may regulate affective arousal by raising awareness of internal states, provide opportunities to experience emotions safely in the present moment without having to verbally process them, and promote a sense of safety and comfort within one's body. Many non-Western approaches, most of which have been around for thousands of years, use physical movement in attempt to increase mindfulness and regulate emotional/physiological states, such as chi qong, and tai chi and yoga.

Hatha yoga—which includes meditation, physical movement, and focused breathing—is one widely recognized form of mindful movement in both the East and the West, and thus is the focus of this study (specifically trauma-informed hatha yoga, discussed below). Yoga may be particularly helpful for women who have been chronically traumatized as it provides an opportunity to practice mindfulness, but also because it is based on physical, bodywork and bottom-up processing (versus top-down). In other words, yoga can target the physical, visceral, and body-based dimensions of trauma. Moreover, even though an individual with CPTSD may be aware of the current time and place, the body and brain feel and react as if past events are occurring in the present. Thus, a therapeutic approach like yoga may be most helpful as it emphasizes present moment awareness and also works with the anatomy of emotions and bodily responses associated with PTSD (e.g., heart palpitations, muscle tension, dissociation).

### **Hatha Yoga**

Hatha yoga (or yoga, for simplicity) is a comprehensive and holistic system of practice for physical health and psychological well-being. The word ‘yoga’ is derived from the Sanskrit root ‘yug,’ meaning to ‘yoke’ or ‘unite,’ which signifies the interconnection of body, mind, and spirit (Desikachar, 1999). More specifically, the intention of yoga practice may be described as finding, building, and strengthening the connection between a practitioner and her mind, body, breath, feelings, memories, physical experiences, and states of consciousness as well as her interconnectedness to other living beings, her environment, and the universe (Ware, 2007).

The use of yoga is gaining in popularity not only in the general U.S. public (e.g.,

7.5% of U.S. adults have tried yoga at least once), but also in clinical settings as it is one of the top ten most widely practiced forms of complementary healthcare in the U.S. (Barnes, Powell-Griner, McFann, & Nahin, 2004; Harvard Mental Health Letter, 2009). In fact, a study examining the use of complementary and alternative medicine (CAM) treatments among 82 psychiatric inpatients found that 21% had used yoga as a treatment intervention within the past year (Elkins, Rajab, & Marcus, 2005).

As noted above, yoga not only cultivates mindfulness, but also emphasizes physical exercise and movement, breathing exercises, and intentional relaxation (Bennett, Weintraub, & Khalsa, 2008). The physical movements (or postures) are called asanas, the focused breathing is called pranayama, and the meditation is called dhyana (Cuthbert, Kristeller, Simons, Hodes, & Lang, 1981; Khalsa, 2004). Each of these components are interconnected as the physical exercises are linked with breath and practiced with attention to mental focus (i.e., a moving meditation). It is suspected that the benefits of hatha yoga are a consequence of the combination of these three primary elements.

**Physical movements/asanas.** The focus of asanas is on flexibility, balance, strength, and mental focus rather than on aerobic fitness. Often postures are held for a period of time with the intention to allow for maximum benefit, such as improving circulation or digestion or providing a sense of deep relaxation during and after exertion (Desikachar, 1999). Asanas also aim to encourage awareness and acceptance of the body and its functioning as well as increase comfort with movement (Ware, 2007).

**Breathing/pranayama.** Pranayama—‘prana’ meaning life force (i.e., breath) and ‘ayama’ meaning restrain—is intentional movement or control of vital energy or breath

(Desikachar, 1999). Breathing techniques involve focused awareness on breath and connecting breath to movement (Desikachar, 1999). Pranayama intends to serve many functions, such as control over, and balance of, physiological patterns, as well as mental and physical relaxation (Ware, 2007).

**Meditation/dhyana.** The focused awareness, and emphasis on present moment experience, during hatha yoga practice can be considered moving meditation. However, a non-moving meditative state and intentional relaxation are encouraged in Savasana, a posture at the end of the practice that is held with a relaxed body in a prone position on the mat (Desikachar, 1999). The intents of dhyana are varied, and broadly include finding stillness/relaxation, clear-minded concentration, equanimity, self-knowledge, and universal connection (Ware, 2007).

### **Hatha Yoga as a Therapeutic Tool**

Research on yoga dates back to the early 20<sup>th</sup> century in Indian research institutes, and although such studies may lack the scientific rigor expected in contemporary research, they have served to ignite a paradigm shift from yoga as a spiritual practice only to yoga as a form of health care as well (Khalsa, 2007). Research on the therapeutic benefits of yoga is relatively new compared to the thousands of years that master yogis and students of yoga have studied its practice and experienced its benefits. More specifically, avid practitioners, master teachers, and experts of hatha yoga purport a whole host of benefits resulting from the combination of asanas, pranayama, and dhyana. Some identified benefits include: increased body awareness; relief from physical pain, strain and chronic stress patterns in the body; deeper relaxation of the mind and body;

centering of attention; sharpening of concentration; as well as heightened compassion, connection and positive perceptions towards oneself and then others (Arpita, 1990; Baptiste, 2002, Iyengar, Evans, & Abrams, 2005; Schell, Allolio, & Schonecke, 1994). Yoga is also purported to increase self-awareness and self-regulation, interoceptive awareness, proprioception, and connectedness to the body, somatic states, and surrounding environment (Baptiste, 2002; Iyengar et al., 2005).

Research that considers the health benefits of yoga is quickly growing and evolving. Findings from such studies have shown numerous physical, physiological, biochemical, and psychological benefits (Khalsa, 2004). According to current studies, physical benefits include increased muscular strength, muscle tone, endurance, and flexibility as well as reduced muscle tension (e.g., Mandle, Jacobs, Arcari, & Domar, 1996; Tran, Holly, Lashbrook, & Amsterdam, 2001). The physiological benefits tend to be associated with reduced arousal and system regulation, and include improvements in blood pressure, cardiovascular and respiratory efficiency, and autonomic system activation (e.g., Mandle et al., 1996; Raub, 2002). Benefits on biochemical systems, which also seem to indicate an anti-stress effect as well as antioxidant effects, include decreases in glucose, cholesterol, catecholamines, adrenaline, dopamine, noradrenalin, and luteinizing hormone, as well as increases in oxytocin and GABA (e.g., Booth-LaForce, Thurston, & Taylor, 2007; Minvaleev, Nozdrachev, Kir'yanova, & Ivanov, 2004; Schmidt, Wijga, Von Zur, Brabant, & Wagner, 1997; Streeter et al., 2007, 2010). The psychological benefits are also varied, and might include increases in somatic and kinesthetic awareness, mood, self-acceptance, social adjustment, psychomotor

functioning, and cognitive functioning (Arpita, 1990; Impett, Daubenmier, & Hirschman, 2006; Murphy & Donovan, 1997; Sahu & Bhole, 1983; Schell et al., 1994; Streeter et al., 2007, 2010).

The benefits of yoga have been noticed in the mental health field, and have therefore increasingly become the focus of clinical research. Yoga's purported influence on psychophysiological functioning, for instance, has led to the exploration of its use as a therapeutic intervention for various mental health concerns, specifically disorders that have psychosomatic components. Recent studies have linked the practice of yoga to the alleviation of mental health problems including: anxiety and depression (e.g., Bennett et al., 2008; Butler et al., 2008; Campbell & Moore, 2004; Forbes et al., 2008; Lavey et al., 2005; Pilkington, Kirkwood, Rampes, & Richardson, 2005), stress (e.g., Campbell & Moore, 2004; Granath, Ingvarsson, von Thiele, & Lundberg, 2006; Wheeler & Wilkin, 2007), eating disorders (e.g., Khalsa, 2004; Scime & Cook-Cottone, 2008), schizophrenia (e.g., Russinova, Wewiorski, & Dane, 2002; Visceglia, 2007), and attention-deficit hyperactivity disorder (e.g., Abadi, Madgaonkar, & Venkatesan, 2008; Jensen & Kenny, 2004).

Such studies acknowledge the potential of yoga as a therapeutic intervention. In fact, some studies have found that a regular yoga practice can be equally, if not more, effective than traditional therapy and medications. Granath and colleagues (2006), for example, compared cognitive-behavior therapy with a Kundalini yoga program (a specific form of hatha yoga) by randomly assigning 26 women and seven men into one of the two groups, each of which consisted of 10 sessions over four months. Significant

improvements on psychological self-reports (e.g., stress, exhaustion, quality of life) and physiological measurements (blood pressure, heart rate, urinary catecholamines, salivary cortisol) were noted from pre- to post-treatment in both groups, and no significant differences were found between the groups. These results indicate that regular practice of yoga was equally effective in treating stress as cognitive-behavior therapy. Additionally, in a randomized three-month controlled trial, Sahasi and colleagues (1989) found that yoga was more effective than diazepam in treating anxiety as measured by the Institute for Personality and Ability Testing anxiety scale and symptom sign inventory scores (Sahasi, Mohan, & Kacker, 1989).

A significant body of literature has also begun to systematically study the impact of yoga on particular aspects of well-being (Arpita, 1990; Bennett et al., 2008; Murphy & Donovan, 1997; Schell et al., 1994). For instance, Impett and colleagues (2006) explored the relationship between yoga practice, well-being, and the mind-body connection. In this study, 19 participants who enrolled in a two-month yoga immersion program completed measures on constructs such as embodiment (i.e., body awareness and responsiveness), well-being, and self-objectification (e.g., habitual body monitoring, body shame, appearance anxiety) at six time points during the immersion. The researchers found positive correlations between yoga practice and embodiment (i.e., body awareness and responsiveness), positive affect, and satisfaction with life as well as a negative correlation between yoga and self-objectification (Impett et al., 2006).

A pilot study by Woolery, Myers, Sternlieb, & Zeltzer (2004) also considered the impact of yoga on wellbeing. Twenty-eight young adult participants who were identified

as mildly depressed (by the Beck Depression Inventory) were randomized into a five-week Iyengar yoga course, which is a form of hatha yoga, or assigned to a wait-list control group. Participants completed self-report indices on symptoms of depression and anxiety at pre- and post-study and a self-report index on current mood before and after the first, fifth, and last classes; cortisol samples were also taken in the morning at these three time points. Findings showed that participants in the yoga course experienced significant decreases in self-reported symptoms of depression, trait anxiety, and negative acute mood, as well as positive changes in morning cortisol levels (Woolery et al., 2004).

In trying to explain the biological processes contributing to the mental health benefits of yoga, scholars have looked at the impact of yoga on brain and body systems (Mandle et al., 1996; Minvaleev et al., 2004; Raub, 2002; Schmidt et al., 1997). For instance, a pilot study by Streeter and colleagues (2007) used a parallel-groups design to compare levels of GABA (i.e., the “feel-good” compound in the brain) in eight yoga practitioners who did a 60-minute yoga session and eleven comparison participants who did a 60-minute reading session. They found a 27% increase in GABA levels in the yoga practitioners compared to the readers, which might suggest that the practice of yoga could be beneficial for treatment of disorders associated with low GABA levels, such as depression and anxiety disorders (Streeter et al., 2007).

In order to understand how, if at all, yoga may differ from other forms of exercise in its mental health benefits, Streeter and colleagues (2010) randomly assigned healthy participants (i.e., no significant medical/psychiatric disorder) to either a yoga- or metabolically matched walking- intervention for 60-minutes three times per week for a

total of twelve weeks. Both mood and anxiety scales as well as magnetic resonance spectroscopy scans were administered multiple times throughout the study. The 19 yoga participants reported significantly greater improvement in mood and anxiety than the 15 participants in the walking exercise. Furthermore, the scans showed a positive correlation between mood and GABA levels as well as a negative correlation between anxiety and GABA. This study suggests that changes in mood, anxiety, and GABA levels are specific to yoga and may not be benefits of all forms of physical activity, including walking (Streeter et al., 2010).

A study by Daubenmier (2005) also compared yoga to other forms of exercise. A sample of 43 women in yoga classes was compared to 45 women in non-yoga aerobic classes and 51 women who were exercising but not doing yoga or taking aerobics classes. Results demonstrated that yoga practitioners scored higher on self-report measures of body awareness and responsiveness to bodily sensations and body satisfaction, and were less likely to report self-objectification and disordered eating attitudes than the women in the other two groups (Daubenmier, 2005). Some psychologists suggest the emphasis on relaxation and breath may explain why the effects of yoga differ from other forms of exercise (Berger, 1994).

Another recent study by West and colleagues (2004) compared the effects of various styles of movement by examining the psychological and neuroendocrine responses of 69 healthy college students who took one of three 90-minute classes: African dance ( $n = 21$ ), hatha yoga ( $n = 18$ ), or a biology lecture class (as control;  $n = 30$ ). Participants provided a saliva sample to measure cortisol levels and were also

assessed on perceived stress and positive and negative affect. While African dance and yoga showed similarly significant declines in perceived stress and negative affect compared to the biology lecture, cortisol increased in African dance, remained the same in biology, and decreased in yoga. These findings suggest increased arousal among the dancers and a decreased level of arousal or stress in the yoga group (West, Otte, Geher, Johnson, & Mohr, 2004).

Other similar studies have also found that yoga can decrease physiological arousal, for example, reducing heart rate, lowering blood pressure, and improving systems that allow the body to respond to stress more flexibly (Harvard Mental Health Letter, 2009; Khalsa, 2004). In fact, recent studies (e.g., Sharma et al., 2003; Sharma et al., 2008) considered the effect of sudarshan kriya yoga (a yogic breathing technique performed in a specific yoga posture) on biological indicators of oxidative stress, which can be heightened by psychosocial stress (including chronic trauma; Tyrka, 2010) and may contribute to many chronic diseases. Sharma (2008) compared 42 healthy controls to 42 yoga practitioners and found that practitioners had significantly higher levels of antioxidant enzymes and gene expression levels that help to combat oxidative stress and cellular aging.

Given its effectiveness with a variety of mental health problems and its ability to ease maladaptive nervous system arousal, a new area of research is focusing on ways to help traumatized individuals reconnect with their internal selves through the use of hatha yoga (Emerson et al., 2009). While empirical research is beginning to provide evidence that this is a realistic possibility (discussed below), the purported effects noted by yogis

over the years also support this hypothesis. Conceivably, trauma's consequences may begin to heal via the reduction of physical and mental tension, thereby allowing for the additional benefits proposed by expert practitioners. These benefits include the development of awareness, concentration, and levels of consciousness (e.g., emotionally, physically, socially, and existentially) as well as self-acceptance and self-worth (Ware, 2007). Additionally, as a person becomes more aware of and comfortable with her internal experience, she may be more able to verbalize her experiences and find deeper connection in interpersonal relationships (van der Kolk, 2006). Each of these outcomes may in turn enhance healthy lifestyle choices and attitudes (Ware, 2007).

While few studies have empirically examined yoga as a therapeutic modality for PTSD, the preliminary research suggests that yoga can have benefits for survivors of chronic trauma (Emerson et al., 2009; Harvard Mental Health Letter, 2009). For instance, in a rater blind, randomized, wait-list controlled study by Carter and colleagues (2007) yoga was found to combat the stress response. Thirty Australian Vietnam Veterans with complex presentations of chronic PTSD, substance abuse, and/or medical problems were assigned to either the wait-list group or the five-day sudarshan kriya yoga course, including yoga asanas, breathing techniques, guided meditation, and psychoeducation on stress management. After six weeks, significantly greater reductions on the Clinician Administered PTSD Scale (CAPS), alcohol consumption, and depression were found among the yoga group as compared to the wait-list group. Similarly significant drops were identified in the wait-list group after receiving the yoga intervention. Improvements were also maintained at a six-month follow-up (Carter, Byrne, Brown, & Gerbarg, 2007).

Furthermore, a recent study by Descilo and colleagues (2010) evaluated the effects of a yoga breath program on PTSD and depression in 183 survivors of the 2004 Indian Ocean tsunami. Participants who scored 50 or above on the posttraumatic checklist-17 (PCL-17) were assigned to one of three groups: yoga breath only, yoga breath followed by a trauma reduction exposure technique, or a six-week wait list. Measures of PTSD (PCL-17) and depression (BDI-21) showed significant reductions for the yoga breath only and the yoga breath followed by exposure groups compared with mean scores in the wait list control group. Substantial improvement in scores was found after the one-week yoga breathing intervention (for both treatment groups). While no significant improvements were made after the exposure treatment, the significant improvements in mean scores that were found for both treatment groups after the yoga breathing intervention were maintained at six-week follow up (Descilo et al., 2010).

Recent research has also been progressing around the use of yoga as a form of treatment for adult survivors of childhood abuse and CPTSD. Some recent studies have suggested that yoga can reduce arousal, anxiety, and over-reactivity, thereby increasing one's ability to recall and discuss traumatic material without becoming overwhelmed. For instance, a four-day randomized controlled trial with 40 women survivors of intimate partner abuse compared the impact of two 45-minute sessions of yoga, testimony (i.e., telling narrative to a trained listener), combined yoga and testimony, and wait-list control. Individuals in the combined yoga and testimony group showed the greatest improvement on self-efficacy, including feelings of control, security, and confidence (Franzblau et al., 2006). This finding offers thoughtful considerations for the utility of integrative

treatments combining top-down and bottom-up processing.

Similarly, van der Kolk and colleagues (unpublished data) piloted a yoga intervention for trauma survivors and randomly assigned 16 women between the ages of 25-55 to eight 60-minute weekly sessions of either a Dialectical Behavior Therapy group or a gentle hatha yoga group. The preliminary outcomes suggested that only the yoga group had significant decreases on severity of intrusions and arousal symptoms, decreased negative affect, and increases in mood regulation (Emerson, et al., 2009). Another randomized controlled study examined the effects of a program for disabled Vietnam veterans diagnosed with severe PTSD, involving yoga and focused breathing (Harvard Mental Health Letter, 2009). The treatment group consisted of breathing techniques, yoga asanas, education about stress-reduction, and guided meditation. Results indicated that the yoga and breathing group demonstrated significant drops in PTSD symptomatology (treatment effects persisted at a six-month follow up) as compared to a waitlist control group that demonstrated no changes.

To summarize, researchers are finding that survivors of complex trauma often live in a body that keeps replaying past trauma, and creates a filter through which individuals see their world and interact in the world (van der Kolk, 2009). This makes it hard to take pleasure in, or accurately interpret, one's current experiences (van der Kolk, 2006). Yoga aims to develop a strong and calm body that relates in the here and now. This helps to reestablish a sense of time and being present (rather than flashbacks or dissociating), relaxation and breathing help calm a person when experiencing anxiety or panic, and the emphasis on self-acceptance is important for those who lack a sense of love for

themselves (van der Kolk, 2006). This practice encourages heightened awareness of one's present moment, attending to emotions and internal experience, and experiencing the moment in a calm, nonjudgmental manner, thereby building a foundation to engage more fully in therapy and in life (Follette & Pistorello, 2007).

Studies reviewed thus far offer support for the notion that yoga can be used as a therapeutic intervention for many physical and mental health concerns, including PTSD. However, it is important to consider the methodological limitations of these studies, such as not randomizing treatment groups, not accounting for participant attrition, or evaluating naturalistic trials of unstructured community-based yoga practice, which may have implications for the validity and generalizability of the studies (Kirkwood, Rampes, Tuffrey, Richardson, & Pilkington, 2005). Additionally, many are pilot studies and/or have small sample sizes; in fact, very few reviewed in the pages above had more than 50 participants. While in many ways these studies are well-designed, the small sizes limit their statistical power. Furthermore, many of the studies have been conducted with samples of relatively "healthy" populations, which limits our understanding of yoga as a treatment for clinical populations (e.g., Impett et al., 2006; Streeter et al., 2007; West et al., 2004). These studies are nonetheless very important and can be thought of as a foundation from which to launch larger and more methodologically rigorous studies. In fact, interest in the use of yoga in clinical settings has spurred a growing number of systematic and controlled studies (e.g., Granath et al., 2006; Butler et al., 2008; Carter et al., 2007; Descilo et al., 2010).

Furthermore, such studies are allowing for a greater understanding of which aspects

of yoga, and what particular forms of yoga, are helpful when treating different illnesses. In other words, not all types of yoga may be appropriate as therapeutic interventions and not all asanas or yogic exercises may be appropriate as part of a yoga intervention. In certain settings, and when working with particular groups of individuals, some postures may be contraindicated. In fact, a pilot study by van der Kolk and colleagues (described above) had a higher attrition rate than usual in part because certain traditional yoga postures, phrases, or techniques were triggering to the women participants (Emerson et al., 2009). Using the feedback from their pilot study and growing knowledge in the field, van der Kolk, Emerson, and colleagues have developed “trauma-informed yoga.” Trauma-informed yoga (TIY) is the form of yoga used in the current study and will be described below in conjunction with more specific information on the potential risks involved in yoga as a therapeutic intervention.

**Trauma-informed yoga.** Based on past research, literature, and centuries of practitioner reports, it is clear that yoga offers many benefits. However, it is important to also consider the potential risks of yoga within a therapeutic context, including in the treatment of CPTSD. The symptoms and consequences that follow chronic trauma—such as dissociation, hypervigilance, and hyperarousal—often become the “default” reaction to strong emotions, physical sensations, and feelings of discomfort or lack of safety. Thus, it is plausible that the somatic stimulation of yoga practice could elicit, or bring to the surface, memories, fears, pains, and sensations associated with the trauma (Nespor, 1985). As a consequence, similar to exposure-based therapies, yoga may evoke anxiety, hypervigilance, flashbacks, or dissociation.

Such triggering may occur in various situations, but seems to be most common when participants are asked to bring attention to a specific, often vulnerable, part of the body (e.g., the pelvis or belly); hold a vulnerable position, such as those that open up the core or where legs are apart (e.g., savasana or bridge); or when hearing certain words (e.g., “binding,” “dead man pose,” or “happy baby”) that may be associated with trauma (Emerson & Turner, 2009). Additionally, because many childhood trauma survivors have negative body image, being asked to pay attention to one’s body may elicit discomfort, feelings of shame, embarrassment, or self-criticism (van der Kolk, 2006). Moreover, as in any physical exercise, there is a possibility of physical discomfort due to physical exertion, as well as the risk of injury (e.g., pulling a muscle) if a posture is forced.

Despite the possible risks involved, very little, if any, research has been published regarding safety considerations or contraindications (Salmon, Lush, Jablonski, & Sephton, 2009). Fortunately, the anecdotal information gained in pilot studies, such as the one by van der Kolk and colleagues at the Trauma Center (noted above), led to the development of trauma-informed yoga (TIY). TIY was developed (and continues to evolve) to provide services tailored to the needs of complex trauma survivors (Emerson & Turner, 2009).

Some of the guidelines suggested in TIY include the use of beginner postures when starting a new class, gently teaching more advanced postures over time, and always offering options to modify the yoga class to meet the needs of students (e.g., choose to close their eyes or keep them open). This is done through the teacher’s gentle approach and description of options using invitational language (e.g., “when you are ready,” I

invite you,” “if you like,” “to your degree”) for students to choose what is best for them. Students are also encouraged to develop a curiosity and awareness of what is happening in their bodies through the use of inquiry-oriented language, such as “notice,” “observe,” “investigate,” and “experiment.” The most important aspect of this language is the suggestion of having choice and control over their body and how they relate to it.

It is also recommended that a safe and predictable atmosphere be maintained (e.g., keep the lights on and offer the same set up each week). Another recommendation may be to take the spiritual/philosophical terminology out of the teachings to make yoga more accessible to all. It is also helpful for participants to have access to a mental health professional in the case they would like to process anything that comes up in the yoga classes (Emerson & Turner, 2009). Attempts can also be made to prevent triggering, such as avoiding physical assists or suggesting postures that can make one feel vulnerable too early on, such as postures focusing on the pelvic area (Emerson & Turner, 2009).

While teachers’ awareness of likely triggers is critical, the primary goal may be to teach postures, emphasize options and choice, encourage curiosity of how the body feels in postures, and help students feel safe in such postures. At the same time, a teacher can encourage students to notice if a posture is too uncomfortable, and empower them to make a choice to modify or select another posture. In order to develop this sense of safety, TIY focuses on the concept of Ahimsa (or “non-harming”) and teaching students/clients to be kind, gentle, and compassionate toward oneself. A practical application of Ahimsa is in teaching yoga students non-harmful ways of being connected to their bodies, even when triggered (e.g., focusing on exhales, noticing sensations in

body, feeling feet supported by the floor). Ultimately, this approach is intended to foster self-care, acceptance, and a more positive relationship with one's body (Emerson & Turner, 2009). In trauma-informed yoga, this has been referred to as "reclaiming your body," and is achieved in three stages, "having a body," "befriending your body," and "body as a resource."

The stage of "having a body" aims to heighten awareness of, and sense of ownership over, one's own body. As many survivors become disconnected from their bodily experience and/or view the body as out of one control or "not mine," the "having a body" stage attempts to provide a corrective and safe experience in the body and restore a sense of ownership. Once a person is able to feel comfortable and in control of her body, she can move to "befriending your body." This stage uses the awareness and ownership gained in the first stage to emphasize the notion of getting to know one's bodily experience and then choosing how to move in a way that feels good. From here, "body as a resource" allows for the building of skills for self-regulation (Emerson & Turner, 2010). In other words, students/clients begin to see their body as a tool to calm oneself down (e.g., through breathing or soothing movement). As TIY is used in the current study, details of the protocol are outlined below in the methods section of chapter three.

To summarize, an increasing amount of evidence suggests that yoga may be a powerful therapeutic tool in the treatment of CPTSD. Yoga, particularly TIY, may provide an alternative way to work with symptoms of complex trauma. The emphasis on gentle movement, breath, and bodily sensations may bring to awareness ways that trauma-related emotions and sensations are embodied in physical experience, as well as

offer skills to manage the powerful physical reactions and memories that are evoked by trauma. Furthermore, the combination of asana, pranayama, and dhyana may assist clients in: 1) feeling more comfortable in, and accepting of, their bodies; 2) becoming more aware of their inner experience and how to use their bodies and breath for self-regulation; and 3) improving mood and sense of well-being. Table 1 offers a more visual explanation of how these potential benefits may specifically correspond to the treatment of CPTSD symptoms.

<b>CPTSD symptoms</b>	<b>Therapeutic benefits of yoga</b>
Avoidance and dissociation	Presence & relaxation
Affect and impulse dysregulation	Manage arousal and self-soothe
Poor self-perception	Acceptance of self and body
Disconnection from body and somatization	Physical health and interoceptive awareness
Difficulty with interpersonal relations	Connection to self and others
Questioning systems of meaning and future	Positive affect and engagement in life

*Table 1.* Symptoms of CPTSD and therapeutic benefits of trauma-informed yoga

While the extant literature has primarily examined yoga's efficacy in reducing PTSD symptoms, Table 1 demonstrates the potential for symptom-reduction and positive development. In fact, Srivatsa Ramaswami, yoga master and student of Krishnamacharya ("founder of modern yoga"), once said that yoga fosters personal growth and development through "the maximization of joy and the complete unfolding of the human potential" (Ramaswami, 1989, p. 53). In other words, yoga has been thought to assist in adjusting to life's difficulties or becoming free of symptoms, and it may also promote positive development, personal growth, and empowerment (Singh, 1986). Consideration

for symptom reduction and positive development coincides with a separate but related area of study in the field of trauma recovery—personal and posttraumatic growth.

### **Personal and Posttraumatic Growth**

In addition to the body of research exploring treatments to reduce trauma-related impairments, the concept of personal and posttraumatic growth<sup>4</sup> (i.e., the possibility that someone can “grow” psychologically through a meaning-making process in the aftermath of trauma) has also gained attention in the past decade (Calhoun & Tedeschi, 2006; Joseph & Linley, 2006; Linley & Joseph, 2004a). The existing literature of posttraumatic growth suggests that it involves positive changes in survivors’ self-perceptions, how they value relationships with others, and in their philosophy and perspective on life. In other words, it is posited that life-altering events, such as complex trauma, can significantly destabilize one’s view of the world and their place in it. This can result in outcomes that are simultaneously considered symptomatic and personal growth-enhancing. For instance, a person may acknowledge the personal strength it took to get through a traumatic experience, appreciate the important people in their lives who have supported them through the experience, or value the “small things” in life as they realize how precious life is after having theirs threatened.

Indeed, research has demonstrated that many people experience such positive outcomes or growth, in addition to distressing and disruptive outcomes, as a result of dealing with trauma (e.g., Calhoun & Tedeschi, 1998; Linley & Joseph, 2004a; McMillen

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<sup>4</sup> The concept that people have the capacity to grow through adversity has been given a number of names within the literature, including *posttraumatic growth*, *stress-related growth*, and *adversarial growth* (Linley & Joseph, 2004a). For the purposes of clarity and consistency, this paper will refer to the concept as posttraumatic growth, and will use organismic valuing Theory (OVT; described below) as a framework to understand this concept.

et al., 1995). In fact, approximately 50% of persons affected by a trauma will report at least one positive life change or benefit that is directly linked with trauma (Nolen-Hoeksema & Davis, 2004; Tedeschi & Calhoun, 1995). Posttraumatic growth has been reported among adults, adolescents, and children as well as across cultures (e.g., Ai, Cascio, Santangelo, & Evans-Campbell, 2005; Ai, Tice, Whitsett, Ishisaka, & Chim, 2007; Aldwin & Sutton, 1998; Erbes et al., 2005; Ickovics et al., 2006; Kilmer, 2006; Laufer & Solomon, 2006; Malchiodi, Steele, & Kuban, 2008; Milam, Ritt-Olson, & Unger, 2004; Weiss & Berger, 2006). Similarly, posttraumatic growth has been reported following a wide range of traumatic events, including (but not limited to) rape (e.g., Frazier et al., 2001), childhood sexual abuse (e.g., McMillen et al., 1995), incest (e.g., Draucker, 1992), bereavement (e.g., Davis, Nolen-Hoeksema, & Larson, 1998), natural disasters (e.g., McMillen, Smith, & Fisher, 1997), plane crash (e.g., McMillen et al., 1997), shooting (e.g., McMillen et al., 1997), chemical dependency (e.g., McMillen, Howard, Nower, & Chung, 2001), military combat (e.g., Waysman, Schwarzwald, & Solomon, 2001), exposure to war (e.g., Pargament, Smith, Koenig, & Perez, 1998), and serious medical illnesses, injuries, or procedures (e.g., Affleck, Tennen, Croog, & Levine, 1987; Cordova, Cunningham, Carlson, & Andrykowski, 2001; Curbow, Legro, Baker, Wingard, & Somerfield, 1993; Evers et al., 2001; McMillen & Cook, 2003; Updegraff, Taylor, Kemeny, & Wyatt, 2002; Zenmore, Rinholm, Shepel, & Richards, 1989).

The evidence demonstrating the prevalence of growth following trauma has led some researchers and clinicians to a call for a paradigm shift within the field of trauma from a focus on psychopathology alone to a more inclusive focus that also recognizes

personal strength, growth, and empowerment (Bonanno, 2004). In fact, some researchers have suggested that a primary focus on symptoms does not provide a comprehensive picture of trauma recovery and could limit the healing potential in treatment (Johnson, et al., 2005). In other words, those who concur with this theory, argue that treatment interventions can foster the greatest level of healing by considering ways to both address symptoms and promote personal growth and empowerment (Johnson et al., 2005).

Furthermore, despite the evidence demonstrating the prevalence of growth following trauma, not all people evidence such resilience and growth (Johnson et al., 2005). In fact, approximately 20-40% will experience long-term persistent PTSD and ongoing intrusive and automatic rumination that seem to decrease the likelihood of experiencing personal growth (Kessler et al., 1995; Meichenbaum, 2006). It has been hypothesized that individuals who maintain such significant and chronic levels of ruminative thinking and intrusive thoughts (which do not dissipate over time) have trouble engaging in the processes that lead to growth (Tedeschi & Calhoun, 1995; Kilmer, personal communication, October 27, 2008). More specifically, the type of environment in which chronic childhood trauma typically occurs as well as the resulting symptoms of CPTSD—including intrusions (e.g., flashbacks or intrusive thoughts), avoidance of feared stimuli, and hyperarousal—likely hinder one's ability to engage in the reappraisal and positive accommodation needed for growth to occur (Byington, 2004; Kilmer, personal communication).

Given the developing knowledge of posttraumatic reactions, many Western psychologists have begun to explore ways to promote positive functioning and the

achievement of an enhanced sense of health and well-being beyond symptom reduction (e.g., Joseph & Linley, 2006; Linley & Joseph, 2004a; Seligman & Csikszentmihalyi, 2000; Snyder & Lopez, 2002). While other lines of research and theory have explored related concepts, such as resilience and positive well-being (Johnson et al., 2005), the empirical investigation of personal growth<sup>5</sup> is relatively new. The following sections further describe the process of personal growth, outlines the factors that may help or hinder the experience of growth according to the organismic valuing theory, and explores current literature on the incorporation of growth as a goal in treatment interventions.

**Conceptualization of posttraumatic growth.** The notion that positive changes can result from suffering has deep roots in humanistic and existential philosophies (e.g., Frankl, 1963; Jaffe, 1985; Kessler, 1987; Yalom, 1980), as well as major religious traditions of Buddhism, Christianity, Hinduism, Islam, and Judaism. However, recent developments include empirical study of the topic and theoretical conceptualizations of posttraumatic growth (e.g., Linley & Joseph, 2004a; Tedeschi & Calhoun, 2004; Tedeschi, Park, & Calhoun, 1998). This line of inquiry has revealed three main themes that are common for individuals who experience posttraumatic growth regardless of the type of trauma (Joseph & Linley, 2006). First, people often report a positive change in self-perception, such as a greater sense of resilience, wisdom, strength, or self-acceptance. Second, people often experience an enhanced sense of connection in their relationships, such as valuing one's friendships or family more or increased compassion

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<sup>5</sup> It is important to distinguish between resilience and growth. Whereas resilience refers to “the ability to maintain a stable equilibrium” or a return to a previous level of functioning (Bonanno, 2004, p. 20), growth refers to positive change or transformation toward optimal functioning as a consequence of dealing with adverse experiences (Linley & Joseph, 2004a).

for others who are struggling. Third is a change in life philosophy, which might include a stronger appreciation for each day, a realization of what is meaningful in life or a greater sense of purpose in life.

Additionally, many individuals also report areas of growth specific to the trauma endured (e.g., exercising after a heart attack). Such changes in psychological well-being (PWB) can lead to a new perspective on life and on the trauma that was experienced (Joseph & Linley, 2006). Although many people continue to experience distress around the traumatic experience and prefer that it never happened, survivors who experience posttraumatic growth often come to view their confrontation with trauma as a valued learning opportunity that changed them in positive ways as well (see Calhoun & Tedeschi, 1999; Cohen, Hettler, & Pane, 1998; Linley, 2003).

Another important outcome within this line of research has been a clarification of the common misperception that traumatic responses occur on a bipolar continuum, which is predicated on the belief that a person either experiences psychopathology, resiliency, or growth. Instead of viewing traumatic responses as a single dimension with opposite endpoints being distress and well-being, recent research has found that both could be occurring simultaneously in various domains of a person's life (Bonanno, 2004). Indeed, study findings have revealed that growth and distress are not consistently negatively correlated, which suggests that growth and distress are two separate, independent dimensions of experience where high scores on one do not necessarily imply low scores on the other (Linley & Joseph, 2004a). From this perspective, in order to have a comprehensive awareness of a person's experience in the aftermath of trauma,

psychologists must develop an understanding of the full range and multitude of reactions to adversity—which might include psychopathology, resiliency, personal growth, and all combinations in between (Linley & Joseph, 2004a).

**Models and processes of posttraumatic growth.** Various models of posttraumatic growth have been offered in the literature, such the person-centered theory by Joseph (2005), the functional-descriptive model by Tedeschi and Calhoun (1995), the biopsychosocial-evolutionary view by Christopher (2004), and the organismic valuing theory (OVT; Joseph & Linley, 2005). While concepts from each of these models will be referenced, OVT will be the primary framework used for understanding this concept as it integrates the most prominent theories of posttraumatic growth. Theoretical models of posttraumatic growth are consistent in many ways and complement one another by offering differing levels of explanation (Joseph & Linley, 2005). OVT provides a theoretical integration of these theories and advances them by exploring why growth occurs, the process by which it happens, and implications for clinical practice.

OVT also adds to the literature on PTSD by offering a theory that accounts for both the positive (e.g., growth) and negative (e.g., symptoms) outcomes, and reasons why some people experience posttraumatic growth and others do not. For instance, individuals who experience complex trauma during childhood face a number of risk factors that may impact their likelihood of experiencing posttraumatic growth, including the lack of a growth-fostering social environment before and after trauma, a developmental context that failed to teach coping skills associated with growth, and symptoms of CPTSD that

can keep a person “stuck” in the trauma rather than engaging in new experiences or taking on new perspectives that may reduce personal growth.

OVT is based on organismic theory, which holds the central tenet that people are active, growth-oriented organisms that are “naturally inclined to integrate their psychological experiences into a unified sense of self...” in efforts to attain personal well-being and fulfillment (Joseph & Linley, 2005, p. 269). According to OVT, people have an innate knowledge of what is best for them and therefore their actions are naturally guided by this knowledge, which is referred to as one’s organismic valuing process (Joseph & Linley, 2005). Thus, even after trauma, the theory posits that a person will naturally work to integrate the information in a way that promotes growth (Joseph & Linley, 2005). However, this process can be facilitated or impeded by two factors: 1) a person’s style of integrating trauma-related information, and 2) the social environment.

***Integration of trauma-related information.*** Integration of trauma-related memories (also referred to as the completion tendency or emotional processing) is an important aspect of both PTSD and personal growth theories. Memory integration refers to the notion that people adjust to trauma through an inherent tendency toward integration of new information (Joseph & Linley, 2005). This can happen in one of two ways: 1) the information is assimilated within existing perspectives of the world, or 2) existing perspectives of the world accommodate to the new information in a positive or negative way (Hollon & Garber, 1988). Whereas some people assimilate the information as a way to maintain a sense of justice in the world (e.g., “the abuse is my fault, I caused this”), other victims modify their existing models of the world to accommodate this new

information. A person may negatively accommodate with a hopeless reaction (e.g., “random events can happen and I am helpless in life”) or positively accommodate with a more optimistic perspective (e.g., “random events can happen, so I must live life to the fullest”). Although there can be an amelioration of symptoms with assimilation and positive accommodation, growth seems to only occur when positive accommodation is used (Joseph & Linley, 2005). Furthermore, assimilation and negative accommodation are more highly correlated with revictimization and prolonged symptomatology (Joseph & Linley, 2005).

According to OVT (Joseph & Linley, 2005), the natural tendency is toward positive accommodation of the information, but this requires both an awareness of one’s organismic valuing process and an appropriately supportive environment that allows for one’s organismic valuing process to occur (i.e., supports one’s needs and values). However, individuals who experience chronic childhood abuse may have never had the opportunity to get in contact with their organismic valuing process. Assimilation is more likely to occur in such situations, as the child often has to be more attuned to the needs of others rather than oneself as a protective strategy and to preserve a connection to the adults they depend upon (Joseph & Linley, 2005). Negative accommodation seems to occur when a person is unable to follow through with her organismic valuing process due to an unsupportive environment, that is, an environment that does not support one’s needs, values, and aspirations. For instance, an abusive relationship may involve direct challenges to, or even punish, the expression of one’s needs, values, and aspirations, thus

thwarting one's organismic valuing process and eliciting negative accommodation (Joseph & Linley, 2005).

***Social environment.*** The second factor influencing the process of growth, according to OVT, is the social environment before and after trauma. For instance, an environment that satisfies the basic psychological needs that promote the organismic valuing process—autonomy, competence, and relatedness—increases the chances of a person having the skills/freedom to act in accordance to her own organismic valuing process (Joseph & Linley, 2005). However, women who have histories of chronic childhood interpersonal abuse characteristically are subjected to environments that did not meet these psychological needs long-term, but instead were forced to act against their organismic valuing process.

Furthermore, individuals who experience prolonged childhood interpersonal trauma, as did the women in this study, are often denied access to a variety of age appropriate learning experiences (Cloitre et al., 2006), including the development of healthy attachments to others. Such a developmental context often leads to difficulty with trust, intimacy, and boundaries, as well as difficulties with affect regulation, emotion regulation, accurate expression and general psychological distress (Cloitre et al., 2006). Negative relational experiences, poor relational skills, and chronic symptomatology are likely to result in significant struggles developing relationships that support one's organismic valuing process (Joseph & Linley, 2005). Thus, the post-trauma environment may continue to impede the organismic valuing process (Joseph & Linley, 2005).

Given all of the vulnerability factors associated with the experience of complex childhood trauma, one might wonder if growth is even a possibility for women who have CPTSD. However, according to OVT, if a supportive environment is identified post-trauma, one may have the opportunity to explore and express her organismic valuing process, experience autonomy, competence, and relatedness, and in turn experience personal growth (Joseph & Linley, 2005). This perspective lends hope for the facilitation of growth within a supportive therapeutic environment that promotes autonomy, competence, and relatedness (Joseph & Linley, 2006).

**Promoting growth in clinical settings.** Though the benefit of experiencing personal and posttraumatic growth may be clear, some questions might be: 1) is there really a difference between interventions aimed at alleviating symptoms versus interventions aimed at fostering growth, 2) will fostering growth be more beneficial than reducing symptoms and alleviating distress, and 3) how can growth be facilitated in clinical settings?

To address the first question, it will be helpful to first comment on the concept of well-being. While posttraumatic distress and growth are distinct concepts, both are aspects of well-being, and the construct of well-being has two theoretical traditions—subjective well-being (SWB) and psychological well-being (PWB). SWB refers to one's perception of his or her overall satisfaction and level of happiness; and PWB refers to one's sense of meaning and purpose in life, sense of strength, and psychological maturity (Keyes, Shmotkin, & Ryff, 2002). This distinction has important clinical implications—a clinician who is strictly focused on treating PTSD might aim to reduce levels of distress

or raise SWB, while a clinician who also recognizes the possibility of posttraumatic growth may also aim to raise PWB in order to foster growth experiences. Thus, the aims of interventions intended to alleviate distress are structurally different than interventions intended to foster growth (Joseph & Linley, 2006).

With regard to the second question: will fostering growth be more beneficial than reducing symptoms and alleviating distress? Although research in this area is in its infancy, research suggests that the answer to this question is yes. First, according to OVT, relieving distress can occur through assimilation or accommodation, but only accommodation can lead to growth (Joseph & Linley, 2006). Thus, the alleviation of distress (and increasing SWB) will not necessarily lead to the facilitation of growth (and increasing PWB). On the other hand, facilitating growth and raising PWB has been shown to reduce levels of distress (Bhushnan & Hussain, 2007), enhance SWB (Frazier et al., 2001; Linley & Joseph, 2004a), and even improve physical health (Epel et al., 1998). For instance, a longitudinal study of sexual assault survivors found that women who reported growth over a 12-month period were less distressed than all other participants (Frazier et al., 2001). Additionally, Stanton and colleagues (2002) conducted an experimental study by randomly assigning breast cancer patients to either write about facts of the cancer experience or to write about their positive thoughts and feelings regarding the experience. Women in the positive thoughts and feelings condition showed significantly fewer medical appointments for cancer-related morbidities at 3-months follow-up (Stanton et al., 2002).

These findings provide support for the value of designing clinical interventions that are not only designed to alleviate distress, but also facilitate growth in survivors (Linley & Joseph, 2004b). The facilitation of growth may be a useful tool for trauma recovery and healing, a therapeutic vehicle to help individuals cope with the aftermath of trauma, and an appropriate goal of intervention for PTSD in clinical settings (Joseph & Linley, 2006).

Considering the lowered likelihood of growth that accompanies CPTSD, the third question of how to facilitate growth and positive development becomes very important. Much of the research on personal and posttraumatic growth has focused on variables associated with this experience (e.g., cognitive processes, personality factors, socio-demographic variables, social support, community resources), but few have directly offered suggestions of ways to foster growth in therapeutic interventions (Calhoun & Tedeschi, 2006; Joseph & Linley, 2006). Tedeschi and Calhoun (2004) are some of the first in the field to offer principles of clinical practice that may foster growth. First, they note that therapists need to broaden their understanding of trauma responses to include both distress and growth, as noted above. Without awareness of the potential for positive change, clinicians may miss opportunities to strengthen this response and even run the risk of thwarting the growth of their clients. At the same time, because experiences of adversity or trauma do not necessarily result in growth, clinicians must be careful not to imply that the client failed in some way when growth does not occur. In a similar vein, clinicians must be careful not to imply that there is anything inherently positive about trauma experiences. Instead, it is important to emphasize that it is not the event itself, but

rather the struggle with the trauma and grappling with its meaning that leads to growth (Calhoun & Tedeschi, 1998).

While very few specific techniques for facilitating growth in clinical settings have been identified, Joseph and Linley (2006) suggest helping clients “rebuild their self-structure by reintegrating self with experience” (Joseph & Linley, 2006, p. 1049). This creates an environment that allows a person to connect with their organismic valuing process and act in accordance with this process.

Considering the identified benefits, yoga may serve this function as it claims to reduce symptoms but also to connect a person to their current moment experience, which may serve to build awareness to one’s organismic valuing process (Cortright, 2007). At the same time, the risks involved with yoga (e.g., triggering postures, discomfort with body awareness, dissociation, etc.) and being asked to focus on one’s internal sensations may raise anxiety and be challenging to the point of halting one’s ability to access these benefits.

### **Current Study and Research Questions**

In sum, an increasing amount of research considers the use of complementary and alternative treatments to address symptoms of CPTSD. Mindfulness-based approaches, such as trauma-informed hatha yoga, hold promise for targeting the associated symptomatology. Concurrently, as we learn more about ways to treat CPTSD, there has been a call for treatments to go beyond a focus on psychopathology and consider psychological growth and well-being. As illustrated above, organismic valuing theory provides a useful heuristic for understanding how posttraumatic growth occurs, why

some individuals do not experience growth following trauma, and how growth may be fostered in a therapeutic context. However, few if any studies have researched what specific interventions can foster such growth.

In attempt to fill this gap in the literature and to further the knowledge on trauma-informed yoga as a treatment for CPTSD, the current study used a qualitative descriptive approach to explore how adult women with histories of complex trauma experienced a trauma-informed hatha yoga program. More specifically, the study explored participants' perceptions of change as a result of trauma-informed yoga (e.g., perceived changes in symptoms of CPTSD and personal growth) as well as the salient factors of trauma-informed yoga that contributed to their experiences. The intention of this investigation was to enhance our understanding of the use of trauma-informed yoga in trauma treatment, with a focus on symptom-reduction and personal growth. Results offer implications for service providers regarding new ways to understand and treat complex trauma, as well as ways that growth may be fostered among women with CPTSD.

## Chapter 3: Methods

### Introduction

This research aimed to learn from women with CPTSD engaged in a 10-week trauma-informed yoga program, and to elucidate their experiences of the program with regard to symptoms and personal growth. As noted above, little research has been done to identify interventions that can address the array of symptoms associated with CPTSD, and even less work has considered the possibility for interventions to foster personal growth or positive development beyond symptom reduction. As a way to begin filling this gap, the current study used the broad symptom categories of CPTSD and life domains associated with OVT and posttraumatic growth as a basic framework. More specifically, the study explored participants' experiences of any changes (positive, negative, or both/neither) in the following domains: somatic and emotion regulation, attention and dissociation, self-perception, relationship to oneself and others, and outlook on the future and systems of meaning. Additionally, the study provided multiple opportunities for the women to discuss other changes they may experience that are not accounted for within these domains. Participants' reports provided answers to the following questions: 1) what are the experiences of women in the yoga program—considering overall experience and specific aspects of the yoga program (e.g., physical asanas, pranayama breathing, dhyana meditation); 2) what changes, if any, do women experience in themselves (emotional, interpersonal, cognitive, etc.) through their experience; 3) how, if at all, do participants perceive shifts in experiencing symptoms and/or personal growth?

### **Rationale for Qualitative Inquiry**

A qualitative approach was apropos in this study for a number of reasons. First, qualitative approaches are considered especially helpful in exploratory studies that involve the examination of under-studied phenomena (Denzin & Lincoln, 2008; Hage, 2006; Sandelowski, 2000). Indeed, this study is considered exploratory in nature given the dearth of research that exists on the use of yoga as an aid in the healing process after complex trauma. Similarly, there have been no published studies exploring the possibilities of personal growth in complex trauma survivors participating in yoga.

A second reason for a qualitative method was that it allowed for participants' individual voices to be heard, and emphasized their subjective interpretations of experience (Denzin & Lincoln, 2008; Patton, 2002). More specifically, it has been suggested that a greater understanding of any experience can only be gained by gathering the perspectives of those who actually live it day-to-day (Polit & Hungler, 1995). Thus, a qualitative approach was fitting given that an individual's experiences of trauma, posttraumatic growth, and yoga (and how they impact one's life) are uniquely personal, and may be best understood by hearing how the individuals describe their experiences, without imposing pre-defined measures and constructs (Hage, 2006).

### **Qualitative Description as a Guiding Framework**

The method of qualitative inquiry used in the current study is qualitative description. This methodological approach is appropriate in new areas of research where preliminary, low inference data is needed, such as in this study. It is also the most frequently used methodological approach in the practice disciplines as it lends itself to

the acquisition of information through straightforward, but thorough summaries of data. Sandelowski (2000) states that qualitative description is "...especially amenable to obtaining straight and largely unadorned (i.e., minimally theorized or otherwise transformed or spun) answers to questions of special relevance to practitioners and policy makers" (p. 337). Common questions for a qualitative descriptive methodology include: "What are people's responses (e.g., thoughts, feelings, attitudes) toward an event?" or "What factors facilitate and hinder recovery from an event?" These questions broadly reflect the forms of questions asked in the current study (e.g., what are women's experiences of yoga; what factors of trauma-informed yoga are perceived to facilitate or hinder personal growth?); and the answers may be of use to clinicians and policy-makers of healthcare reform for trauma survivors.

Furthermore, qualitative description aims to "provide knowledge and understanding of the phenomenon under study" (Downe-Wamboldt, 1992, p. 314) by collecting data from the primary source and capturing perceptions and insights from those who have lived the experience (Sandelowski, 2000). In other words, qualitative description is based on a constructivist paradigm, which argues that there is no objective truth to be discovered or single reality, but rather multiple "realities" constructed by the persons experiencing them (Hansen, 2004; Sciarra, 1999). Given the underlying philosophies of yoga and mindfulness—which emphasize individual experience and becoming fully conscious of what is occurring within and around oneself in each moment—a constructivist paradigm was a better fit for this study than a more positivist

framework, such as in consensual qualitative research (CQR; Hill, Thompson, & Williams, 1997).

More specifically, consensual qualitative research (CQR; Hill, Thompson, & Williams, 1997) is embedded in a post-positivist paradigm as it seeks to approach one true reality through consensus of multiple experts (Ponterotto, 2005). This emphasis seems to conflict with the philosophical and conceptual frameworks undergirding this dissertation, namely that there are “multiple equally valid realities” (Ponterotto, 2005, p. 133) constructed by participants. As described further below, I attempted to stay as close to the data as possible as I was working under the perspective that the participants are the “experts” of their own experiences (Morrow, 2007; Sciarra, 1999).

Grounded Theory (GT; Strauss & Corbin, 1998) is another common approach to qualitative inquiry. However, the goal of GT is to develop a theoretical explanation of the phenomenon, and thus requires a higher level of interpretation than qualitative description. While developing a theory of underlying processes may be useful in future research, a more descriptive method is first needed in order to develop a thorough understanding of this under-researched phenomenon (Strauss & Corbin, 1998).

### **Background on the Data**

The data for this dissertation was gathered in the context of a larger study, entitled *Efficacy of Yoga for Treatment-Resistant Posttraumatic Stress Disorder*. This three-year study, funded by the National Institutes of Health, National Center for Complementary and Alternative Medicine (NCCAM), was conducted by the Trauma Center at Justice Resource Institute in Brookline, Massachusetts under the direction of Dr. Bessel van der

Kolk. Below is a brief description of this larger study. A more thorough description can be found at: [clinicaltrials.gov/ct2/show/NCT00839813](https://clinicaltrials.gov/ct2/show/NCT00839813).

**Summary of the larger study.** The larger study attempted to answer the following research question: can yoga, which is a technique that targets active mastery and improved affect regulation, improve the constellation of PTSD symptoms, multiple somatic complaints, social and occupational impairment and high health care utilization that has been documented in hundreds of thousands of women in the US? The study was a randomized control design examining the immediate and sustained effectiveness of 10 weeks of trauma-informed yoga on symptoms of PTSD compared to waitlist attentional controls receiving Women's Health Education (WHE). The latter was an educational group led by an instructor using a classroom format; the health topics covered each week were not trauma-related and the WHE protocol has had no impact on symptoms of PTSD in other studies (Hien, 2006). The trauma-informed yoga (TIY) and the WHE groups took place simultaneously, in two different rooms, at the Trauma Center. For more information on the Women's Health Education group, please refer to Appendix I. A detailed description of the TIY protocol is provided in the "Research Process" section below.

Over the course of the three-year study, six cohorts were recruited consecutively, with between six and 14 participants in each cohort. Participants were recruited via clinician referrals and advertisements in local, widely distributed newspapers (free to the public) and public radio stations. Potential participants first completed an initial phone screening that broadly assessed study criteria, such as appropriate demographic variables

(e.g., age, gender), history of complex trauma, active PTSD symptoms, yoga experience, stability of living condition, engagement in long-term therapy, and willingness/ability to attend in-person sessions at the Trauma Center.

Potential participants who met criteria based on the phone screen were asked to schedule an in-person Core Assessment and Screening (they were compensated \$50 for their time regardless of whether or not they met criteria). Informed consent was gained at the start of the Core Assessment meeting, and potential participants were provided with detailed information regarding the study, including purpose, randomization, expectations, general format of the groups, compensation, length of the study, and assessment procedures.

During the Core Assessment and Screening, potential participants were also assessed for inclusion and exclusion criteria using a variety of self-report and clinician administered measures. Participants included were females of any race, between the ages of 18-58, who have a history of complex trauma and meet diagnostic criteria for PTSD on the Clinician Administered PTSD Scale by meeting a cutoff score of 45 (CAPS<sup>6</sup>; Blake, 1995), physically-oriented methods to directly address the physiological symptoms related to CPTSD. Cloitre and colleagues (2010) are among the few who have explored

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<sup>6</sup> The CAPS is a widely used assessment to determine diagnostic status and symptom severity of PTSD. The instrument contains frequency and intensity scales for symptoms. Subscales assess intrusion, avoidance, arousal, and associated affective features. Scoring followed the approach by Weathers, Ruscio, & Keane (1999). For symptoms to meet criterion, they must have a frequency score of 1 or more (0="none of the time;" 4="most/all of the time") and an intensity score of 2 or more (0="none;" 4="extreme"). A diagnosis is made if participants meet the diagnostic criteria and a total score cutoff of 45. The CAPS has good psychometric properties across a range of clinical populations and research settings (Weathers, Keane, & Davidson, 2001). Inter-rater reliability for frequency and severity is excellent for the intrusion, arousal and avoidance subscales ( $r > .92$ ). Internal consistency is also good ( $\alpha = .87$  for each subscale;  $.94$  for total score). The scale correlates highly with other measures of PTSD symptoms (Mississippi PTSD Scale,  $r = .91$ ; MMPI-2 PTSD subscale,  $r = .77$ ; SCID PTSD section,  $r = .89$ ; Blake et al., 1995).

the effectiveness of skills training in affect and interpersonal regulation (STAIR) as an initial phase of complex trauma treatment. While their research has demonstrated the utility of this approach, it continues to use verbally-based methods (i.e., top-down processing), rather than the body (bottom-up processing) to address the way trauma is “remembered” in the body (van der Kolk, 1996).

Additionally, inclusion criteria required all participants to be involved in ongoing psychotherapy with the same therapist for at least six months prior to the study as well as at least three years prior psychotherapy. Participants were also asked to continue any psychotherapy and psychopharmacology treatment they were currently receiving, and asked not to make any changes to their current treatment plan throughout the study (including three months prior to start of the study through the two-month follow-up) unless clinically indicated. Exclusion criteria included: present abuse or unstable living conditions, existing alcohol or substance abuse, psychosis, significant health problems, traumatic brain injury, or more than six previous yoga classes.

Of the 101 potential participants that signed consent and were screened for the study, 83 met study inclusion/exclusion criteria at the baseline core assessment. These 83 women were selected and randomly assigned to either the trauma-informed yoga treatment group or the women’s health education control group, however 19 decided against study participation prior to the start of treatment, leaving a total of 64 participants who began treatment (32 in yoga; 32 in women’s health). Of the 64 women who began treatment, 60 completed the study (31 in yoga; 29 in women’s health) as one dropped from yoga and three from women’s health.

After the Core Assessment and Screening, women who met inclusion criteria and chose to participate in the study, also completed a variety of self-report and clinician administered measures at three time points – one-week pre-treatment, one-week post-treatment, and two-months post-treatment. The qualitative interviews for the current dissertation were conducted at the two-month follow-up (discussed in detail below). Participants who gave consent were video- or audio-taped at each assessment point. All assessments were conducted by research team members who were “blind” to each participant’s group assignments until just prior to the two-month follow-up interview. While participants in both conditions participated in a qualitative interview during the two-month post-treatment assessment, the present dissertation focuses on the interview data from women in the trauma-informed yoga class only.

Participants were compensated a total of \$150 (in addition to the initial \$50) for their participation in the one-week pre-treatment (\$25), one-week post-treatment (\$50), and two-months post-treatment (\$75). All classes in both the trauma-informed yoga group and the WHE group were free. Furthermore, women assigned to the WHE group (i.e., waitlist controls) were given the opportunity to participate in a free 10-week trauma-informed yoga class, which followed the same protocol used in the study. After their participation, all women were invited to attend the Trauma Center’s bi-weekly drop-in trauma-informed yoga classes.

The following section describes my dissertation research process, including: gaining entrance, recruitment, data collection, trauma-informed yoga protocol, and data analysis. Where relevant, information regarding the influence of the larger study on the

current dissertation was noted. Details regarding rigor and trustworthiness are also discussed.

### **Research Process**

**Gaining entrance and initial contact.** Given my interest in trauma recovery and personal growth as well as mind-body interventions, I approached the director of the Trauma Center (also a reader on this dissertation) when I heard about the *Efficacy of Yoga for Treatment-Resistant Posttraumatic Stress Disorder* study. After explaining my research interests and my desire to become involved in the study, I was hired as a research fellow to complete screenings and assessments. A primary task was to develop and administer the qualitative interview at two-month follow-up, from which came the data that is summarized in this dissertation research.

Charged with administering the Core Screenings as well as the pre-treatment and post-treatment assessments throughout the study, I was able to get to know the women participants and develop rapport before conducting the final interview. As noted above, each assessment consisted of a clinician-administered PTSD scale, a heart rate measurement, and various self-report measures. The semi-structured qualitative interview occurred at the two-month post-treatment only.

**Recruitment.** Purposeful sampling, defined as “selecting information-rich cases whose study will illuminate the questions under study,” was the sampling approach used in this dissertation (Patton, 2002, p. 230). In the context of this study, all 32 women who were assigned to the trauma-informed yoga group were asked to participate in the qualitative interview at two-month post-treatment follow-up. Of the 32 women, I was

able to interview 21 women (the remaining 11 were interviewed by another research assistant). Of the 21 women I interviewed, a total of 11 were audio- or video-taped. The other ten interviews could not be recorded due to a range of issues, including: four participants requested not to be recorded; three interviews occurred when the recorders were unavailable, and three interviews occurred when the recorder or tape malfunctioned (i.e., recorder stopped prematurely, sound was inaudible, and error in transfer from recorder to DVD). Participation in the trauma-informed yoga group was the only inclusion criteria; there were no exclusion criteria.

**Participants.** Participants in the current research included 11 participants ranging in age from 23 to 59 (two in their 20's, four in their 30's, three in their 40's, and two in their 50's). Seven participants identified as single, one as married or engaged, two divorced or separated, and one did not answer. With regard to annual income, two participants reported \$12-\$15K, four \$26-\$39K, two \$40-\$59K, and three did not report. Eight participants worked full-time, two were unemployed, and one was a student. Of the eleven women, six completed an undergraduate degree and five have done post-graduate work. When reporting race and ethnicity, nine identified as White or Caucasian and two as Black or African American.

All participants reported histories of multiple traumas and/or chronic abuse (physical and/or sexual). The primary<sup>7</sup> trauma for all participants occurred at least 12 years prior to the study, most having experienced the primary trauma between early

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<sup>7</sup> Primary trauma refers to the experiences that participants identified as the most troubling and that which has had the most long-lasting effects. Primary trauma does not refer to one traumatic episode, but rather the series of related traumatic events (e.g., physical abuse by a parent between the ages of 6 and 15; sexual abuse by brother between 10 and 14 years old).

childhood and mid-adolescence. Ongoing physical abuse combined with emotional abuse was the most common form of complex trauma, however sexual abuse was only slightly less reported as a number of participants reported a combination of physical, sexual, and emotional abuse. Parents or siblings were the most common perpetrators; however some participants reported multiple perpetrators.

**Trauma-informed hatha yoga treatment protocol.** The 10-week yoga program consisted of a weekly, hour-long, instructor-led yoga class and four days of self-led practice at home (using an audio tape as a guide). The instructor was a registered yoga teacher, with specialized training in TIY, and a licensed mental health counselor. In order to create a space of peace, privacy, and safety, participants were asked to maintain a respectful silence in the group room, the room temperature was kept warm and the lights low. Group time was not used for discussion and there was no verbal processing of the group experience or trauma histories. Although after session the group leader would answer participants' questions, this time was not used as a process forum.

The 60-minute class included the core elements of hatha yoga – pranayama breathing (diaphragmatic or focused breath), physical asanas (postures and movements), and dhyana (meditation). Approximately five minutes of each class was dedicated specifically to breathing and five minutes to meditation, while the majority of each session focused on the postures and movements. The instructor focused on basic asanas for the first couple weeks and gradually introduced new asanas over the course of the 10 weeks. It is important to note that the asanas integrate pranayama and dhyana as asana practice links breath to movement and encourages a moment-to-moment awareness of

oneself; asanas are often considered meditation in motion.

The basic format of the 10 classes is outlined below. Classes 1 and 2 were designed to welcome participants and introduce key themes of trauma-informed yoga to the class, including present moment experience, choice, and taking effective action. Classes 3 and 4 focused on yoga as an opportunity to practice being in the present moment (e.g., noticing how your body is feeling; focusing on connecting breath to movement; if lost in thought, gently bring focus back to breath). Classes 5 and 6 emphasized choice as a key part of yoga and having choice in the class (e.g., to modify a posture, forego a posture, or choose to stay in a particular posture). Classes 7 and 8 highlighted using yoga practice as a way of taking effective action (e.g., moving your body in a way that feels good; using breath and body to relax). Classes 9 and 10 were used to review the themes of choice, presence, and effective action while honoring the time spent practicing and moving in rhythm with others.

Throughout each class, the yoga instructor offered posture modifications from which participants could choose if they experienced discomfort or pain. The language used by the instructor during the sessions was carefully chosen with the intention to create a safe environment for participants to explore their physical experience, notice their breathing, find a state of meditation, and integrate more fully into their bodily experience of the postures. Words used by the teacher were always present moment focused and directly centered on the class (versus attempts to translate the themes to life outside of the class). Spiritual traditions commonly associated with the practice of yoga (e.g., chanting, use of Sanskrit, sharing of spiritual beliefs), were intentionally removed to

avoid the potential for unnecessary triggering or exclusion. One exception to this occurred at the end of each session when the teacher invited participants to acknowledge one another by bowing and/or speaking the Sanskrit word Namaste. This exchange is often considered a gesture of respect and gratitude for shared experience. Participants were always offered choice in this respect, as they were in all other respects. Similarly, physical assists were not used to avoid unnecessary triggering, discomfort, or invasion of privacy. When appropriate, verbal assists were used to help participants find comfort and safety in postures.

### **Data Collection**

**Human subjects participation.** The Institutional Review Board (IRB) of the Justice Resource Institute<sup>8</sup> gave approval for this study before data collection at the Trauma Center<sup>9</sup>. All researchers involved in the study were certified by HIPAA (Health Insurance Portability and Accountability Act). Furthermore, participants independently read over the informed consent at the beginning of their first assessment, went over the informed consent in detail with the researcher during the first assessment, and were reminded of their voluntary participation at each assessment meeting.

Through a detailed review of the informed consent, participants were aware that the information they provided would be used as sources of data, and that every effort would

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<sup>8</sup> The Justice Resource Institute is a nonprofit organization in New England. Founded in 1982, JRI is a social justice-oriented, mental health service organization.

<sup>9</sup> The Trauma Center is a program of the Justice Resource Institute that was founded in 2005 and provides comprehensive services to traumatized children, adults, and families at the main office in Brookline.

be made to maintain full confidentiality. For instance, all identifying information was removed from data sources, such as interview transcripts, and pseudonyms are used to protect participants' identities. The informed consent also provided information about video- and audio-taping, clearly stating each participant's right to permit or deny taping at any point and the protocol for maintaining confidentiality (e.g., keeping all tapes in a locked cabinet). Similarly, participants were informed of the intention to use the data collected for publication, but that no identifying details would be used.

Informed consent procedures also involved discussing possible risks and benefits to participation in the study. Regarding the qualitative interview in particular, participants were informed of the possibility for the interview to bring up powerful memories and distressing emotions, and my offer to connect them to sources of support if needed. Possible benefits of the interview included the opportunity to express personal stories in a way that felt positive, reflect on and acknowledge personal strengths, and feel hopeful as they discussed areas of personal growth. Finally, the limits to confidentiality were described, and participants were given the opportunity to ask any questions regarding the informed consent form and procedures.

As a doctoral candidate at Boston College, I also obtained approval from the Boston College IRB. With this IRB approval, I gained permission to utilize the data for my dissertation research and future publication.

**Timing and structure of the qualitative interview.** As noted above, the data collection for the qualitative interviews took place at the two-month post-treatment assessment. This time period was chosen instead of the one-week post-treatment to allow

participants time to reflect on their experiences and assess lasting effects. Prior to starting the interview, participants were reminded of their option to stop at any point, asked again for permission to video- or audio-tape, and given information regarding the approximate length of the interview and its format. I then took a few minutes to provide participants with information on the purpose of my research to set up the interview process (see Appendix II for a general outline of this introduction). A total of 11 interviews conducted by me were audio- or video-taped and later transcribed to use as sources of data. Interviews ranged in length from 60 to 105 minutes depending upon how much the participants shared. All interviews were individual, took place in-person, and were conducted in a private room at the Trauma Center. Participants were given \$75 for their participation in this assessment.

Towards the end of each interview, participants were asked for reactions and feedback regarding the assessments and interview. No participants reported negative experiences, and many reported feeling comfortable despite discussing difficult personal topics. Some participants felt it was helpful to reflect on how they have been impacted by their trauma history and/or how they changed throughout participation in the study. A number of participants also expressed appreciation for the opportunity to talk about more than symptoms and areas of struggle, and felt thankful for having the opportunity to reflect on and share areas of personal growth and strength.

**Qualitative interview format.** Semi-structured interviewing was used to gather descriptive data about what women experienced as participants in TIY. This style of interviewing consisted of an interview guide that outlined a list of general questions and

specific probes to obtain further details. In turn, this basic structure and open-ended format gave participants an opportunity to identify the most salient aspects of their experience. For example, the women were asked if there were any perceived personal changes (positive, negative, or both/neither) associated with their participation and given the opportunity to respond without specific prompting. However, if any relevant domains were not touched upon (e.g., self-perception, relationship to body), I was able to ask open-ended questions about each one (e.g., “have you noticed any changes in how you relate to others?”).

The overall intention of the interview guide and open-ended questions was to promote participant reflection on their experiences of TIY. Examples of question areas included: what are ways in which dealing with trauma has shaped your life in areas of self-perception, relationships with others, and worldview; have there been any changes in these areas during and following the yoga study (positive or negative); and were there any particular aspects of the yoga program that played a particular role in these changes (positive or negative). Clarifying questions were used frequently to ensure I accurately understood participants’ experiences (Lincoln & Guba, 1985) as were questions encouraging participants to add any information that was not directly asked (e.g., “have you noticed any other shifts in areas of your life that we have not already covered?” or “Is there anything I have not asked that you think it would be important for me to know?”). See “Appendix II: Interview Guide” for a review of the semi-structured interview outline.

During and after each interview, I took field notes to document any specific and

outstanding aspects of the interview, as well as my general impressions. For example, I took note of questions that seemed to evoke strong emotions or seemed confusing, acknowledged my reactions to participants' responses, and commented on broad themes that seemed to recur throughout the interview. This allowed for continual reflection on the interview process and my role in it, as well as the opportunity to modify my interview questions and explanations to make sure that I asked them in a way that was clear to the participants. In one instance, after the first few interviews I found that my field notes reflected some confusion around the meaning of a question originally worded as, "*Has your participation in the program changed the way you "participate" in your life?*" and needed in the moment clarification. My field notes also made it clear that the simple addition of the word "active" helped with participants' understanding of the question. Thus, moving forward, I was able to modify the original question by asking, "*Has your participation in the program changed the way you "actively participate" in your life?*"

Field notes also helped me recognize that the question, "*How much of your life now revolves around the trauma?*" often raised a lot of emotion for those women who realized for the first time how much time they had previously spent managing their symptoms rather than engaging in life, or for the women who were now *choosing* to focus on their symptoms in order to address them (versus being unaware, experiencing them as intrusive, or having no sense of control over symptoms). All interviews that were video- or audio-recorded were transcribed by me or a research assistant at the Trauma Center; I was also able to listen to the recordings again, if needed, to check for mistakes or clarify responses.

## **Data Analysis**

While qualitative descriptive data collection techniques intend to uncover the “basic nature and shape” of experiences, analysis techniques aim to describe and summarize these experiences (Sandelowski, 2000, p. 338). Qualitative content analysis is considered the “analysis strategy of choice” in such qualitative descriptive studies (Sandelowski, 2000, p. 338) and was thus used in the current dissertation, with a primary focus on principles described by Elo and Kyngäs (2007), Hsieh and Shannon (2005), and Graneheim and Lundman (2004).

Qualitative content analysis is a method that can be useful in determining psychological states of persons as well as describing themes and trends in communication content (Downe-Wamboldt, 1992). Put simply, qualitative content analysis examines interview data for shared concepts, classifies these concepts into content categories, and then uses the information to describe the various dimensions of the phenomenon under study (Elo & Kyngäs, 2007; Polit & Beck, 2004; Sandelowski, 2000).

There are three distinct approaches to content analysis, including conventional, directed, and summative (Hsieh & Shannon, 2005). A conventional approach uses an inductive framework to describe a phenomenon that is not well understood or knowledge of its elements is fragmented (Elo & Kyngäs, 2007; Hsieh & Shannon, 2005). In contrast, directed content analysis uses a deductive approach to test or build upon previously developed theories, while summative content analysis quantifies words in the text to understand the contextual use of the words (Hsieh & Shannon, 2005). A conventional content analysis approach is most appropriate in the current study given its exploratory

and inductive nature as well as its aim to describe the understudied phenomenon rather than develop an overarching theory. More specifically, exploration of healing and growth among complex trauma survivors in TIY is a new area of research, and background knowledge is fragmented into each respective field with little understanding of the phenomenon as a whole, both of which make a conventional content analysis approach most suitable (Elo & Kyngäs, 2007).

In sum, conventional content analysis is low in interpretation as it derives codes and categories from participants' words to then develop an accurate and comprehensive summary of their experiences and general descriptions of the phenomenon (Elo & Kyngäs, 2007). The intention is to provide "knowledge, new insights...and a practical guide to action" (Elo & Kyngäs, 2007, p. 108). Although no complex theories are developed in conventional content analysis, the knowledge uncovered and awareness gained should generate recommendations for clinical work and future research in the particular area of study (Elo & Kyngäs, 2007).

**Units of analysis.** The 11 audio-recorded interviews were transcribed by me or another research assistant on the study. The resulting transcripts became the units of analysis from which meaning units were abstracted. Meaning units, according to Graneheim and Lundman (2004), are "the constellation of words or statements" that have related elements in their content and context (p. 107). Selection, condensation, and abstraction of meaning units within the transcripts allowed the coding process to unfold, which is described next.

**Coding process.** The first step in the analysis process is to "make sense of the data"

as a whole, and to get a broad sense of “what is going on” (Elo & Kyngäs, 2007, p. 109). In order to immerse myself in the data and become familiar with what was “going on,” I read through each interview transcript prior to beginning the coding process (Downe-Wambolt, 1992; Hsieh & Shannon, 2005; Polit & Beck, 2004). The next step is the development of codes to help organize the data. Coffey and Atkinson (1996) define codes as “heuristic devices” that allow data to be understood in new ways (p. 32). In the current study, three levels of codes were abstracted from the data.

**Level one.** The first level of coding consisted of making notes in the margins of the text while reading through interviews in order to identify recurring themes and ideas within and across interviews. This process allowed me to use the words of participants to abstract meaning units and develop a list of level one codes that capture the various aspects of the expressed content as participants describe it (Graneheim & Lundman, 2004; Hsieh & Shannon, 2005). An example of this is the level one code labeled “Inhaling for energy and exhaling to calm,” which was abstracted as many participants in the study consistently made note of using breath control to manage “stressful situations” and as a “tool to prevent panic attacks.” Creating a level one code that was labeled with these words allowed for direct use of participants’ words in a concise and clear manner. As suggested by Graneheim and Lundman (2004), I developed a table to visually represent the interview text in one column and the level one codes alongside, which helped to further organize the data and abstract the 2<sup>nd</sup> level categories.

**Level two.** The second level of coding, which involved the development of categories and subcategories, remained at the descriptive level, but was a more condensed

version of the manifest content or a broader expression of the interview text used at level one (Graneheim & Lundman, 2004). In other words, the intention was to stay close to the data without much interpretation, so that the meaning of participants' words remained but were abstracted as common threads identified among the level one codes and organized into a smaller number of categories (Graneheim & Lundman, 2004). This step of the coding process consisted of looking at the list of level one codes, identifying similarities and differences in common topics or experiences directly expressed in the interviews, and then sorting them into higher-order headings (Graneheim & Lundman, 2004). For example, I determined that many of the level one codes involved using breathing techniques and physical stretches to calm down, such as "Using breath to manage panic attacks and anxiety," "Small movements make a big difference," and "More control over feelings with tools like breath" could all be collapsed into the one category entitled, "Tools for effective action."

As Graneheim and Lundman (2004) point out, due to the complexities and overlapping nature of human experiences, one category often includes a number of sub-categories. In the context of the current study, "tools for effective action" is a category that encompasses a variety of ways women learned to use themselves, their bodies, and their breath as resources—or noticed they had the tools to take effective action. Given that the data shows different aspects of this category, it was divided into sub-categories, including "breath as a resource," "body as a resource," and "self as a resource." Consequently, this stage of data analysis resulted in a list of categories, some of which were divided into sub-categories.

**Level three.** In the last stage of coding, the categories developed in the previous stage were considered in order to identify links and recurring themes. This stage allowed for greater clarification of the relationship among categories and a deeper understanding of the larger framework connecting the categories. Level three coding is the closest step to conceptual description in conventional content analysis (Elo & Kyngäs, 2007; Graneheim & Lundman, 2004). Themes are developed based on the underlying meanings found within, and across, the categories (Graneheim & Lundman, 2004; Polit & Hungler, 1999). Themes might be considered an expression of the latent content of the text as they describe aspects of underlying meaning through condensed meaning units of codes and categories. For example, the categories of “Tools for effective action,” “Active participant in life,” and “Sense of control and self-confidence” all seemed to be aspects of an increasing sense of internal strength and power and were therefore placed in the theme entitled “Empowerment.”

According to Graneheim & Lundman (2004), it can be nearly impossible to develop themes that are mutually exclusive, as data may have multiple meanings. Consequently, level one codes and level two categories often fit into more than one theme. While researchers offer different perspectives regarding the number of themes that should result from this process, the number is primarily dependent upon what is needed to most effectively organize the categories and codes (Hsieh & Shannon, 2005). This study resulted in six themes. For examples of each level of coding, refer to Appendix III.

**Progressive refining and development.** While this coding process may seem linear, in actual practice, often there is movement between levels in order to refine the

codes and categories and develop the most accurate and descriptive labels at each level (Downe-Wamboldt, 1992). Such progressive refinement was a result of, and catalyst for, increasing familiarity with the intricacies of the data and a deeper understanding of the conceptual framework or “big picture.” Part of this refinement process involved discussions with my dissertation chair regarding the development of codes. “Informal” conversations were ongoing, while “formal” meetings took place after each level of coding and again at the completion of the coding process. An informal conversation might have consisted of a phone call or email to my dissertation chair to discuss our perceptions of particular sections of data that seemed to fit under multiple locations. Throughout the more formal review process, my dissertation chair reviewed all the codes and then offered reflections on whether they clearly and accurately captured the interview data from her perspective. We would dialogue about these suggestions, and I would then use the insights gained during the discussions to revise the codes as needed.

One common example of such interactive dialogue with my chair occurred on an occasion when it was initially unclear to me if the category of “presence” should be placed under the “relatedness” theme or “centeredness” theme. My chair raised a number of clarifying questions about the distinctions between the concepts of relatedness and centeredness. These questions led to my realization and my chair’s agreement that although present-moment awareness may be considered an experience of connection to the present moment, it seemed more apropos to the theme of centeredness given that the women’s experiences seemed to reflect having a core sense of self while being engaged in the present moment. Another example came after my chair reviewed my second level

categories. She had noticed that participants' experiences of being less worried about what other people think were not being reflected in the categories. Through our discussion, it became clear that participants' experiences were related to an acceptance of oneself and less need for external validation, which then became a category under the theme of acceptance.

The overall intention of these discussions was to clarify ideas for coding, check my perceptions, gain new perspectives, and take advantage of synergistic discussions that would foster a deeper understanding of the phenomenon as a whole. Once all interview data was coded, a reader on my dissertation committee served as a peer reviewer and provided feedback on the coding, specifically commenting on areas of agreement or disagreement with the way the data were coded. For instance, he shared his perspective that the theme of "awareness" was a concept that pervaded all of the data as each theme reflected increased awareness, and that the categories within this theme actually seemed to fall under the other identified themes. Through some exploration, this perspective seemed to offer a better description of the data and participants' experiences and thus the coding was revised accordingly. Overall, this interactive process involved dialogue and further refinement of the three levels of coding. The active coding process came to a close when no new codes were emerging from the data.

**Memo-writing.** Another aspect of the data analysis process involved memo-writing, which Tong, Sainsbury, and Craig (2007) consider an essential criteria for reporting qualitative research. Memoing provided a way for me to remain aware of, and illustrate, the ways I perceived the data (Charmaz, 2006; Elo & Kyngäs, 2007). More

specifically, memos helped me organize my thoughts and my developing understanding of the data, its meanings, and my reactions to both. For instance, memos were written when I had ideas about how to label codes, when I was making coding decisions, when I noticed links between categories, and when I made connections between the data and theory or literature (Charmaz, 2006; Elo & Kyngäs, 2007). Given that memos were written in the moment, they appear as informal notes expressing my thought process as I attempted to organize the data, and my understanding of it. Below are three examples of memos I wrote in this process:

1. *“There seems to be various ways yoga helps participants find mental and emotional ‘space’ (e.g., time to slow down and think rather than react/ruminate). Is ‘creating space’ a category? Decided it is more about experiencing a sense of calm that included a calm mind.” (February 2011)*
2. *“The notion of choice and control seems important—many participants are commenting that they now can choose to confront difficult emotions and can choose to express these emotions to others. Are these separate categories though? Seem very connected. Decided that sense of control is a category with subcategories of confronting/tolerating emotion and having a voice.” (February 2011).*
3. *“Increased connection to internal experience is sometimes associated with positive outcomes (e.g., sense of connection with self) and sometimes with unpleasant/painful experiences (e.g., recognition of intense feelings of anger) – sometimes simultaneously (e.g., appreciate increased awareness of emotions, but not necessarily awareness of anger). Are there two codes here, or is this different elements of one experience? I decided on the latter as it is all linked to connecting to inner experiences.” (March 2011).*

### **Rigor, Quality, and Trustworthiness**

Establishing rigor in qualitative research is a way to demonstrate the degree of merit of the qualitative inquiry or the degree to which findings are based on a data

collection and analysis process that is thorough, thoughtful, and transparent. This is often accomplished through detailed documentation of the procedures used to generate the findings (Miles & Huberman, 1994). While much of the detailed documentation and efforts at transparency for this dissertation have been described in the above sections, strategies used to enhance trustworthiness of this study are described below.

Trustworthiness of qualitative research refers to the quality of the findings or the extent to which they are considered authentic and reliable (Elo & Kyngäs, 2007; Graneheim & Lundman, 2004; Guba & Lincoln, 2005). From this perspective, with greater trustworthiness comes greater confidence that the voices of participants are heard and accurately expressed (Lietz, Langer, & Furman, 2006; Miles & Huberman, 1994). While various strategies and concepts are described in the literature regarding trustworthiness, the current dissertation used concepts outlined by Graneheim and Lundman (2004)—including credibility, dependability, and transferability. I also consider the concept of integrity of the findings. These concepts, and how I used them throughout the research process, are discussed below.

**Credibility.** Credibility can be defined as the degree of confidence in which a study has addressed its intended focus and accurately represented the voices of participants in the results (Graneheim & Lundman, 2004). One crucial step in achieving credibility, according to Graneheim and Lundman (2004), is the selection of a meaning unit that is appropriate for, and fitting with, the intended focus of the study. More specifically, without an appropriate meaning unit there is a risk of losing meaning in the text during the abstraction process. Meaning units that are too broad (e.g., several paragraphs) often

contain multiple meanings and thus can be too difficult to manage, while meaning units that are too narrow (e.g., a single word) can often result in fragmentation. Consequently, describing meaning units and detailing the abstraction and coding processes in a transparent manner can aid in determining credibility (Graneheim & Lundman, 2004). With regard to meaning units selected in the current dissertation, I chose to work with a few sentences within the interview transcripts at a time. This allowed me to focus on particular experiences/meanings that were being described by the participant while also maintaining a sense of the broader context in which the particular experiences were being had. For a detailed illustration of the abstraction and coding process, please refer to the data analysis section above. To see examples of meaning units, refer to the right hand column of Appendix III.

The concept of credibility also has to do with how well the level one codes, level two categories, and level three themes reflect the data (Graneheim & Lundman, 2004). One of the most straightforward ways of illustrating this is through the utilization of direct and representative quotations from participants. This approach was used throughout my dissertation, primarily in the findings section where I provided detailed descriptions of participants' experiences and used quotations to highlight the voices from which codes arose.

Another way to demonstrate how well the identified codes reflect the data is through peer review (Graneheim & Lundman, 2004). It is important to note that there is debate in the field of qualitative research that surrounds whether or not "agreement" or validation among researchers, experts, and/or participants is necessary, particularly when

working under the assumptions that multiple realities exist and reality is subjective. Some researchers suggest that seeking agreement is moot given that interpretation of data will vary based on subjective experience, which can change from moment to moment (Sandelowski, 1993, 2000). Other researchers assert that dialogue among co-researchers can provide rich opportunities to deepen one's understanding of the data through the sharing of perspectives and ideas, and support coding and concept production (Elo & Kyngäs, 2007; Graneheim & Lundman, 2004). As a person who learns through interaction and dialogue, and as a graduate student who is still learning the art of qualitative inquiry, I felt it important and useful to take the latter approach to my analysis.

Using the framework referenced in Graneheim and Lundman (2004), I used peer review in my dissertation as a way to gain perspective and consider alternative insights into the data and analysis, rather than to verify that other researchers would code the data in the exact same way. More specifically, I engaged in dialogue with other researchers to receive feedback regarding whether or not they agreed that the categories I identified, the descriptions I developed, and the interpretations I made seem to accurately reflect the complete picture and meaning of participants' experiences (Elo & Kyngäs, 2007; Graneheim & Lundman, 2004). Unlike some approaches to peer review, this process did not require reviewers to code interviews. Rather, peer review in this context consisted of sharing codes that I developed and discussing the coding process, hearing alternative perspectives, and repeating this cycle after making revisions to the coding based on such interactions. For example, after each level of coding, my dissertation chair would offer

her thoughts on ways to label the codes more clearly and directly. As described and illustrated above in the “Progressive refining and development” section, such dialogues took place with my dissertation chair and readers on my dissertation committee.

**Dependability.** The concept of dependability refers to the degree to which data change over time or to which the research design changes. In attempt to enhance dependability and ensure that design and analysis decisions were made thoughtfully, I consulted with my dissertation chair and committee members on decisions during the research process. Consultations involved discussions and decision-making around design, implementation and data collection, and analysis. Furthermore, memo-writing and detailed descriptions of the research process (both described in the above sections, including examples) were used in an attempt to make the research process as explicit as possible (Graneheim & Lundman, 2004).

**Transferability.** Transferability can be described as the extent to which findings and implications can be useful or relevant in other contexts or with other groups of individuals (Graneheim & Lundman, 2004; Polit & Hungler, 1999). Graneheim and Lundman (2004) point out that in any study it is essentially up to the readers to determine if they consider findings to be transferable. Graneheim and Lundman (2004) also suggest that the researcher can offer perspectives and suggestions regarding transferability of the findings. With this in mind, I attempted to facilitate transferability in the current study by making the descriptions of the study context, participant characteristics, and research process visible to readers. The inclusion of direct quotations and detailed accounts of the findings were similarly used in attempt to aid readers in determining transferability.

**Integrity and confirmability.** A related aspect of trustworthiness in qualitative research is confirmability or the integrity of the findings. Integrity and confirmability refer to the extent to which findings accurately represent the participant's voices rather than the researcher's beliefs or biases (Lincoln & Guba, 1985). According to Downe-Wamboldt (1992), data collection and analysis are completed in the context of the researcher's foundation of knowledge regarding the topic of study (e.g., relevant theories, literature, research, personal interests, past experience, and engagement in data collection). That being said, the researcher does not attempt to predict the particular experiences of participants, which could limit the researcher in identifying the full scope of the phenomenon and threaten the integrity of the results (Downe-Wamboldt, 1992). Many of the same procedures used to demonstrate dependability also enhance the integrity of a study, such as thorough documentation of the research process and memo-writing (described above). Additionally, in order to create codes that accurately capture the multiple dimensions of their experiences of the phenomenon, I avoided putting any constraints on the data through pre-developed codes and instead stayed close to participants' voices (Downe-Wamboldt, 1992).

Management of subjectivity, or ongoing reflection, is another way to demonstrate integrity of findings. In the context of this dissertation, my choice to study this particular phenomenon and my focus of analysis were directly influenced by my personal history, framework, and areas of interest, thus I felt it important to reflect on how my perspective and personal context may influence the research and the findings. This was accomplished through reflexive evaluation, a process that involved consideration of biases,

assumptions, and perceptions that may influence the research, and then acknowledging these possibilities in the documentation of the research (Guba & Lincoln, 2005; Milne & Oberle, 2005). Below, I provide a reflexive analysis in the attempt to document any personal beliefs and assumptions that had potential to influence the research process.

As a doctoral candidate in Counseling Psychology at Boston College, I have had a range of research and clinical experiences that have led to this particular line of research. Much of my time has been spent researching factors associated with positive development and addressing symptoms of trauma and psychological distress. My clinical experiences have ranged in setting, client population, developmental level, and therapeutic approach. One commonality, however, is that many of my clients have experienced histories of traumatic stress, and a common theme in treatment has been attempting to work with individuals from a holistic and strengths-based perspective. It is important to note that I am not a survivor of complex trauma, but it is through bearing witness to stories of trauma, terror, hope, and transcendence, that I have sustained a strong commitment to this area of research. Recognizing the ubiquity and devastating impact of interpersonal trauma in our society has compelled me to study the process of healing and personal growth. Indeed, it is my hope that I will be able to help others in their recovery through direct clinical work and dissemination of innovative research findings.

In addition to being a doctoral candidate, I am also a dedicated yoga practitioner and have obtained training in various forms of yoga. With this background, I hold a set of assumptions and biases that are important to acknowledge in the context of this current

research pursuit. Through this process of reflexive evaluation, I have thought about the ways in which my life has been transformed through the practice of yoga and how these experiences may contribute to my preconceptions and prejudgments of the ways in which yoga will impact participants. For instance, through the practice of pranayama breathing, I have gained a greater ability to reduce feelings of anxiety in stressful situations. Through asana practice, I have gained a deeper appreciation for my body and its abilities and increased sense of strength. Through the dhyana practice (meditation), I am more aware of my thoughts and their impact on my state of being.

Considering my experiences with yoga, and acknowledging the ways in which they may influence my perspective, it has been important for me to remind myself that not all people have the same reactions to yoga and many people have very different experiences (good and bad). In fact, I have witnessed a number of individuals try yoga and have difficult (i.e., negative) experiences with the practice, including feelings of frustration, shame, increased arousal, and physical discomfort. Through this ongoing process of reflection, I intended to open up my perspective in a way that allowed me to immerse myself as fully as possible into participants' experiences while also acknowledging ways I may be hearing their stories through my particular lens.

## Chapter 4: Findings

Results of the current study, which examined participants' experiences in a trauma-informed yoga class, are described in detail throughout this chapter. The findings are based on analysis of semi-structured interviews conducted with eleven women following their participation in a ten-week trauma-informed yoga class. In the following sections of this chapter, I (1) describe the participants, (2) provide information on how the findings are reported, (3) contextualize the findings, (4) offer an overview of the themes, and (5) detail the results of the data analysis, including descriptions of the themes and direct quotations from participants.

Given the importance of maintaining participant confidentiality, attempts have been made to protect participant identities through the use of pseudonyms, which are used throughout this chapter when referring to participants individually. These names, which were chosen at random based on interview order, are: Olivia, Tara, Thu, Fatima, Fran, Sarah, Stacy, Emily, Nina, Trish, and Evelyn. Furthermore, in cases where direct quotes included potentially identifying information, I removed the information and used brackets to insert more general terms that maintain the meaning of participants' words without threatening confidentiality. For instance, Nina referred to her significant other by name and so I removed the name and inserted brackets that read "[significant other]." Finally, in order to maintain consistency and clarity when referring to the number of participants who report a given experience, I will use the word "most" or "many" when referring to more than seven of the eleven participants, "some" or "about half" for between four and six participants, and "a few" or "a couple" when referring to two or

three participants. Otherwise, I will refer to an exact number of participants, denote “all” participants, or reference particular participants using their confidential pseudonym.

### **Contextualizing the Findings**

Although the focus of this study is on the women’s experiences of the trauma-informed yoga classes, it may be helpful to first contextualize the findings with information on the participants’ level of functioning prior to the study. More specifically, understanding functioning prior to the study will provide a point of reference for participants’ experiences of the trauma-informed yoga and perceptions of change related to their participation. Thus, before discussing experiences in the yoga classes, participants were asked to consider how dealing with past trauma was impacting their lives prior to the study. Keeping in mind the possibility for ongoing struggles as well as personal growth, participants were invited to speak about any difficult and disruptive effects as well as any ways in which they may have experienced benefits or developed strengths from the process of dealing with past trauma. The data obtained from this inquiry suggests that participants’ level of functioning prior to the study was consistent with symptoms associated with complex PTSD (e.g., affect- and impulse-regulation, self-perception, interpersonal relations, etc.) and some participants noted areas of posttraumatic growth, such as increased sense of personal strength and greater attunement to the feelings of others. It is important to note, however, when participants mentioned areas of posttraumatic growth that had occurred prior to study they often viewed such growth with ambivalence (discussed further below).

**Disruptive effects of dealing with trauma.** Participants described a number of disruptive effects that came in the aftermath of trauma. Some of the most common included: trouble identifying, feeling, and regulating emotion; negative self-perception; and troubled interpersonal relationships; as well as poor body awareness and ownership of body; connection to internal experience and self-care habits; and lack of meaning and purpose in life and future.

Most participants reported trouble with emotions, particularly finding it difficult to identify and experience one's own emotions, as they reported suppressing emotion. For instance, Tara said, "my feelings really, just really shut down—feeling and expressing, and sometimes even realizing what I was feeling" and Olivia noted, "my emotions, I think, I've subdued them a lot...sometimes I'm stuck, I don't really know." Many participants also found it difficult to express and regulate emotions, such as Olivia who had "trouble expressing anger...always been able to express happiness although...I'll use as a mask for other ones. So I smile a lot. Even when I'm anxious" or Sarah whose "emotions were out of control, I didn't have control...it seemed like I was just getting barraged with flashbacks and feelings. I just felt like it was not going to end."

Participants also frequently noted negative self-perceptions, particularly in the form of low self-esteem and self-loathing. Trish's words reflect this common sentiment, "I felt so guilty and shameful about it that I felt if anyone knew I would be outcasted from society or that no one would love me ever again...I thought of myself as very bad, dirty with strong senses of shame." Another example of negative self-perception was clearly stated by Fatima who described herself as, "just fighting against incredible self-

loathing, I have [went on to list physical troubles]...So it felt like literally the gods were punishing me...you know that I caused it, that I was bad, that I got these diseases because it was bad or dirty.” Negative self-perception was often related to trouble in interpersonal relationships, particularly with regard to trust, sense of connection, and intimacy. For instance, Emily noted, “It was not feeling understood...not anyone else out there that got it. I really had a hard time trusting anyone...” Another participant, Trish, referred specifically to troubles with intimacy as she stated, “The big changes were in sexuality and personal relationships...putting other people’s needs in front of my own, even when it has been damaging or destructive to me. Sexually, I’ve been very stunted, and not really...finding pleasure in it.”

Relationship to one’s body was another area most participants reported as being significantly affected after the trauma. “Discomfort” and “disconnection” were common phrases used by the women to describe their relationship to their bodies prior to the study. For instance, Fran stated, “I disconnected from my body, didn’t know when to eat...don’t generally feel my body or feel connected to my body.” Lack of control and ownership of one’s body (e.g., “...sometimes I often don’t feel like my body is mine) and lack of self-care (e.g., “sometimes I just don’t care about my body”) were also frequently mentioned as issues the women faced before the study. One participant, Evelyn, summed each of these concepts up by saying, “My body awareness was much lower, I was more tuned out...completely shut down. Self-care has always been hugely challenging... sleeping, eating right, exercise, stretching, all those things, sexuality. It’s like complete denial that the body exists, or has rights, or anything.”

Dealing with complex trauma, for some participants, also resulted in an uncertainty about one's purpose in life and a pessimistic or limited view of the future. A few participants' words reflected this feeling, such as Fatima's statement: "I couldn't conceive of a future. It's always been on hold or always a fantasy" and Nina's comment: "I didn't want to trust that future would be there for me because that's never really been a very good idea. Trusting in any kind of future or expectations is typically disappointing." Fran spoke more directly about meaning in life as she stated, "I don't really know that I knew or had any hopeful understanding of what my life's meaning was...I just didn't have an understanding of how I fit in...so I really didn't have a grasp on my future." Additionally, a few participants reported shifts in spirituality or religion resulting from the aftermath of trauma. For instance, Fran noted, "...a group in the family was very fundamentally religious and the basis that everything happened to me was based on religion...everything was mandated was God...so I was very conflicted toward religion."

**Areas of growth experienced in aftermath of trauma.** As noted above, some of the participants noted particular ways in which dealing with their traumas had led to particular skills that may not have developed had they not experienced trauma. The skills and benefits included increased sense of personal strength and sensitive attunement to the feelings of others as well as greater appreciation for life. These outcomes were often described as being both useful and potentially detrimental. For instance, a few of the women reported that they developed an increased sense of personal strength and self-reliance, yet this was often at the cost of developing trust in others and elicited frustrations about the reasons for increased strength. Two participants who commented

on this quite poignantly were Fatima and Sarah. Fatima said, “In some ways I have a lot more resilience, but it’s like a trial by fire” and Sarah stated, “I feel very strong, it’s like I can do anything, I can face anything, get through anything...But it also doesn’t seem fair...it has those mixed emotions, it’s like I can feel strong and do this but it’s not fair why I can do this.”

Similarly, a few participants noted an ability to be more in touch with the feelings of others. This was sometimes connected to the content of their trauma history (i.e., determining another’s emotional state was a protective strategy) and sometimes a result of increased compassion for people who are also struggling. For example, Nina stated, “I’m really good at reading people...came from growing up with my mom...constantly monitor the situation at home to decide if it was safe or not...it’s good for working with people because I can be diplomatic and tactful and aware of how other people are feeling even if they are not aware themselves of how they are feeling.” As with the increased sense of self-reliance, this area of growth also had potential drawbacks, such as attending to the needs of others over oneself or being taken advantage of by others. Tara expressed this experience when she said, “I feel sorry for people and their situations. I have a tendency to be the world’s biggest sucker. So it makes me, like, be cautious of being compassionate.”

Three participants also mentioned that dealing with the trauma fostered a greater sense of appreciation for life and motivation to succeed, both of which were linked to spirituality. Participants described this in different ways, but often with the outlook of “what doesn’t kill us makes us stronger.” This perspective became particularly clear in

Emily's statement, "A pearl becomes a pearl with the irritant of the sand being caught in the clam. It is the irritation that causes the beautiful pearl." Another participant, Thu, commented that the reason she travels so much is because she wants to "experience everything, especially because I think wow, I made it through all of this and I never thought I would have what I have now," and Fatima reported that she "can see the beauty in the day-to-day and the beauty in people and my gratitude is just for little, simple, humble things...And that's the biggest gift and I know I did a lot of work to get there."

Contextualizing the findings in this way allows for a deeper understanding of where participants were, in terms of functioning, prior to the study. What also emerged from this data was that some of the women had experienced aspects of personal growth before they began the study; many of these areas of growth had both positive and negative "side effects." All of this will be important to keep in mind throughout the following sections, which address participants' experiences in the study and their perceptions of change from their participation.

### **Reporting of the Results**

Six themes arose from the analysis of the qualitative interview transcripts. One of these themes addresses study characteristics that impacted participants' experiences (e.g., particular postures, initial perceptions of yoga, and so on). The other five themes are more conceptual in nature and attend to participants' felt sense of trauma-informed yoga (e.g., centeredness and empowerment). It is important to note that the data comprising the latter five themes could have been organized using the "life domains" associated with posttraumatic growth (PTG)—self-perception, relationships, and perspective on

life/future—which were used as a broad framework for exploring participants’ experiences during the interview. However, rather than imposing the “life domains” structure which addresses areas of a person’s life more generally, I chose to allow fresh themes to emerge from the data which may better capture the nuances of participants’ experiences of trauma-informed yoga. Allowing themes to emerge in this way is consistent with the methodological approach in this study as I attempted to understand participant’s experiences in their own words. Finally, the nuanced themes can easily be used to illustrate ways in which participants’ experiences in the yoga study permeated their broader life domains, that is, how specific skills gained from yoga resulted in changes within life domains such as self-perception and interpersonal relationships.

It is important to note that the yoga teacher’s words and the study format were focused solely on the yoga class and participants’ experiences in the class (versus applying yoga to life outside of the study). That said, participants often verbalized ways they had made connections between yoga and their lives outside of the study. Some participants verbalized a direct connection between learning something in yoga class and applying it “off the mat.” For instance, after hearing her yoga teacher say, ‘put your thoughts at ease’ during meditation, Trish applied this to her life by choosing to think about “things that didn’t cause trouble in my mind” and thinking “easy problem thoughts” when she is stressed. In other cases, participants revealed a chain of events. For example, Nina described how the practice of bringing herself into the present moment led to increased awareness of body movements, which in turn triggered awareness of thought patterns and finding a sense of personal meaning in her actions.

Throughout this chapter, interconnections among different themes in the data may be noted. While the use of experiential-based themes demonstrates how multiple life domains are impacted by various aspect of yoga (e.g., relatedness is connected to a sense of self and to engagement with external experiences), the themes identified are also mutually impacting (e.g., relatedness with one's physical sensations often occurred simultaneously with, or elicited, a sense of empowerment that one has ownership of their body). Similarly, in some cases, participants' words suggest that awareness of the changes they experienced was as important of the change itself (e.g., the awareness of being more patient was as significant as being more patient). These interconnections are reflected in the reporting of findings when quotations fit under multiple themes. For instance, Thu described an increased sense of appreciation for herself, which involves a sense of self-love as well as the ability to set healthy boundaries in relationships. The corresponding quotation for this data can be found under both the empowerment section that describes participants' developing voice as well as the gratitude and compassion section that describes self-love and appreciation. Breaking up the data into separate themes allows for easier discussion about the whole picture in a manageable way; it may be helpful to think of the themes as aspects of a unified whole rather than discrete themes.

### **Overview of Themes**

In this section I describe the six themes that emerged from the data—five phenomenological themes and one theme regarding the yoga practice and study design characteristics that had an impact on participants' experiences. The “practice and study

design characteristics” theme is discussed first as the data in this category often helped or hindered participants’ experiences of the five other themes. The data comprising the five other themes are described next and include, “gratitude and compassion,” “relatedness,” “acceptance,” “centeredness,” and “empowerment.” I developed the acronym G.R.A.C.E. to refer to these themes for simplicity and to illustrate their overlapping nature.

Additionally, it is important to note that participants primarily described increases in their experiences of these five areas, rather than decreases. While increases were generally considered beneficial, the processes that led to such increases were both rewarding and challenging, physically and/or emotionally. For example, some women reported greater awareness of symptoms through yoga as they tuned into their physical sensations, emotions, thoughts, and behavior patterns through the emphasis on being present with oneself. This seemed to elicit a variety of emotions for participants: on the one hand, they felt sadness as they realized the extent to which symptoms impacted their lives; on the other hand, this awareness was empowering as it brought a sense of choice when responding to and managing symptoms, rather than feeling controlled by them. In other words, gains often came with hard work and difficult realizations.

Lastly, in order to describe the multiple dimensions of each theme, categories and subcategories further organize the information. Figures 2 and 3 provide a visual overview of themes and categories. In order to provide vivid accounts of participants’ experiences, quotations are used along with descriptions of the themes and associated categories and subcategories.

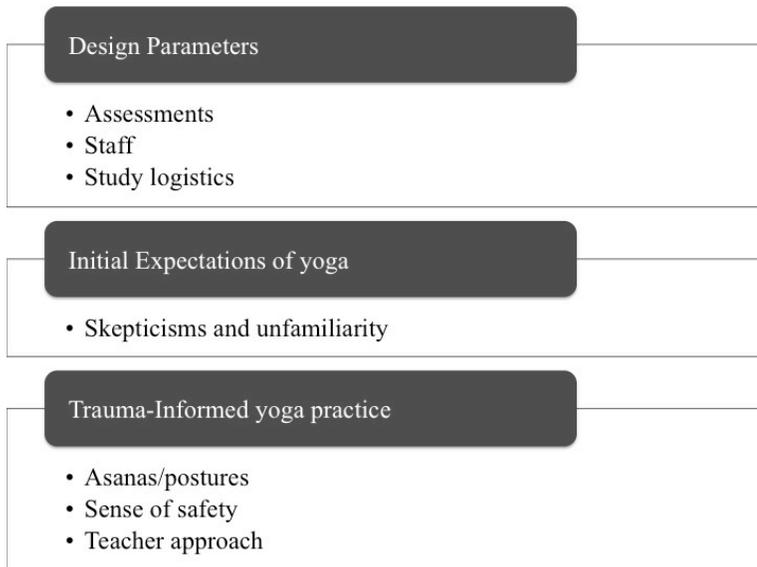


Figure 2. Theme 1: Study and design characteristics

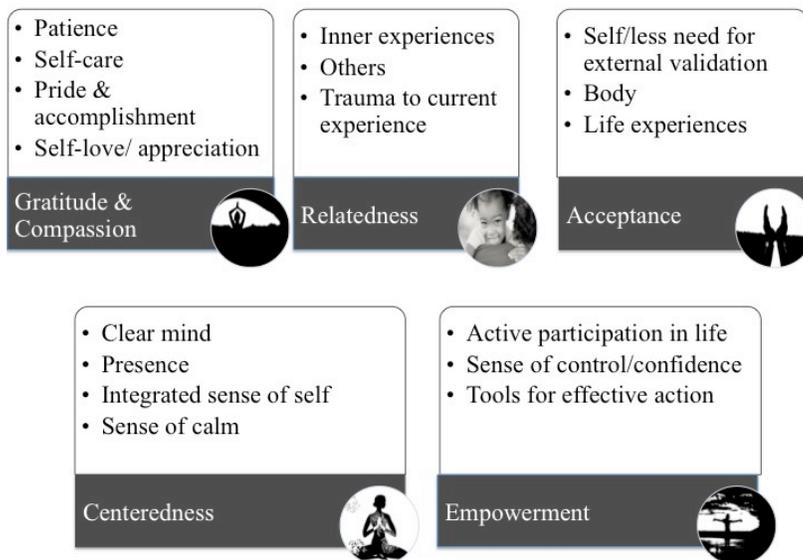


Figure 3. Themes 2-6: G.R.A.C.E. themes

**Theme 1: Yoga Practice and Study Design Characteristics**

The theme of “yoga practice and study design characteristics” describes the factors associated with trauma-informed yoga and study-design parameters that

contributed to positive and negative experiences for participants (e.g., potentiated or limited growth). This theme is comprised of three categories, including: “design parameters,” “initial expectations of yoga,” and “trauma-informed practice.” Describing each of these factors is important as they contributed to participants’ ability to engage in the trauma-informed yoga classes as well as experiences of the five other themes, that is, the extent to which participants’ experienced acceptance, centeredness, relatedness, gratitude, and empowerment.

**Design Parameters.** The design parameters category refers to aspects of participants’ experiences related directly to the processes of the study itself. In order to clearly describe this data, subcategories have been used, including: assessments, staff, and logistics.

**Assessments.** The periodic assessments throughout the study garnered reactions and comments by half of participants. The general sentiment around the assessments was that they aided participants in reflection about their current state as well in noticing changes in themselves along the way. For instance, Olivia found that the questionnaires were helpful to “monitor things...as I go along,” Fran liked them because they gave her the “opportunity to reflect,” and Emily said they helped her become “even more self-aware.” Nina shared how the assessments inspired her to be more inquisitive about her feelings as she would “notice myself...during the weeks in between...think about something on the questionnaire that had been hard to answer and I would be like how do I feel about that right now?” One participant, Tara, however, described her dislike of assessments, as she would “cry pretty easily” when reflecting on past experiences

**Staff.** A couple participants expressed appreciation for the staff and interviewers whose demeanor allowed them to feel more comfortable discussing personal matters. Fatima, for instance, said she was “very impressed...just the respect and compassion people seem to have here” or Nina who said “you do a good job of managing your facial expressions...I like that I don’t have to worry about shocking you or anything or that you’re going to get freaked out.”

**Study logistics.** Some participants noted that getting to the center after work was often a challenge, primarily due to traffic, leaving work in time, and getting home later in the evening. Thu’s statement represented the concerns of other participants when she said, “it was an hour and we ended at 7, so that would be a long time for someone who is like an hour away, getting back at like 8:00, I don’t know if a weekend could be good as well.” Some of the positive comments included expressions of gratitude that all the supplies were provided and that the room was quiet, safe, and had nice low lighting.

Nearly all participants said they wished the classes could have been longer, more frequent, or the study longer in duration. Fatima’s words represent the majority as she said that she wished the classes “had been an hour and a half, and/or twice a week...wish the study could have continued...I think the benefits would have continued.”

A couple participants also commented on their wishes to learn more advanced postures, such as Stacy who wanted “a little bit more to [the chair poses]. I don’t want to say it is remedial because it was nice to do, but I wish we would’ve done more with it, like the other poses.” Similarly, Stacy wanted to learn additional skills:

I could see like doing a couple classes on meditation or breath work or even doing something with stressful situations and how breath work could help and maybe being lead through that a little bit more.

**Initial expectations of yoga.** The category “initial expectations of yoga” reflects the words of a few participants who acknowledged they were initially skeptical of the utility of a yoga practice in their lives, particularly its therapeutic potential. These skepticisms were carried into the first sessions, but were challenged and eliminated once the women began to feel more comfortable in the yoga classes, and most came to see yoga as having beneficial outcomes. For instance, Thu did not think there would be any “improvement or benefit to doing the yoga,” but changed her mind when she “sensed it in my body...and I was like ‘wow, it’s great.’” Fran described initial feelings of distrust as she was “hyper-alert of being in the space and distrustful of the whole, you know, what is this really going to do for me...very skeptical, yeah.” This perception showed up in her first few sessions as “it was difficult to get that part of me in sync with my teacher...that part really doesn’t like to be told what to do.” Fran went on to explain that after a few sessions she noticed that the emphasis on choice in the class helped to “ease that part” and she “enjoyed coming and taking that hour and knowing that that hour was just dedicated for me.” Similarly, Evelyn could not imagine how yoga could “help my trauma? It hasn’t been proven.” After a couple sessions, Evelyn “knew that voice was wrong, but it was still around” and she often had to “repair” her skepticisms by reminding herself of things like, “breathing is helping shift your trauma.”

Olivia's expectations of yoga were quite different as she was initially "totally unfamiliar with yoga" and associated it with "weird flips and whatever." This perception was altered when she realized TIY did not include flips and was even more in line with what she "associated with meditation." She found this both "helpful" and comforting. Fran had similar sentiments as she described her appreciation for the "simplistic in the poses," which made the practice more accessible to "people who didn't know anything about poses."

**Trauma-informed yoga practice.** In addition to design parameters and initial perceptions of yoga, there were specific aspects of the trauma-informed yoga classes that impacted participants' experiences. This category reflects participants' experiences with, and feelings about, particular postures, the language used by the teacher, and the feeling of safety in the class. More specifically, the subcategories that fall under this category include: asanas/postures, sense of safety, and teacher approach. Each of these subcategories will be described in detail below. Keeping in the spirit of a qualitative descriptive approach, participants' voices can be heard through the use of direct quotes.

*Asanas/postures.* As described previously, asanas are the physical postures and movements in hatha yoga. This sub-category describes comments the women made about what they liked and did not like about particular postures as well as how they felt in particular postures. Tree and savasana were the most commonly mentioned postures as they respectively elicited a sense of accomplishment and relaxation for many participants. Other postures mentioned—all of which will be briefly described in their associated subcategories below— were child's, bridge, warrior, mountain, and sun series.

*Tree.* Tree posture involves standing up and finding balance on one leg at a time as the other leg is brought to the inner ankle, calf, or thigh of the opposite leg and the knee of the lifted leg rotates out to the side as hands are typically brought to the center of the chest or raised straight above the head. This posture can be quite challenging, as one must maintain focus and a flow of breath to steadily be in tree posture. Eight of the eleven participants commented on tree posture, and five reported that tree brought a sense of accomplishment. Two other participants reported a connection to tree that went beyond the physical posture, and one participant found it too challenging. Examples of participants' experiences are expressed through their words below.

Emily, Sarah, Thu, Nina, and Stacy described a sense of gratification associated with tree posture. Emily laughed as she exclaimed, "I was able to balance and I was like, 'I was able to do this!'" Sarah similarly described her sense of accomplishment from finding balance in the posture:

The tree pose...it was getting myself in the pose and then focusing on something, the mind is on one thing and the body is on another thing... it was almost as if I had total control over my body, where I could focus on something—and when you're in that pose, if you lose the concentration or you lose the ability to keep your muscles where they are, you're going to fall out of it—and it was good to know that I could do it.

Thu described Tree as both hard and satisfying as she stated, "it was hard to do, but then when you did get it, you got so much satisfaction about it." Stacy also experienced tree as difficult and rewarding as she said, "It took a lot of concentration and

was challenging, but when you had a day that you were balancing well you were very happy with that.”

While Olivia did not find tree comfortable given her trouble balancing, she acknowledged her choice to modify the posture to make it something that would work for her in bringing a sense of calm:

The tree one I didn't find very comfortable. Like the one where you stood on one leg...I think having to focus on both not falling over and closing my eyes made me uneasy...for the purpose of calming myself down, I think standing and closing my eyes would have been enough, although that would've been tree pose.

Nina and Evelyn's experiences reflect a different kind of experience as the posture came to have a deeper meaning in their lives. Evelyn expressed how she did not like tree at first, but upon learning that the name of the posture was “tree,” she felt more connected to its purpose as it seemed relevant to her:

[The teacher] was like, ‘Do this.’ And I was like, ‘I hate this pose.’ She was like, ‘It's the seated tree pose.’ Then I got excited because I'd seen the seated tree pose when you're standing up. I'm like, ‘It is the seated tree pose. I'm like a tree. I like trees.’ Suddenly completely re-owned...Then it was like, ‘Seated tree pose? I love the seated tree pose.’

Evelyn also gave deeper meaning to tree posture after the teacher made a comment about finding balance that Evelyn felt was a good metaphor for life:

I really liked the tree pose because you have to concentrate so hard to do it, to balance. And at one point, [the teacher] said something like, ‘sometimes you have to lose your balance to find it.’ And I don’t know if she was referring to the pose or not, but I keep pondering that over and over because I feel like that’s a good metaphor for life too. That sometimes you have to totally lose it in order to get it back to what you wanted it to be. Especially with the idea...I did really have to hit bottom before I started to be able to see the need for making my own choices and not going along with what life handed me.

*Savasana*. Thought of as a final resting or meditative posture, savasana consists of lying on the back with hands at sides and feet splayed out relaxed on the mat, with eyes closed if preferred. Six of the participants referred to savasana, or “the meditation at the end,” and often described it as a positive experience. Thu, for example, said she liked savasana because it was “restful and peaceful, and although it was only like five, ten minutes or so, it was just good and you got to think or not think.” Similarly, Trish described easing her thoughts and feeling “free” in savasana:

I loved [savasana]; it was great. It was just like there was nothing else to do but lie here. Do whatever I want. I felt kind of free. I usually just tried to clear my head except for the last couple sessions before the end where I thought about things that ease my thoughts.

Olivia and Nina both felt so relaxed in savasana that they associated it with sleep. Olivia appreciated savasana as she worked on her feet all day and felt it was “closely related to napping.” Nina even found that savasana helped her sleep as she stated:

I would try and return to that kind of feeling when I got home...because then I knew that I could fall asleep, and I attribute a lot of that to my being able to sleep better.

*Warrior.* Warrior is a strengthening posture as a lunging stance is taken with one foot facing forward at the front of the mat with the knee bent into a lunge and the other foot at the back of the mat with the outer edge of the foot rotated towards the back edge of the mat and the leg straight; arms are raised above the head and eyes have a soft, steady gaze. A few participants commented on warrior posture, such as Fatima who described warrior as bringing “a sense of power and presence in the world, from corner to corner. And doing it in a group, there is this sense of yes!” Thu also experienced warrior as empowering like Fatima, but she also made note of how it felt safe to feel her body fill out to the ends as well as the spiritual feeling she got from warrior:

The warrior stance...it's like an affirmation. And its claiming your space and feeling your body sort of fill out to the ends, and you're there and it's not unsafe...I didn't get that much of a stretch from it, although it did seem empowering to sink into warrior pose. And, so you were in a warrior pose, and then it was like you're stretching up, so there was something spiritual about it...I remember the warrior pose feeling like, 'wow!'

*Child's.* Child's is considered a resting posture and consists of coming on to the knees, pressing the tops of feet into the floor with the big toes touching and knees about six inches apart. The hips are then lowered towards the heels while the forehead is brought to the floor and arms are placed in front with palms pressing into the floor. Three participants—Fran, Fatima, and Stacy—found value in child's posture, all in slightly different ways. While Stacy described using child's when she feels tired: "I always loved child's pose...it's just a nice thing to do because you're tired," Fran noted: "It's just a very comfortable pose." Fatima, on the other hand, spoke about the safety she found in child's: "I love curling up like a cat, I love holding myself in a ball, that feels very safe and contained and something I normally do at home."

*Sun series.* The sun series, which is a sequence of postures intended to awaken and open the body, moves from a straight up and down position with arms above head to a folded position bending at the hips with the torso moving towards the legs and hands and head falling towards the floor. Sun series was an asana mentioned by both Fatima and Emily. Fatima felt the same about sun series as she did about warrior posture, describing it as "an affirmation. And its claiming your space and feeling your body sort of fill out to the ends, and you're there and it's not unsafe..." Emily liked the sun series because "It felt like it opened me up. It opened me up, but then centered me."

*Mountain.* One participant found strength in mountain posture, which is held in a standing position with feet together, hands at sides, and an erect spine. Tara stated that mountain posture made her feel:

More strong and balanced on my feet...so, when I'm doing dishes I always try to keep my back straight and my head up. But just standing, like that made me feel stronger.

*Bridge.* Bridge posture consists of lying on the back with feet on floor about six inches apart and knees bent; as feet press into the floor, the hips are raised off the ground. This was a particularly difficult for Fatima who found this posture to be particularly difficult given the open pelvis positioning with her legs open. Though she tried it in class and was able to manage her reaction by keeping herself in the present moment, she recognized that she would now say 'no' to the posture as it has too many "reverberations:"

There's one position that's a little dicey...the open pelvis, legs open. I could do it, but I always thought of stuff...I didn't like the pose, it felt too much like a gynecological examination...but I tried to put it in the context of yoga, I'm wearing clothes, I'm safe...Maybe I didn't need to do it...I wanted to try, but I think I would say no now. It just has too many reverberations. But I was trying to think that I can get beyond this, but certain positions are too much.

*Additional postures.* Two participants reported having flashbacks during certain postures; however the specific postures that triggered flashbacks are unclear as participants had trouble remembering the name of the posture. One participant described being triggered when she came in direct contact with the carpet, which was linked to her specific trauma. Although she did not name the

posture, based on her description during the interview, it sounds as if the posture was savasana. Another participant was triggered by a chest-opening posture in the beginning of class, which suggests sun series (but again this is not entirely clear). While both participants described these experiences as uncomfortable and distressing, they also stated that the notion of choice allowed them to get through the flashback, as they could decide to modify the posture or do another posture instead. This latter experience felt empowering.

Additionally, both participants acknowledged that their growing confidence and sense of voice derived from the yoga class allowed them to process the flashback with their therapists in a way that was previously too difficult. In fact, one of the women said that the once recurring flashback has not come back since this time. Furthermore, these two participants not only continued in the yoga class, but they have also continued their yoga practice on a regular weekly basis since the end of the study.

*Sense of safety.* Important to many participants' experiences was a sense of safety while practicing yoga, which is the second subcategory within the trauma-informed yoga practice category. A sense of safety in the yoga room and with the small group allowed a number of participants to feel a greater trust, comfort, and engagement in the yoga classes. For instance, Fatima liked that "the group was small...the room felt safe" and Tara acknowledged how she "felt safe" in the room, which allowed her to "concentrate and feel comfortable." Sarah enjoyed knowing it was a safe place to go for an hour, "just be there and I didn't have to worry about anything I just had to be there, I felt safe. Because I knew nothing could happen to me."

A few participants found comfort and safety in knowing they did not have to process their trauma histories, such as Fatima who described this as a “tremendous relief.” Nina provided her thoughts on this aspect of the trauma-informed yoga when she said, “I like that we didn’t have the contact during yoga...because I think that would have made it harder to be comfortable moving our bodies around.” Fran realized that her comfort level was greater in this private than in a public class:

Even though [teacher] has no idea what my history is, I feel as if more of me is allowed to be in this place. I would disconnect if I was out in public because of all the people and it just would be a stressful situation that I would probably go into a part. I think here it’s much safer and the best way to figure things out is in a safer environment than throwing myself out there.

In contrast to the experience of safety in the group yoga classes, the absence of certain factors contributing to safety and comfort in the class made it difficult for some participants to do the at-home CD<sup>10</sup> provided to them. While the CD was intended to give participants the opportunity to practice yoga in-between the weekly scheduled classes, what arose from the interviews was that most participants utilized the CD infrequently. The common reasons for not using the CD were around doing it alone versus in a group setting. Fatima, for example, said “it’s very hard to do stuff alone, it’s hard to follow directions by CD, I kind of resist it” and Fran reported “disconnecting, so couldn’t bring it upon me to do it at home.” Emily, Nina, and Trish reported using the CD a few times,

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<sup>10</sup> As noted in chapter three, in addition to the weekly in-class yoga practices, participants were given a CD with the teacher’s voice leading them through the same postures taught in class.

but each had reasons for it not being more of a regular practice. Emily would have preferred a visual DVD to the audio CD, Nina felt too vulnerable doing yoga at home, and Trish had a time focusing outside of the class setting.

While most participants rarely used the CD, a couple acknowledged a sense of comfort knowing they had the CD if they chose to use it, such as Nina who reported a sense of comfort knowing that if there were times when she felt “very disconnected” she could “take a half an hour and do the yoga tape.” Olivia similarly acknowledged:

No, I didn't do it during but knowing that I have it and can do it at home was good, because I know I could find it again if I wanted to repeat it.

Sarah also found comfort in having the CD and actually used the CD on a regular basis, however not always for reasons it was intended:

I did it at the beginning, and then I stopped, and what I would end up doing is just listening to it and then when the study was over I went back to physically doing it... When I was having trouble sleeping at night my mind would start racing and I would have to listen to the CD to try and calm down to try and put myself back in the relaxed state of yoga, and I would listen to it a couple of times and I would end up falling asleep.

***Teacher approach.*** The third subcategory subsumed under the trauma-informed yoga practice category is the teacher's approach. A number of participants described how the sense of safety and comfort in the room was a result of the gentle approach and sensitive language used by the teacher. This included both the tone of the teacher's voice as well as the words she chose. The former elicited comments such as, “her voice is very

soft, very sweet, very kind,” “her voice was very soothing and calming,” and “she was so validating and very grounded.” With regard to her choice of words, participants appreciated how the teacher expressed patience and highlighted the notion of choice. Fatima, for instance, mentioned how the teacher was “extraordinarily kind and patient...never asking us to do more than we could.”

Additionally, participants commented on the invitational language used by the yoga teacher, which highlighted choice, presence, and awareness of the body. Such language was often described as empowering in that it gave participants a sense of personal choice and control. For example, Thu, Trish, and Nina shared their appreciation for the language of choice used by the yoga teacher. Thu stated that the teacher’s invitations, such as ‘if you’d like to’ or ‘if you feel comfortable,’ gave participants “the power to choose whatever pose you would like to do.” This was also a common theme for Trish and Nina. Trish described the powerful recognition that every movement is up to her:

The instructor...would always give everyone the option of doing a pose or not doing it or giving another alternative. At first, I thought this was cheesy, but halfway through, I really started appreciating it because every movement I make is up to me, and I always follow along but...maybe halfway through, I saw a move and I kind of liked what I was doing. So I just did it for the next round and it was okay. I found that very powerful.

Nina also acknowledged her appreciation for the way the teacher encouraged choice and having the ability to not take part in certain postures:

There was one [pose] that I didn't like, but we had a choice, and that's one thing that I really liked too, that there was always a choice, either to not do that pose at all and just relax, or just return to something else that we had done...I loved that [the teacher] constantly reminded us that we had choices, and she would say, 'when you're ready' or 'as you're ready,' like she would always make it our choice.

Realization of choice helped Sarah to deal with triggers and even flashbacks that occurred during the yoga class:

The yoga session turned into flashbacks, it just through me for a loop, and it lasted quite a while...I think being in contact with the carpet [triggered the flashbacks]...but then I was able to...I changed that pose, I didn't do that anymore. That was one of the things I liked, that if you didn't feel comfortable doing something you didn't have to do it, but it took a while for that to sink in, so it wasn't until the end that I didn't have to do it...that was a good feeling..."

### **Themes 2-6: G.R.A.C.E. Themes**

**Theme 2: Gratitude and Compassion.** Many participants expressed aspects of their yoga experience that led to increased gratitude and compassion for oneself and one's life. More specifically, the theme of gratitude and compassion aims to reflect participants' emerging sense of patience, self-love, accomplishment, and increased consideration and efforts towards self-care. These four categories are described in detail below.

***Patience.*** Some participants reported a rising degree of patience towards themselves and the process of change. The notion of being “a work in progress” was noted by a couple participants who acknowledged the importance of taking things at their individual pace. For instance, Fatima described it as “just always do what you can; don’t do more than what you can do.” Emily similarly said:

It’s more, in a world view kind of way, giving myself permission to take things slow...do it at your own pace and if you’re comfortable with it...its sort of like in life, you don’t have to walk to the beat of everyone else’s drummer, you need to take care of yourself and do what is right for you and what you can handle.

Tara also described having patience for the process of change when she said:

[The yoga teacher] would be like, ‘Well, there’s no right or wrong. You have to take your body into consideration...’ It made me realize my tendency to be perfectionist towards processes and expect things to happen right away...maybe I wasn’t taking into consideration the rest of myself...it doesn’t have to happen right away and there are always things that will be in flow and flux...so I learned a little more about patience in the process...This is me and this is what I have and this is what I’m dealing with...instead of being so strict about what was right or wrong for myself ...I just decided that this is what I am and I am an ongoing project.

Being gentle and compassionate towards her body without judgment was how Fatima demonstrated increased patience with herself and her process of healing:

Whenever I did [yoga]...I could feel more gentle and compassionate towards [my body]. I could be more gentle in more ways without this ridiculous criticism and hyper focus...could be with my body and feel safe and not judgmental...adding a little more space, more gentleness.

*Self-care.* Related to patience is the category of self-care, which refers to ways that participants started to engage in activities to care for and show kindness toward themselves. Most participants identified at least one way in which they had begun to take efforts towards self-care. Fatima recognized that self-care is a choice and is a responsibility she has to herself as she stated that she has “rights and responsibilities to take care of myself in the best possible way, and I don’t need permission.” Thu reported intentional efforts to be good to herself and described how a greater appreciation for her body allowed her to say no to unwanted sex:

I can say there has been a shift to take care of myself more and to be good to myself...[saying no to unwanted sex] was more of me going, ‘ok, say thank you, you did something good for your body, you did something good for yourself, this is fine, I said no’...I know that might be a little bit confusing, but I think it’s more that I’ve come to more appreciate myself and my body.

While Sarah used to feeling guilty about doing nice things for herself, participating in yoga felt positive, altruistic, and worthwhile. This has allowed Sarah to consider what will make her happy in the future:

I look at...what in my future will make me happy...because I felt as if I was taking care of myself by doing something positive, both physically and emotionally at the same time...it was like that was my time, that is what I did for myself, and it was like nothing was required of me, and it was all pretty much altruistic because it was just all me...before it was almost like I felt guilty I was doing that, but now I don't feel as guilty.

A couple participants, Emily and Fatima, shared that they were more consciously attempting to understand what their bodies need, so they could respond with sensitivity and care. Emily acknowledged that she is more aware of what her body needs, which allows her to make a decision regarding how to care for it:

I feel more connected to my body...like I am more aware of it. I know I am dehydrated so I know that my heart rate has probably gone up because of it, so I specifically won't have any type of stimulant...I'm not big on caffeine, but sometimes I'll take a supplement that has a little bit, but not a lot. It's like I am more sensitive to the fact that I am not going to do something against my body's wishes right now.

Nina also reported trying to take better care of herself and not to push herself too hard, a pattern she had developed overtime:

I'm like 'ok, well, maybe I need to slow down and relax a little if [my knees] are hurting.' I've had a lot of injuries in my life, but a lot of it has come from me pushing myself too hard, like overworking my body until I collapse basically...I listen to [my body] a lot more now. Like if

something is hurting, I think ‘hmm, why is that hurting, what can I do differently to avoid this in the future instead of being like that doesn’t hurt, I’m just being weak...’ And, I’m trying to be more conscientious about my time on the weekends, to not push myself too hard because I know I need my rest regularly. So I am trying to take better care of myself.

***Pride and accomplishment.*** Some participants acknowledged an appreciation or admiration for themselves and all they have been through and accomplished. This was often stated in the context of seeing that they could engage in the yoga classes or that they have learned to manage their emotions. For example, Olivia explained that she was proud of herself for being able to manage her anxiety without medication:

I’m prouder of myself...biggest fear was being tied down to having to take anti-anxiety meds my whole life and I guess that was kind of like lowering my self-esteem, like ‘why can’t I handle this?’

Fatima, Stacy, and Nina derived a sense of accomplishment and pride from engaging in the yoga classes and actively trying to heal from their trauma. While Nina reported feeling “like I’m the pioneer because I’m further along than anyone I know in this whole recovery process,” Fatima focused more on the sense of pride for begin able to do yoga:

Being alongside people who are struggling, and having sort of a coach, it gave me a lift every week, and it gave me a sense of accomplishment, pride, I don’t know...just something I never would have been able or wanted to do for years, some kind of yoga thing...

Stacy talked specifically about feeling a sense of accomplishment from balancing in a particularly difficult posture and how that led to confidence moving forward:

I don't know all the names of the poses but you're on one leg and you're balancing and you've got your hands wrapped and you're bending forward. And the first time you do it you feel just a huge sense of accomplishment. You're like, 'I could be on the cover of the yoga magazine. I'm that person. I'm doing this.' Even if you do it for like a millisecond. At least myself I have this sense of, 'Maybe I could do that stand-on-your-head feet-in-air balancing on one shoulder thing.'

***Self-love and self-appreciation.*** Four participants described feeling an increased sense of self-love or appreciation for themselves. This was demonstrated through direct acts of self-love and expressing a sense of appreciation for having survived their trauma. Thu described it this way:

I think that me being able to appreciate myself makes me more able to put up the boundaries and be more cautious (to identify healthy relationships) ...And the way [the teacher] would end the class and saying thank you to yourself, I've actually started like kissing myself, showing myself self love a bit, and I'm pretty certain I never did that, I don't think I did. But it more like oh, I love you (kissing noise) or taking care of me.

In fact, Thu even described a particular experience when this became clear in an interaction with a man who was not respecting her wishes to abstain from have sex:

I've come to more appreciate myself and my body and here is someone who is not appreciating it. It is clear to me now to appreciate yourself, so this person is not appreciating it, and you need to go...I think a lot it has to do with once you have that self love part of it, someone comes and they're trying to not love you, that's when you're wait a minute, you don't belong here, this is not going to work out...so I think that me being able to appreciate myself makes me more able to put up the boundaries and be more cautious.

The rest of participants who described the experience of increased self-love and appreciation focused on a sense of gratitude to themselves for surviving trauma, such as Fatima who stated, "...just sort of grateful that I have a body and that it has survived a lot. Similarly, Nina powerfully expressed her recognition that she deserves credit for all she has survived and that she might be worthwhile:

I'm only starting to think that I ought to give myself a little credit for all I've survived...I just think it's amazing I was able to do all of the things I was able to do, in spite of the demons I was kind of having to face on my own...through the study I think I've started to think that I just might be worthwhile. Like that me as a human being might be worth attention, or liking. That maybe I ought to like myself...I feel like I kind of owe that part of myself the right to have a life now for getting me through. If I just went and offed myself right now that would be kind of like giving a big F-you to the parts of me that helped me survive some of the worst

things...It's like I'm living for a reason, it's like this whole life that I've really been an incidental part of, that all of a sudden I am here.

**Theme 3: Relatedness.** The third theme, relatedness, reflects the experiences of participants who expressed deeper connections in various aspects of their lives. More specifically, the three categories subsumed under this theme include: connection to inner experiences, connection to others, and connection between the trauma and current experiences. These categories will be discussed in detail below.

*Connection to inner experiences.* This category refers to the sense of knowing, or being attuned to, what is occurring within. This category is further defined by four subcategories, including: introspection, emotional experience, physical sensations and body, as well as the mind-body connection. Each subcategory is described below.

*Introspection.* This subcategory reflects a deepening sense of awareness and ability to look inwards in a meditative way and feel safe connecting with one's inner experiences. Most participants shared reflections in this category, such as Stacy who said, "the concentration on breathing and the meditation and sort of the deeper inner understanding...I really liked it." Tara spoke of the way the safe environment of the yoga class allowed her to concentrate on her inner spiritual experience:

...a safe environment where I'm not always sort of watching...created more of an atmosphere of be able to recognize things and feel what's inside...the meditation aspect of the whole group situation and the whole safety situation made me sort of look at it and seeing what was in there...instead of just trying to get rid of it...

Sarah also found safety both in her surroundings as well as through her breath and movements, all of which allowed her to look inward and feel what was inside:

When we were doing the stretches and the movements, I made a point to just feel what was inside...I knew I was in a safe place...could just concentrate on internal [sensations]...goes back to feeling your body, disconnecting from the outside and looking inward...

*Emotional experience.* A related concept to increased mind-body connection was the increased connection to one's emotions and a greater ability to identify emotions from which participants previously felt disconnected. Of those who reported this experience, some also noted that the emotions were previously suppressed.

Tara reported a significant experience of becoming aware of anger she had internalized and acknowledging this anger:

I started to be able to recognize emotions. As I was able to concentrate on just breathing I could feel things. For example, until the study I didn't even realize that I had completely repressed all the anger and anxiety that I felt. I didn't even realize I had anger. I thought I was just really patient. But then after a couple, three weeks, maybe four...I didn't even realize I was having these emotions and then I was sitting in the bathtub with my feet up and I'm like, 'I'm really angry'...I don't think I've ever said that. I've never actually recognized and said, 'God, I'm really angry about that.' I may bitch about something or have some kind of latent anger reaction, but I've never even expressed out loud to myself, 'I'm really

angry.’ So that was like a huge thing and I was like, ‘God, I wonder how I’ve actually been...It was a huge thing for me to say, first that I was angry and then the specific thing that made me angry...

Noticing the triggers to certain feelings was also an experience Thu expressed. She described being more confident from yoga, and with that has learned to notice what situations lead to a sense of confidence and which do not:

I have been more confident [from yoga]. When I have not been confident, I’ve noticed the reasons behind it in terms of not feeling prepared, not feeling I did my best....

A few participants also acknowledged the dialectic in their experience as they explained the difficult feelings that came along with increased awareness. For instance, Tara spoke about both the sadness that came along with recognizing emotions she had been repressing and her increasing ability to express emotion, rather than suppress it:

I am more cognizant about what I’m feeling and I am able to identify it. But on the other side of that, it’s also brought up a lot of other stuff that I didn’t realize I was repressing. It’s also made me sort of sad and angry...Now when I feel something I don’t just push it in nearly as much. So I feel, like my boss when he said that thing that made me angry, I recognize it. Like, ‘That really made me angry.’

Fran noticed herself feeling deep anger that she could no longer connect with any particular cause. Releasing this anger through crying in yoga class felt beneficial to her, but also made it difficult to keep going back to class:

I'm finding that I'm in a different place in these 10 weeks...It's funny because I knew...it was beneficial. I knew it helped me...[but], I became aware of...my anger and kind of my co-consciousness about it...after four or five classes, I was just really aware of this really deep anger...The first couple minutes in each session, I would start crying and I couldn't figure out for the life of me why. And even now, and even then, there would be moments when I think about, not even think about anything, but just cry for no reason. I don't really know why. And I think that I knew that it was beneficial for me...but it became very difficult to actually make that commitment to go back.

Sarah and Nina also struggled with increased awareness of emotional experiences while also finding the strength and/or safety to allow those feelings to arise. Sarah noted that her increasing level of awareness made her think she feels emotions too intensely, yet she was able to use the safety of the yoga class to feel these difficult emotions:

I feel emotions...I think I feel them too much. I know when I was talking to my therapist, working through that last flashback, afterwards I cried in there, and I don't cry in there...if I feel as if the flashbacks are going to come back or the feelings are going to come back, it's like it's intense, more intense than it should be. It's almost like, I don't know, let's say I feel angry, it's like I get more angry inside than most normal people would. I feel sad and upset, I feel more upset...I've always felt them, I've just never noticed it...almost as if I knew I was in a safe place, I didn't

have to worry about external stuff...[yoga classes] let me feel what was going on.

*Physical sensations and body.* Given yoga's focus on physical movement, it may not be surprising that most of the participants expressed greater connection and awareness of their physical body and the sensations within their bodies. In fact, eight of the women specifically noted such experiences, including greater ability to notice physical changes, what movements feel good, and how connected they feel to their bodies.

Several participants described their experiences of connecting to their bodies as they began to notice and feel physical changes in the body. Trish put her experiences simply as she stated, "I think I have a little more bodily awareness...I think it just makes me feel more connected to myself. More solid." However, some of the other participants went into more depth about their experiences. Evelyn, for example, described how her yoga helped her body wake up:

My body was completely shut down I think...the yoga study really helped me...(Laughs) I found out that I have connective tissue connecting my hip to my femur...and doing the really minimal small yoga I started to be able to feel that. I was like, 'I have a thing there, a muscle or something.' I had a sensation, almost like tingling. So parts of my body were literally waking up...

Evelyn went on to describe how her body seemed to be energetically shifting as she became more aware of, and able to tolerate, the experience of physical sensations:

My weight didn't change but I felt lighter...my body sort of energetically started shifting around. I remember because I was walking and I was like, 'I have legs. What is that? What's going on?' Of course pain from the trauma came back and I immediately assumed there was something wrong. I thought it was pain, then I was like, 'Wait, stay with it.' It was like, 'No, I'm just feeling I have nerve endings in my legs that apparently, I didn't know I had.' It was very surreal in this kind of very good way.

Fatima similarly noted the simple, yet significant experience of starting to feel something physical in her body and the beneficial consequences of this:

[Yoga] brought me a lot closer to be able to...feel something physical in my body - has helped me participate in physical therapy and more activities like walking...I feel like yeah, I'm going to make the best use of my body while I still have one and it's relatively normal.

Nina similarly expressed new awareness of physical sensations to which she previously did not pay attention:

...Sometimes I feel like sensations are spreading through my body too, that maybe I've just become aware of some part of me or something...My knees hurt a lot and when I go up the stairs I notice it but I just don't know if that's something that I've been blocking out, because my typical approach to pain is to pretend it's not happening.

However, Nina went on to describe how this has led her to take conscious and regular notice of what is happening in her body and to tolerate body sensations:

Many times of the day I remind myself like just to think about, you know, how are my feet feeling right now...Where is it, what is it doing, what is it feeling right now, does it hurt, does it feel good, is it warm/cold...and as much as I can tolerate it, I am now not letting myself shut out sensations even if they are scary or painful I'm not like trying to numb that out again.

Fran also began to consciously assess how she was feeling physically and even noticed what kind of movements felt good to her:

I didn't really know what it felt like to feel, so it was interesting to try the poses that I liked...found that I enjoyed some of the poses...and I wonder how I'm connected to my body since the study...Wondering is new...I catch myself sitting in the car and thinking, 'You know, I need to have—I need to focus on strengthening my core. You know, sitting up in a way that gives better posture.' So I think about that in a way at regular times...

*Mind and body connection.* More than half of the women shared stories of increased recognition of the ways in which their mind and body affected one another and worked together. Indeed, participants who reflected on this experience commonly reported learning how they can use their body to affect their mind and vice versa. Emily discussed her perspective that the body feels what's in the mind and heart, and thus the need to pay attention to these three parts as a whole:

You know they say muscle has memory and cells and all that. So what is in your mind and what is in your heart, your body feels it too. So it's kind of like you have to pay attention to the whole thing.

Likewise, Trish and Fran spoke more generally about linking their mind and thoughts to their body and breath. Trish focused more on the connection with her body and breath, and even syncing her movements with breath as she talked about feeling “more connected” to her body with “the idea of moving along with breath.” Fran commented on how the mind and body connection felt strange, and how she is still developing this skill:

I know it’s kind of strange but it’s almost as if my mind became more connected to my thoughts and what I did to my body. Still working on it.

Tara, Thu, and Nina focused on how they learned to use their bodies to identify, and even manage, their feelings. Tara noted how she has started to associate her feelings with breathing and how she can manage her energy level with simple hand positioning:

It was me being able to feel what was going on in my body, what was going on in my head and associate feeling with breathing. Being able to associate deep breathing with calming...or if I wasn’t breathing, what was going on...Being able to connect my thoughts to what my body felt like...the idea of having your hands up or down was kind of interesting, the idea of giving energy versus when you need to conserve...that stood out to me because it seems like I’m always giving, like, I always have my hands up.

Thu reported a similar experience as she described relating to her body in a different way as she realized how certain movements are able to alter her mood:

...how I relate to my body...I mean how certain movements in my body can really help my brain in terms of feeling calmer, more relaxed, much

more happier. It's strange, but I can feel like, what I feel are the endorphins rushing to my head, and it is like a coolness that comes over my head, from a stretch or something.

Nina's experience had to do more with noticing body sensations in order to identify and label her feelings. She explained:

I think that I've been a lot more aware of my own feelings and being able to start to identify what I am feeling just from focusing on body sensations and to try and put a name to that. Like I know when I can't breathe that I'm scared, and I don't think that I ever really even noticed before. But, I know pretty much that if I feel like I can't breathe, or that if I feel like something is stuck in my throat, that I am afraid. That has been a big thing for me, noticing how afraid I am.

***Connection to others.*** Nearly every participant described feeling an increased sense of connection to others. Two subcategories are used to describe the different ways that relatedness to others manifested for participants. More specifically, at times this was in reference to greater comfort with vulnerability and being intimate, while others realized they were not alone in their struggles and experienced a sense of community.

***Comfort with vulnerability and being intimate.*** About half of participants experienced a developing ability to tolerate vulnerability and/or being intimate with others. For instance, Stacy described how a sense of safety with vulnerability in yoga is allowing her to actively work on developing comfort with intimacy outside of yoga:

I'm working on the intimacy part...I think it probably has [changed] a little bit. With this and the therapy I've been doing, I think just dealing with small intimate moments like holding hands or being caring towards another person...probably a little bit more open than I would have been...just letting your walls down [in yoga] and being comfortable with [body] makes you feel vulnerable, it is feeling vulnerable, but it's not totally feeling like you're out there [at risk]...

Thu also offered a clear example of becoming more comfortable with intimacy:

Before I was really concerned about being intimate, and now I'm feeling more comfortable. I'm still sometimes feeling afraid or whatever, but I'm feeling more comfortable with it where...I mean this summer I was dating a couple of guys. I wasn't going crazy or anything, but if I was like kissing someone it wasn't like 'oh my god, I don't feel comfortable.'

Evelyn expressed how being with herself in the yoga class and moving with other women allowed her to feel more comfort with her own body and with physical closeness in relationships:

I think that being able to sit with myself [in yoga] allowed me to stay in myself when people tried to reach at me or be affectionate...There's more closeness in relationships, especially physical comfort...So, it's like we were all being intimate together in that room. We were all ten feet away from each other, but there was this sense of, 'It's okay that we're women with these bodies doing physical stuff.'

*Sense of community.* Some of the women expressed feeling connected to a community through the yoga classes. This was often associated with a realization that others have trauma histories, that they are not alone in their struggles, and a developing sense of shared purpose. As Sarah put it, “I think the fact that everyone was in the same boat and that even though nothing was ever spoken, we all knew that we all felt the same.” Some participants acknowledged drawing strength from this community and sense of a shared purpose. For instance, Emily found that knowing other women who have PTSD provided validation and a sense of connection that permeated into other relationships:

Prior to the study I have never known anyone else with posttraumatic stress disorder. So, for me, it has been helpful to know that other people get it...we didn't talk specifically about all our traumas, but we knew they were similar...my relationships have been affected because...it gives me more of a validation in all my relationships, whether they know it or not.

Nina and Stacy both drew strength and optimism from the recognition that there are other women who are also working to heal from past trauma. Nina felt a sense of solidarity knowing that others are trying as hard as she is to be healthy:

It was just nice to have company that I would assume would be trying, as hard as I am, to be healthy...it's just that feeling of knowing that we've been there and that we're here now. There's some solidarity I guess.

Knowing that there is a network of people who are healing from trauma made Emily feel connected and hopeful that she could find a support network in her process of healing:

People are at different levels of healing from the trauma, but you also have a support network. So I feel like if I wanted to climb a mountain there's probably some people out there who have never done it and are scared to do it and I could probably find them and it would be a bonding experience if you will. I think that...I don't have a physical trauma over climbing a mountain but it's more like mental fortitude over the trauma.

Tara and Fatima both described the shared purpose of doing something good and healthy together. As Tara mentioned, "Concentrating on what's going on inside of me with other people...maybe their thoughts were different from mine but their purpose was the same." Fatima described a similar experience in more detail:

The sense of we're all in this together, and the sense of this program being a special program, the sense of connection to life and other people, you don't have to know their life stories, but just that we're doing this thing and it's a good thing...also, [saying] Namaste...was a grounded sense of, I don't know, sacredness in people's lives and these moments when we're in the room...and nothing has to be said...I felt a general solidarity of people even though I didn't know them.

***Connecting trauma and symptoms with current experiences.*** Connecting one's current experiences with past trauma and trauma symptoms is a somewhat separate category from the previous categories. This category, reported by some participants, speaks to a growing awareness of the significance of their trauma histories and greater self-awareness of symptoms and behavioral patterns resulting from the trauma. For a

couple participants, this realization was both troubling and validating. Tara portrayed this experience clearly as she stated:

I started to realize how much this has affected my life. I just kind of didn't really realize. For a long time I was like, 'Oh I'm fine, that's just normal,' But it's not normal. It's not normal by any means. But I didn't realize that before, to such a degree.

Nina shared similar sentiments as she said:

It just made me start to appreciate how huge it is that, any one of these things, that I was able to survive them...Because I've never really appreciated it before as far as how big it is...putting it all out there like that it made me think wow I've been through a lot and kind of appreciate the level of trauma...

Emily and Stacy described a greater sense of self-awareness and ability to recognize certain behaviors as symptoms. Emily described herself as "more self-aware. I think that I am also more self-aware of when I am doing something that is a PTSD-ish thing, like being reactive." Stacy explained that she has started to label some of her behaviors as symptoms, allowing her to better understand why she behaves or feels a certain way and decide how to "move on."

I think before I didn't know that the effects I was feeling had anything to do with the trauma...I didn't even relate how I was acting to some of the trauma symptoms. I didn't even know they were symptoms and probably didn't even look much further to see that anything could be solved. So,

does it help me with the trauma? Yes. But it also helps me to say, ‘Ok, you’re having this reaction because you had the trauma...how can we move on?’ So I guess it brings it more to the forefront why I’m being or acting a certain way in the moment or feeling a certain way.

**Theme 4: Acceptance.** The theme of acceptance refers to the ways in which participants’ described shifts in their levels of acceptance regarding various aspects of their selves and life. It is important to note that acceptance in this context refers to a sense of being at peace with life as it was and currently is, rather than a sense of resignation or giving up. Similarly, acceptance in some cases was connected to a decreased need for external validation. More specifically, three major categories arose under the theme of acceptance including acceptance of oneself, one’s body, and one’s life experiences; each of these categories is described below.

*Acceptance of self.* A few participants spoke of increased self-acceptance and comfort being themselves. They often linked this experience with a reduced need for external validation from others. For instance, Tara drew a connection between the acceptance she had for herself in doing the poses with an acceptance of herself more broadly:

...was really worried about what other people would think or they’d think I was crazy...Just because the other participants were fairly open as well, and that there was no right or wrong way to do things...So, instead of buying into what other people perceive of me, I just decided these postures

aren't going to be perfect for everyone else and I don't have to be like everyone else to be able to exist.

Olivia also applied her experiences in yoga to her life in general. She explained how she felt more comfortable being herself and felt less need to explain herself to others:

I'm comfortable being myself. In some ways, I've used my anxiety and OCD...rather than it being a handicap, I can play it off as 'Oh, its part of my personality.' So when I seem hyper-anxious, I'm like 'oh, that's just who I am.' I don't worry about it anymore...Before, I wouldn't tell any of my friends, 'oh, I'm on Zoloft' or 'I have OCD' or 'I'm anxious.' But now...I don't want to say it's apathy; it's sort of like whatever, yeah it's a minor thing. It's like 'Oh, I've had panic attacks before. It's no biggie.'

Fran explained that she is used to be "people-pleasing" and so she found it challenging, yet good practice, to do what was comfortable for her in class rather than trying to "keep pace" with everyone else:

I had to get over that notion that I had to keep pace with everyone else, but it was very good because [the teacher] is good about expressing...'you do what is comfortable to you.' And it took me a while because I'm very accustomed to people-pleasing and doing what I'm 'supposed to do.' So that took awhile.

***Acceptance of body.*** About half of the participants reported experiences of increased acceptance of their bodies. This involved a greater sense of comfort with one's body, including its appearance and current state of ability. At times increased acceptance

was connected to a feeling of being more alive and free. In a similar vein, a couple women felt less judgmental and critical of their bodies and one felt freer to explore her body due to the increased level of acceptance. The actual words of participants help to portray this shifting acceptance of one's body. For instance, Stacy commented on how she is feeling more comfortable and alive with her body and its appearance:

I think it's just being a little more comfortable with my body...so feeling more alive and also a feeling of comfortableness around it. Like, you don't have to be a certain size or weight. It's all in how you think about it.

Similarly, participants reflected on a sense of acceptance, particularly with regard to their bodies' present state of appearance and ability. Sarah and Evelyn, respectively, stated:

I think I can change [my body] but then again I don't feel as if I have 100% power to change it, it's more like I have 25% percent power to change it, other than that, it's like it is what it is.

Evelyn then went on to explain a level of acceptance and comfort that seemed to elicit a sense of freedom and possibility. She described a newfound realization that there is nothing wrong with her body and that it only needs to be healed:

Oh, and also the understanding that there is nothing wrong with my body, it just needs to be healed. Which is different...like, I was worried that I had permanently injured myself. [Then], with the combination of doing yoga and the emotional release I had on the table during the massage...[I realized] when my muscles relax they work fine. Like, I was able to (moved her head to demonstrate range of motion), and when I was relaxed

I could make my ear touch my shoulder. I was like, ‘Wait, this muscle works?’ I just thought it was broken. But it’s not; it’s just tense. I was like, ‘Wow!’ So it kind of opens up all these things for the future.

Thu more directly acknowledged the future implications that come with a greater acceptance of her body. She noted feeling more interested and free to explore her body and her sexuality, as she stated:

I guess I’m more—I don’t know if you noticed, but on all of my [self-reports] it’s like ‘not applicable’ about sex—but I think I’m feeling more that I want to explore that more about me. Because before I was very conservative, ‘I don’t want to have sex,’ ‘I’m scared,’ or whatever, but I think I’m becoming much more free, and I think that relates to the whole body thing. Like, okay this is my body, I shouldn’t be ashamed or embarrassed or concerned about my body in a negative sense. I shouldn’t be afraid. I’m a woman and just taking control of me. I think that may be something I’ve noticed has been different.

A reduction in the amount of negative judgment, criticisms, and feelings of shame were other related aspects of increased body acceptance. For instance, Fatima shared how she is more able to engage in physical therapy and join in on activities that involve wearing a bathing suit:

I’ve never done physical therapy before, I’ve always turned it down, and I think it’s a direct result of yoga that I could go...Even buy a bathing suit and be in a pool, and not feel drenched in shame and not perfect, I think I

wouldn't have been able to do it without the yoga, I wouldn't have followed through.

*Acceptance of life experiences.* Participants also acknowledged a shift in their level of acceptance of life experiences, particularly past experiences. Almost half of the women expressed experiences in this category as they described recognition and acceptance for their situation as it is or has been. As noted above, acceptance in this context is not synonymous with resignation. In fact, some participants described a combined sense of acceptance of the past and hope for the future. For example, Sarah and Stacy described shifts in their understanding of the past and its relationship to the present and future. Stacy explained the past's negative effect on her and how she used to believe she had to "live with it," but now feels she could work to overcome its negative impact:

I probably just thought that I was predisposed to these certain things happening to me and that I was a victim, but that I had to live with it and that I always had to be a certain way. Like, it frustrated me to lose my temper at someone even though it wasn't about them. But I would always get down on myself like, 'Oh, I shouldn't have done that, but then again what can I do about it. I can try hard not to do that but I can never overcome it.' Now I feel like I have to work on it and everything. And it will always be there but I can probably overcome it too. So I guess a hope.

Sarah also spoke of her level of acceptance of the past and its impact on the present as well as a greater sense of power over how it affects her future.

I still look at my future the same way, I just feel like I have more power over it. To what degree, I don't know...I feel like this stuff is going to affect me for the rest of my life. But you know I feel like I don't have to let it, I feel like there's a choice, but it's like when the flashbacks and stuff come back, it's like where's choice?

Nina illustrated how an acceptance of her past experiences allowed her to begin separating out the trauma from other experiences, that is, seeing the non-traumatic aspects of her relationship with her mother:

But there was some good things my mother was able to give us, and I'm starting to appreciate some of them as separate from all of the trauma... there are some things she got right that I want to be able to pass on.

A couple participants reflected on a sense of acceptance and validation as a result of being in the yoga class with other trauma survivors. Fatima, for example, reported feelings of acceptance when she saw she was not alone in her struggles:

Seeing that other people also had struggles too, being in the room, being with their body, but we didn't have to talk about it or talk about horrors and stuff, there was just an acceptance of people are struggling.

Nina similarly reflected on feeling validated in knowing that others have gone through trauma too and that there are other people who are trying to heal.

And now I think that I'm starting to see [possibility for change]. Just knowing that the trauma center is here has helped me start to think that there are other people that are actively trying to get better from similar

things to myself...So it almost was validating and gave me some hope to think that I'm not the only one that went through what I went through.

**Theme 5: Centeredness.** The theme of centeredness represents participants' descriptions of feeling more centered in mind and experience. Centeredness was a concept illustrated in many participants' comments, thus making it one of the largest themes. The categories that fall under this theme include: a clear mind, integrated sense of self, presence, and sense of calm.

*A clear mind.* Most participants shared the occurrence of yoga helping to make their minds feel clearer. This was reflected in statements that involved experiences of a quiet mind, less rumination and thus more time to think, less reactivity, and increasing positivity. Although there is some overlap among the different aspects of a clear mind, they are separated into subcategories below for the purpose of clarity.

*A quiet mind.* Fatima described this quite succinctly as she stated:

There was a certain kind of quiet I could allow myself that the yoga made space for...I think in the meditation and the quietness there's somewhat more of an ability to restructure and refocus...just letting my mind rest, I'm able to feel renewed and replenished, and I think yoga has something to do with that, allowing that kind of space, and knowing that I can just take that time and be quiet and stop, and knowing that I need to incorporate that into my life more.

Tara similarly noted that taking time out for herself in yoga made her thoughts "still:"

The idea of me being able to take an hour for myself and sit without it being a chore related activity, time that was completely for myself made my thought process a little more still.

A couple participants described this concept as thinking “easy thoughts” when feeling anxious or letting stress fade while practicing yoga. For example, Trish said thinking “easy thoughts” has helped her think more clearly:

I felt like I could think more clearly...There was a particular wording that the instructor maybe said once...“put your thoughts at ease” or something like that. And I did that, I thought about things that didn’t cause trouble in my mind...I don’t really let myself think about easy thoughts that are good for me...It was the first time I realized I can think about thoughts that are comfortable to think about. And that was the first time I could distinguish the thoughts that were easy and comfortable versus the thoughts that cause stress...Now, when I’m stressed out, I’ll try to think about easy problem thoughts and that’s something that I never would have thought of.

*Less rumination and anxiety.* Almost half of the participants reported experiencing less anxiety or finding themselves spending less time ruminating, which allowed more time to think, act, and see alternative perspectives. Olivia described how she is able to focus more on work now that she spends less time worrying about panic:

Overall it’s easier to think now that I don’t spend so much time being all panicky...like now I can focus more on work and if I focus more on work, my boss and supervisors will be a lot more appreciative of what I’m

capable of. It's kind of like a snowball effect. I know that the panic attacks are a minor thing, but beforehand it would eat away at me the whole day.

Fran felt that her brain was rewiring as she experienced less rumination and as a result sees more directions to pursue and fewer barriers holding her back:

I'm not fixated. I'm thinking about other things other than the trauma and how my life has been impacted in a negative way by it. Right now, I feel as there are more walls that are down that I am able to explore a lot of different avenues that I didn't feel available to me...I'm not ruminating as I was...It's as if the walls have come down and I see that there are other ways to go. So I feel as if that there are barriers that are disappearing. My brain is rewiring or something...

Sarah and Stacy both reported that they have more mental space to engage in activities that are important to them. Sarah explained that she has been able to draw more now that there is less interference from a racing mind:

I am also drawing now, and I feel that it's coming easier to me now...I think it's because my mind has slowed down, and it doesn't have as much interference...

Stacy's experience involved engaging more thoughtfully in discussions:

Because of my family, I had a little bit of this insistence on being the first person to answer and get it all out because I wanted to be heard...Then during the study and after the study I realized that I could be thoughtful, I could take my time explaining something...

*Less reactive.* This last quote by Stacy also refers to another aspect of having a clear mind, which is being less reactive. In fact, Stacy went on to explain how slowing down allows her to take things less personally and see the perspectives of others':

I used to take things personally a lot. Like, the checkout person got angry so I must have done something wrong...[Now] I can say, 'Ok, maybe we both have fifty percent of this situation' ...I can look at it from both perspectives. I notice when I am in a situation, like in traffic, where I could get aggravated, I've noticed a difference in myself...now I think, 'maybe they're honking at me because they need to get to work.'

*Increasing positivity.* A couple participants also mentioned a shift in their levels of positive feeling, which was associated with being able to think and feel centered. While Trish simply stated, "I leave [yoga] feeling more centered and more positive," Fran stated that she now randomly thinks good thoughts:

I just feel as if I'm able to think...In fact, I'm thinking now randomly good thoughts...I felt like there was a shift in my internal structure in some way and I don't really know how to describe that other than I feel like it allowed parts of me to participate in something that gave me confidence and I felt good for the most part and centered.

*Sense of calm.* Experiencing an increased sense of calm was an aspect of centeredness that was mentioned by almost every participant. This was often described as having more ability to relax, let go of difficulties, and feel at ease. Tara, Olivia, and Thu described such experiences quite directly. Tara talked about being calmer and more

hopeful as she stated, “I enjoyed it so much. I always felt so much better after...just a little bit calmer, a little more centered on my feet, a little more hopeful.” Olivia similarly stated, “In general, I feel calmer. Not that I just appear calmer but I can actually chill out.” Thu used similar words to describe a sense of calm in her statement, “I liked that it made me calmer...I saw how I was feeling cooler and more relaxed...I was like oh my god, it felt really good...” In fact, Thu went on to describe her new ability to let go of negativity and tension both physically and mentally:

...and how just freeing [yoga] feels...before it was almost like my body was a rubber band that was extended, and then after the yoga it was placed in its normal state where it wasn't trying to be everywhere around everything or so. Like my muscles in my body literally felt like, I mean, it's like you were holding up something and then you were allowed to release...and just being able to just relax and breathe. I think that relates also to relationships in terms of trying to be more calm in responding to negativity, or maybe complicated, or uncomfortable situations...

Being able to let things go and realize everything is all right was an experience also mentioned by Fatima and Stacy. Fatima described this as not holding on so tight and having more breathing space:

...It gave me this sort of breathing space once a week and I could take some of it home, and lay on the couch and sort of do nothing, or do those little stretches...more of a softness, more of a letting go of having to hold on so tight, I do want to continue that.

Stacy's comments focused on yoga's calming effect and getting through difficult times:

I think it's a very calming thing. I think that everything that was going on with me, being laid off and things like that, it helped me see that everything was going to be alright and to calm and not get worried and spinning out of control about something going on.

A couple participants' experiences focused more on feeling calm physically. For instance, Evelyn commented on how she seems to be releasing physical tension she has held in her body since the trauma:

The way I carry myself it's like I'm braced to be...like a physical labor pose...not as true now. I'm still in the process but like...my muscles used to be like aching with tension...there's a lot of body stuff from the trauma, physically that has been slowly changing.

***Presence.*** The category of presence was chosen to represent participants' experiences of being consciously aware in the present moment. About half of the participants expressed experiences of being more present in yoga and in their lives more generally. Thu described how she realized that she could choose to be mindful and bring herself into the present moment:

I'm here talking to you and...I can still have the mindfulness, I can feel the floor and everything like that, so that was different, it was almost like bringing yourself present to the room, so I definitely noticed that being a change...[also learned] to be calm, and to like listen...recognizing that if I want I can stay in this pose, instead of having to rush...so I would suggest

that in my current life, interacting with family especially and with friends,  
I'm listening and trying to be calm.

Sarah, Fatima, Emily, Nina and Fran all reported similar stories of learning to actively become present to their current moment experiences. Sarah explained a realization that her world is right in front of her and now she feels less numb:

I wasn't thinking of external things, I felt like my world was right here...sometimes it's like I feel numb and it's almost as if I go through the motions like a robot and you've done it a million times so you just do it.  
But I stopped doing that.

Fatima described yoga as providing another "gateway to feel present," which also helped her move through a triggering posture:

Just doing the yoga gave me another gateway to feel present...knowing if you leave the room you can bring yourself back...it was extremely helpful, and it helped me stay present in the room...There's one position that's a little dicey for everyone, the open pelvis, legs open, I could do it, but I always thought of stuff...I didn't like the pose, it felt too much like a gynecological examination...but I tried to put it in the context of yoga, I'm wearing clothes, I'm safe.

While the following quotation is quite long, I chose to include most of it as Nina offered some vivid and powerful examples detailing how she started to become more present to her life, rather than "floating through the day" or "wishing it away."

I think I tend to float through the day less often. I think I take time to actually notice what is happening around me more and I don't spend every day waiting for it to be over. Like there was definitely a period during my young adult life when I would pretty much curse the sun every morning when I woke up...I would just do everything to get it over with. And now I still do that a lot, but I'm starting to appreciate what is happening in the moment too. And not just on the weekends when I'm having fun, but just the day-to-day stuff too—just to notice my hands, cleaning my house or cooking, like what I'm doing and what that is for, like I'm cooking because I love [my significant other] and I want us to have a nice dinner and I'm doing this for us and I'm not just passing time making a meal because we require food, like I'm doing something that matters to me. Or with the kids...just taking a moment to notice them, to really see them, and not just see them as part of my job. And I mean I love these kids. It's not like I don't think of them as people but I don't think I always see them either, like sometimes they are just an object to be transported from school to home to karate class...I think I'm taking a little more time and effort to be there with them...I think that because we spent time in yoga class practicing just being in the room, and that seems silly in a way, its like well where else would you be, but like to really notice [instead of] living right here [puts hand in front of eyes]...Just to notice what is going on...instead of being like 'ok where's the bad guy, I've got to make sure

that I'm ready and that I can pick that up and whack him with it.' I'm not so focused on being hyper-vigilant, that I can be like 'there are no bad guys in the room and none expected, and so to just relax for a minute.' Because I think that so much of my life was maybe numb and maybe just because I was scanning for a certain pattern to occur, and since it typically doesn't, that the days just went by with nothing happening in them because there was no bad guys that day.

*Integrated sense of self.* The last category under the theme of centeredness is an integrated sense of self. This is a category that represents the sentiments of a few participants who noticed a sense of wholeness when doing yoga, a feeling of integration between the different parts of their body, or recognition that their identity is multidimensional. Fatima described her experienced of these combined factors:

It's different here [at the Trauma Center yoga classes]...my identity is not as a trauma survivor...my identity is much more whole, as [Fatima], who has these different parts, and has learned more resilience, patience, and acceptance, and doesn't have to act on certain impulses, as strong as they may be and has more of a sense of hope than she had before...Whenever I did [yoga], wherever I went the next day it would carry over. I felt like it just gave me more of a sense of wholeness, something that I could do that was good and real with my body...

Sarah shared Fatima's sentiments regarding her life being more than trauma symptoms:

I feel like the whole course of my life has been dictated by [the trauma]...[now] probably to a lesser degree...But it's almost as if [the trauma] is separate from who I am, even though it created me.

Emily and Tara described feeling a sense of wholeness and integration from yoga. Emily noted how she used to feel like all the different parts of herself were disconnected, while they now work together and feel integrated:

...When you remember [trauma] you're not remembering it from being in your body and watching it happening, you're remembering it as watching it happen to you but from outside your body like you're watching a movie...not really like everything is connected...That is one thing that pops out...it was not so much all integrated like I feel like it is now.

Tara also described feeling more integrated, and this was somewhat of a spiritual experience for her:

I sort of relate to [my body] as more of an integrated thing...there's always a tendency, especially in the world that we live in, to separate your brain and your body and your thoughts and emotions from your body...and looking at some of the religion and spiritual things that I've studied and realizing that this is one entire entity. It's also like its own little universe within itself. We're like these little universes inside of a big universe but we also have this big universe inside of us. That's kind of a weird way to think of it but...Yea, there's a greater connection to the world in general...so I guess it's less isolating. It's a hard concept to describe.

**Theme 6: Empowerment.** The sixth, and last, theme identified is empowerment. Feeling empowered was a common experience among participants as they all reported a greater sense of empowerment in one form or another, often multiple forms. The women reported deriving power, strength, and hope from their participation in yoga that translated to experiences off the mat in a range of ways. The categories include: active participation in life, sense of control and self-confidence, tools for effective action, and new possibilities.

*Active participation in life.* A stronger ability and desire to engage in important activities was reported by about half of the participants. This included a reduction in a few of the participants' tendencies to disconnect as they became more interested in being active participants in their own lives. Yoga helped Olivia feel calmer, which in turn made it easier for her to partake in activities versus sit "on the outside watching:"

In general, I feel calmer...allows me to kind of immerse myself in an activity rather than just sitting on the outside watching. Before when I'd go to the pub with my coworkers, I'd sit on the outside and listen to people whereas now I migrate toward the center.

Fatima and Emily explained how going to yoga perpetuated their desire to participate in life. Fatima shared that yoga created space for her to "show up" and fight against barriers that challenge her:

It gave me more room to show up [for life], the more I went the more I wanted to show up, and the more I had the tools to fight against the 'oh it's too late' or 'too dark.' I wanted to come here.

Emily said that doing something she wants to do, like yoga, made it possible to participate in other things.

I think it felt more like you participate more than you thought. I don't know, I can't explain it. It's just yoga is something you want to do or meditation, or this or that, but having done it, it's like it feels more possible to participate [in life], if that makes sense.

Disconnecting from life used to be common for Fran, who acknowledged that she still disconnects sometimes, but has seen reductions in the frequency and length of time she disconnects. While Fran felt uncertain whether this “upswing” would last, she associated less disconnection with greater participation in life right now:

I think I'm participating [in life] a lot more. Again, I'm in an upswing so who knows, but I'd say that I'm a really active participant right now. I'm not disconnecting as frequently and when I do, it's not for weeks on end.

Life felt more meaningful for Nina as she was doing something different with her life by doing yoga. While she acknowledged feeling upset thinking about time lost, this experienced elicited a stronger desire to make the most of life:

[Yoga] affected me towards thinking that life is more meaningful and that I kind of want to make the most of the time that I have here. I often get upset about the amount of time I feel like I've lost, because I was almost thirty before I decided firmly to do something different with my life.

***Sense of control and self-confidence.*** Empowerment for some of the participants was demonstrated in their heightened confidence levels and sense of control over

themselves and their lives. More specifically, many participants shared the empowering experiences of realizing they have ownership and control over their bodies; a greater ability to experience, tolerate, and confront emotions that previously felt too overwhelming; and a stronger voice and ability to express themselves. These three subcategories are discussed below.

*Ownership and control of body.* About half of the participants described feeling more aware that they actually have a body, that they own their body, and that they have control of what happens to their body. A very poignant statement by Nina helps to illustrate this subcategory:

I just really suddenly got the idea that I have a body and that I have control over it and that I'm the one that decides what my body does or doesn't do.

She went on to describe a story when this realization became quiet salient for her, almost like a baby discovering her body for the first time:

There was a time when we were doing this breathing thing, when we open and close our hands, and they're like here [puts hands by ears] so you see them in your peripheral vision. I remember there was an instant when I felt like a baby—how they play with their bodies and their brain will gradually connect, 'this thing over here I can feel it moving and oh wow, I can make it move'—all of a sudden I just had this infantile feeling of 'that's mine, that's really mine,' and it just seemed huge that I can move my own hands, and I've been kind of obsessed with my own hands ever since.

Evelyn described an evolving process with her sense of ownership over her body, starting with denial of her body and its rights, and now incrementally moving towards acknowledgement and healing:

It's like complete denial that the body exists, or has rights, or anything. So [after] the trauma it was like a "0," when I started the yoga it was like a 50, and now it's like 60% healed.

Gaining a sense of control over how the body behaves was another aspect of this experience for a couple participants, such as Tara who said:

I feel like I could be incredibly watchful and if my shoulder went up I could recognize it and I'd be like, 'Alright, I can breathe and it will go down'...so, I know that if I do A, that B will eventually happen...

Thu demonstrated a similar sense of empowerment, which she believed was due, in part, to her experiences in the yoga class:

I don't know if I can contribute it only to the yoga, but it definitely has made me say you have control, you have control, you have control. But yeah, yoga as well taught me that—maybe I didn't know to put it in that terminology—that if you have control, like [the teacher] would say "If you want to [move]..." and I was like, I don't need to [move], I can just stay...

Thu also described how this growing sense of ownership and control over her body translated into setting limits in physical relationships with others:

I definitely feel that my body is more my own now, actually a lot more so now...someone had asked if I would like to have sex and I said no...I was

like ‘no, I don’t want to’...and it was ok for me to say that, I didn’t feel like I’d be disappointing the person or whatever.

*Tolerating and experiencing emotion.* Tolerating and experiencing emotion within the sense of control category of empowerment differs from the emotional experience category of relatedness as it refers to a newfound ability to tolerate and even confront one’s emotional experience versus actively pushing it away. Tara put this rather clearly when she said, “Now when I feel something I don’t just push it in nearly as much” or Fran who stated that she “felt very comfortable with expressing” her anger and “didn’t feel like I had to put it away.” Emily acknowledged that she is “feeling safer for things to come up.”

Stacy reflected on her increasing ability to tolerate a sense of vulnerability in her relationships as a result of the safe vulnerability experienced in yoga:

...You can do little things...little feelings of vulnerability that can lead you to intimacy...doing some of the classes or some of the stretches felt awkward, but it was only awkward for a couple seconds and then you got past it. The parallel being that you can be intimate for this amount of time like that. You don’t have to be scared of vulnerability. That made me feel comfortable with myself even doing things that made me feel uncomfortable I guess.

Confronting difficult feelings was a sentiment shared by Nina who said that she is “starting to acknowledge and confront some of my anger about having been abandoned as a child.” In the past, when feelings of anxiety arose, Nina would make attempts to

avoid the feelings by drinking alcohol or taking sleep aids. Now, rather than trying to get rid of her feelings, she thinks through her day to validate or challenge those feelings:

Would somehow punish myself more to get rid of that feeling of anxiety, and yet I wouldn't be able to figure out what I was so anxious about and I would drink alcohol, or take something to make myself fall asleep. I would just do anything I could think of to make myself forget that feeling inside because I didn't know what to do about it. And now sometimes when I'm driving home from work or right when I get home I'll kind of get that feeling in my stomach, but then I'll just quickly run through my day or whatever, and just be like the day is over, we've reviewed it, there's not a big problem here.

With increased strength and empowerment, Nina also reported that she has made a conscious choice to address "core issues" related to her trauma:

I'm choosing [to address issues related to sexuality resulting from trauma], so I guess I feel strong enough and empowered enough that I can approach it right now. And because I'm approaching like the core issues about sexuality that is really huge for me...

Trish and Evelyn shared some painful memories they confronted and how yoga has helped them work through the pain. Trish described the process of allowing feelings of anger to arise regarding her history:

I come here to think about what happened to me, so it made me think more about my early life and what had happened...I felt so bad about myself for

so long and I started feeling, for a while, angry at my parents for not noticing...I was putting it towards other people rather than myself, which is better, I guess. That's one step toward healing. I feel much less angrier now...I started thinking I was just a child and I wasn't responsible for what had happened.

Yoga helped Evelyn confront and challenge some of the shame she had about her body.

She detailed the connection and process between this and yoga practice:

After I had gotten the rhythm of [yoga] I started to go deeper into myself while doing the practice...that was hard for me because it brought up a lot of self-shaming messages about my body being broken or it's hopeless, that kind of stuff, or I don't have the will to do it. But I'm doing it, so obviously those voices are wrong because here I am. That really affected me because it showed me that I could tolerate having a lot of affect while still doing what I wanted to do...[emotion] used to feel dangerous. I used to feel like if I got too sad or...well, especially if I got too mad...or too emotional that I would become dangerous to other people. So sitting there in that little room, it's not like there was a tornado going on inside me, I was just sad. I'm sad about my childhood. That's fine and it's not hurting other people. I don't know if I did cry, but I felt like I could have, that it was safe to cry. Not just that I physically could, but the space would be held for me to cry if I needed to.

*Developing voice.* Participating in the yoga classes helped seven of the women develop a stronger voice to express their desires and get their needs met. Developing a voice for the women involved setting boundaries, expressing their feelings and perspectives, and feeling heard or effective. Sarah, for example, described the empowering feeling of being “able to say something” to the yoga teacher about the temperature of the room and then see that there was “action taken” from her feedback. Thu had a powerful example of this when she described how respecting herself in yoga allowed her to feel comfortable speaking up when someone was not treating her with respect:

So ‘this is mine, this is me, and if you can’t’...like [the teacher is] respecting me and saying ‘if you don’t want to touch your toes, don’t touch your toes’...like [this guy is] asking me to do something that I don’t want to do, you know, like ‘this is me.’ I know that might be a little bit confusing, but I think it’s more of that I’ve come to more appreciate myself and my body and here is someone who is not appreciating it. It is clear to me now to appreciate yourself, so this person is not appreciating it, and you need to go...I think a lot it has to do with once you have that self love part of it, someone comes and they’re trying to not love you, that’s when you’re wait a minute, you don’t belong here, this is not going to work out...so I think that me being able to appreciate myself makes me more able to put up the boundaries and be more cautious.

Tara also learned to set boundaries with people based on how they treat her. After feeling disrespected by her neighbor on a few occasions, Tara realized that her neighbor “doesn’t have to be a close personal friend” and distinguished this from previous situations that were similar as she is now better at “evaluating those boundaries with people rather than having it be all-or-nothing in a way.”

Fatima spoke more directly about working towards expressing her feelings to get her needs met when she stated, “And, I’m also saying things to people like, ‘when you do that it upsets me, I don’t want you to do that.’” Sarah also found a greater ability to express her feelings. More specifically, Sarah was able to process a flashback (that occurred in the yoga class) with her therapist more easily as she had “developed some sort of voice from the yoga class:”

I also used another approach with the flashback. It’s like I took a direct approach and attacked it head-on with my therapist—it’s like I just don’t talk about this stuff—and I think I took that approach because I felt like I had developed some sort of voice from the yoga class. It was empowering to a certain degree...we went over everything and we worked through it, and then after that it was pretty much like it was just gone. The emotion behind it was gone; the flashback wasn’t coming back all the time. It’s like I stepped through a doorway into another place where it didn’t affect me.

Stacy found voice in learning the benefits of asking for support:

I think my family growing up was very much like, ‘We don’t have to ask anybody for any help, do it on your own, it’s weak to have people help

you.’ Through the study and through other things in life I’ve realized that it doesn’t really get you too far and asking others for help could come up with some great solutions or friendships or supports, whatever it may be.

***Tools for effective action.*** Tools for effective action is a category that addresses the empowering experience of recognizing one has the skills to care for oneself. Nearly all participants reported such experiences as they relayed stories of realizing they have the skills to relieve anxiety and flashbacks as well as techniques to soothe and comfort themselves and manage life situations. This category is broken down into three subcategories describing the intricacies of this experience, including: self as a resource, body as a resource, and breath as a resource.

*Self as a resource.* Most participants illustrated the way in which trauma-informed yoga helped them to build skills, or recognize that they already had the skills, to manage stressful situations related to the trauma and life in general. In contrast to the other subcategories in tools for effective action, which reflect the specific use of body or breath as a tool, self as a resource describes the comments made by participants that speak to a general sense of having tools to manage difficulties in life. For example, seeing yoga as a path toward healing, Stacy gained a sense of personal strength and determination that she can overcome challenges in her life:

I probably feel like I can overcome more things...I always thought like climbing a mountain or doing rock climbing, like, I’ve always been scared of heights. And not to say that I want to do that tomorrow, but now I have this feeling like, ‘Oh I know I could do that. I know I can overcome

that...it's just like a sense of mental accomplishment over something that you think you could never overcome...[Being in the yoga study] has proven that no matter the hardship that you can probably overcome it. Not that it's the 'take two aspirin and you'll be better in an hour.' It might take a lot of work, but you can go beyond it...no matter what comes up I can probably get through it. Having this energy and this powerfulness, you don't have to be bogged down by anything that comes your way. You can get through it and probably change it in some way. Or, if you can't change it, to know that your strong enough to make it through it.

Fatima described how she has learned various ways to comfort and soothe herself, and does not have to be "stuck in flashbacks:"

[Have incorporated yoga into daily life] in reminding myself that I have...these ways to soothe and comfort myself, and I don't have to be stuck in the flashbacks...So many of the things were helpful because instead of this big grandiose...it was like I can do this and this, and there's this space to breathe and relax and feel my body, and I don't have to stop that, I can continue it.

Flashbacks were also a concerning issue for Sarah, who now feels she has tools to work through them:

I feel a little bit more empowered. I feel that even though I have no choice when the flashbacks come, there are more things I can do to kind of work

through it...I see that I can be stronger because I have another tool in the toolbox to use.

Panic attacks had previously made work difficult for Olivia who now reports having techniques to neutralize the anxiety:

...like last year actually, I took off 2 weeks from work because I had a panic attack that was like so bad that I was like 'oh my God, I can't do this. I'm not fit to be a scientist. I have no control over anything'...whole idea of being an anxious person just kept me from doing anything and now like nowadays, I can have anxiety and it's okay. It's just finding different ways of channeling it. So far, I've had lots of opportunities to be anxious and lots of opportunities to have panic attacks, but I think learning to not focus on them or trying to find techniques of neutralizing it are helpful.

Sarah's anger has become more manageable as she becomes increasingly able to recognize feelings of stress and lower them without misdirecting:

...and I can start to feel [stress] inside me and how to lower that, without that coming out at someone and misdirecting it...outwardly towards people...I feel like I have much more tools to deal with it. I think prior I would just get angry and I didn't know why I got angry. And now if I'm even getting angry about something that has nothing to do with the trauma [yoga] has given me some more tools to work with. Like I'll take a deep breath and think about it...I was really walking taller and noticing my breathing...And it was right around the holidays, which is always

stressful, people are always stressed out. Even though the world was super stressed around me, I could be this little tool and be this calm person.

*Body as a resource.* About half of the participants spoke specifically about ways they have begun to use their body as a resource to help manage feelings. For instance, learning how to use her body as a resource gave Sarah “the power to have choice...when [uncomfortable] feelings happen; it gave me the option to look towards yoga for what I would do.” While the women acknowledged learning this through yoga, most found ways to apply this in their daily lives. Tara explained how she used mountain posture when she is doing dishes to feel stronger:

As far as other situations go, like other day-to-day situations, I’ve learned to sort of stand up a little bit more...[Mountain posture] made me feel more strong and balanced on my feet...So, when I’m doing dishes I always try to keep my back straight and my head up. But just standing like that made me feel stronger.

Thu described using stretches to relieve tension anywhere she goes:

The stretching too, I mean feeling that, ‘oh my god, I’m so much more relaxed.’ When I’ve been tense and feeling ‘ugh’ in my office or whenever I was at a chair...no matter where you are...yesterday at a restaurant, I was thinking ‘ok, I need to stretch my neck’ or something like that, I was feeling quite tense and I was ‘ok, this is just me stretching my neck.’

Sarah expressed realizing how small movements could make a difference in how she feels:

I know that I feel better if I stretch; I know I feel better if I do the physical yoga. It doesn't mean I have to do anything extremely physical. It's just small movements that can make a difference. That if I listen to the [at-home CD] and do it, I can feel better physically because my body has kind of shifted into another world.

Emily has had similar experiences in learning how she can use her body to dissipate or elicit certain feelings:

I think it has me a little bit more focused on knowing that you can feel a certain way and that there are physical things you can do to make that dissipate. I think I have more awareness of that after having done yoga...times where I take a deep breath and I do the sunburst in my kitchen just because it was like I needed to have that feeling.

*Breath as a resource.* Similar to body as a resource, most participants reported using their breath as a resource, that is, ways they have started to access their breath to elicit a sense of calm, to presence themselves, and to manage emotion. This was another skill learned in yoga class, and used as a tool off the yoga mat as well.

About half of the participants reported that the skill of controlled breathing allowed them to find a sense of calm. Sarah and Thu provided some clear examples of this. Sarah found that focused breathing helped calm her mind and fall asleep:

[Focused breathing] was calming in the sense that I had control over it, and something that I had never thought of before had just been brought to

my awareness...if I couldn't get back to sleep, I would concentrate on my breathing...and that would just calm my mind

Thu acknowledged how breathing allows her to feel calmer, which in turn allows her to take the time to process and respond:

If I were to say there was a change it would be me being able to calm down with the breathing exercises. I mean it is quite amazing, I just do it whenever...it was like 'ok remember to breathe'...breathing and being more calm, because when you breathe you're taking time, and you're like 'ok let me process and not be so quick to respond.'

A few participants described using focused breathing to manage anxiety, panic and other emotions. For instance, Olivia shared that she has been handling anxiety and panic better since practicing yoga and the breathing:

I'm handling things way better than I used to...Since doing the yoga and practicing the breathing and whatnot, I think I have more control over my feelings especially with the breathing...I don't feel like my panic attacks or anxiety are as pronounced. It's kind of like if I do get in a situation like that, I can go into the breathing and that usually does calm. I was surprised how much my breathing affected how I felt...I feel like I have newer tools to prevent panic attacks or at least calm me down...If I feel anxious and I feel like I'm going to have a panic attack, the breathing does help.

Tara stated that she uses her breath to de-stress and find energy. She has learned the ways she is affected by inhales and exhales and uses that to her advantage:

Now I always think I've got to breathe when I'm in stressful situations... whenever I feel like I need to. So, whether it's at work and I feel like I'm stressing out or if I'm in the car and I'm stressing out... It was interesting to me for the first part you focused on the inhale and in the second part you focused on the exhale... That stood out for me because I was actually learning how to breathe and breathing management... So when I'm stressed out, when I need more energy I would try to focus on inhaling. When I need calm down I try to focus on exhaling.

A couple participants also mentioned that they use their breath to presence themselves to the current situation and to their bodily state. For instance, Fatima acknowledged how sometimes using her breath to presence herself and slow down:

It seems like with yoga there are endless things you can do. But as far as bringing myself back to the moment and just slowing right down, that was really helpful because that's all I can do.

*New possibilities.* The last category under the empowerment theme is new possibilities. This refers to participants' reports of feelings more hopeful about the future, interested in pursuing new directions, and seeing possibilities for healing. Most participants experienced one or more aspects of believing in new possibilities, such as Fatima who said, "being picked to do this was a part of my future and this was a healthy step and this was something I could continue... that was the hope, I could take it with me." Some participants, like Fran, saw yoga as giving her "structure, like a place to start building or become more aware of—I think it gave me a starting place."

Evelyn began to see herself as a more physical person, and then realized that if she could do yoga, she could also pursue other physical activities in which she is interested:

I guess my identity started to shift, how I see myself as a more physical person... Around the body I've always felt kind of helpless—helpless and hopeless—but I think that's started to shift in my beliefs about myself... The thought process is like this. If someone in my physical condition can do yoga and it looks like this, this very minimalist thing, then I can do [martial arts] and it doesn't have to look like Jet Li... it brought up a lot of, 'Oh, maybe I can actually do this'... it's this piece of information that just because your body has limitations doesn't mean it doesn't have strengths.

Evelyn went on to explain how she hopes that through this healing process she will “be able to have sex again, sing again, run and jump and play again, all these things that were great joys to me... that something physical can be part of my future.”

Yoga, to Nina, was “a new avenue for healing” and this elicited a shift in her perspective on life and the future, particularly with regard to her relationship:

The yoga study was [a new avenue for healing]... I thought that there was more to life than what I was living, but because of what I went through, it was kind of like it was short changed, it was out of my control... Now, I don't really think about [losing steam by the time I'm 40] as much. I think in a way it has to be [related to the study], because you can't do both—you

can't [believe in] this grand life...that hopefully extends quite a bit into the future [and also believe you have] 8 years left! It's just so incompatible. I feel like I have more of an idea that the future is real, and that I can achieve my goals. I'm starting to really care about our future a lot...the things we want to do, our plans to have kids, places we want to travel, just all kinds of things - it feels like it's just all opening up.

Emily gained a more positive outlook towards the future as she realized there were things she could do to feel better:

The first thing that pops out at me is attitude toward the future or your outlook on life. It just kind of felt like that increased...It felt like there were some things that you could do to feel better, more tangible...Even though you intellectually know something, I think I just know it on a different level.

Tara described new possibilities in the form of career directions and even reported considering yoga as a career to help others:

Like, I felt a little bit lighter...So, I think it gave me like a better sense of direction to what I would want to do, not only for myself, but for other people. Of course I haven't done that, but it kind of put a thought together as in, "What is it that I want to do?" Sort of more solidified a career direction for me...I started looking into yoga more as a mechanism for a career to help other people because I was so impressed with that and how I felt afterwards.

Olivia and Thu also described their considerations around getting more involved with yoga, but on a more personal level. Olivia noted that she “may do yoga again in the future, but more formal yoga,” and Thu said, “now it’s like ‘oh maybe I should look into this, maybe I should take a course or a class to see, because I saw a difference.

### **Summary of Themes**

A thorough description of the findings has been presented in this chapter, which emphasized participants’ experiences through direct quotes. The five G.R.A.C.E themes—gratitude and compassion, relatedness, acceptance, centeredness, and empowerment—reflect the ways in which participants noticed changes in themselves from the trauma-informed yoga. The theme of practice and design characteristics describes the factors that impacted those shifts.

Furthermore, it is important to acknowledge that these themes illustrate the experiences that led participants to continue practicing yoga following the study. In fact, nine participants said they continued yoga; five have tried related activities, and a couple experienced limitations to continued practice. For example, Sarah practices nearly every night, Fran and Stacy about once per week, and Trish on an as-needed basis when she is “feeling disconnected or upset.” Additionally, Fatima, Evelyn, Thu, Tara, and Olivia started to engage in related activities—Fatima meditates “every other day,” Evelyn is pursuing training in martial arts, and Thu is trying a more rigorous style of yoga at a local studio. While Tara and Olivia have both continued to practice meditation at home, they both acknowledged the high cost of taking studio yoga classes.

Such outcomes of the trauma-informed yoga study and their implications are discussed in the following chapter. More specifically, chapter five explores the findings from a broader perspective and places them into context of relevant theory and research.

## Chapter 5: Discussion

The current study explores participants' experiences with, and reactions to, trauma-informed hatha yoga. Eleven women with histories of complex trauma were interviewed two-months after their completion of the 10-week trauma-informed yoga class. During the interviews, participants shared their perceptions of the trauma-informed yoga and answered the question: "Did you notice any changes—positive, negative, or otherwise—in yourself throughout your participation with regard to your emotions and thoughts, future, relationship with your body and with others, religious or spiritual views, or anything else?" Responses to this question provided data on the changes participants noticed within themselves, including any shifts in symptoms or areas of personal growth. In particular, participants revealed a reduction in symptoms, various forms of personal growth, and specific characteristics of the yoga and the study that impacted their experience. While engaging in TIY often involved hard work and elicited intense emotion, nearly all participants felt that it had a generally positive impact on their lives and have continued to engage in yoga or similar practices.

Based on their reports, six overarching themes were identified to represent their experiences, including: 1) gratitude and compassion, 2) relatedness, 3) acceptance, 4) centeredness, and 5) empowerment, and 6) practice and design characteristics. In the first section of this chapter, I summarize the first five themes (i.e., the G.R.A.C.E. themes) in light of current research and theory on the use of yoga as a therapeutic modality (the sixth theme will be explored in a later section). The two subsequent sections discuss how the findings inform our knowledge of TIY as a treatment for complex PTSD (CPTSD)

specifically, and our understanding of facilitating personal growth in a therapeutic context, more broadly. Next, I discuss potential limitations of the study, and the final section will explore possible implications of the current findings and offer considerations for future research and practice. While the sixth theme will be noted where relevant, it will primarily be explored in this final section as it highlights specific considerations for future practice and research design.

### **Review of the Findings**

The trauma-informed yoga (TIY) classes aimed to encourage women's exploration and awareness of their internal experience and foster self-care, acceptance, and a more positive relationship with one's body (see chapter two for a complete description of the trauma-informed yoga framework). Within this context, the women described their experiences as both challenging and rewarding as they engaged in the process of what trauma-informed yoga refers to as "reclaiming your body." This involved recognizing a sense of ownership and control over their bodies; feeling more connected to and aware of their bodies; gaining acceptance and appreciation for their bodies; and beginning to see how they can feel centered in their bodies and use them for self-regulation.

While trauma-informed yoga classes focus specifically on the body, the women in the study also reported these benefits in their lives more generally, such as the power to make choices and determine the direction of their lives; develop strong connections to others; accept and appreciate life experiences; and cultivate a sense of calm and internal balance. The results of this study suggest that participants internalized the traditional

yogic concept of Ahimsa, or non-harmful ways of connecting to oneself, as they developed more positive relationships with their bodies and allowed the benefits to expand “off the yoga mat.” Their experiences are described in more detail below as I summarize the G.R.A.C.E. themes and their relevance to current literature on yoga as a therapeutic modality.

**Gratitude and compassion.** Participants’ experiences in the trauma-informed yoga classes—including the increased feelings of relatedness, acceptance, centeredness, and empowerment—elicited feelings of gratitude and compassion for many of the women. In various ways, participants acknowledged increased patience and self-love that emerged from practicing yoga. Becoming aware of what one needs to feel healthy, noticing that everyone moves at a different paces during the yoga classes, and integrating the TIY emphasis on doing what is right for your body, generated a level of gentleness with one’s body and patience with the process of change. This manifested for some participants as more compassion and less judgment toward their bodies, efforts toward self-care, and even a sense of self-love. Greater appreciation for one’s body translated to greater respect for oneself and expecting it from others. A sense of pride and accomplishment arose from this as participants began to fully acknowledge all of their struggles and what they have survived, and give themselves credit for all their efforts toward healing, and how they have learned to take action for a healthy life.

These findings are consistent with recent literature exploring the benefits of hatha yoga. In particular, an article by Wang and Feinstein (2011) offered a similar perspective as the current dissertation in that they discussed both symptom reduction and beneficial

outcomes of yoga on chronic pain in adults. They posited that yoga can provide pain relief through relaxation and reduction in muscular tension, and can also help to shift one's relationship to pain through the cultivation of gratitude. The authors also emphasize that gratitude does not minimize one's experience or negate the pain, but instead alters one's perspective on pain in one's life and may generate happiness (Wang & Feinstein, 2011). Another recent qualitative study found that yoga promotes healing and intentionality, including feelings of appreciation and gratitude (Deary, Roche, Plotkin, & Zahourek, 2011).

**Relatedness.** A greater sense of connection to one's inner experiences, including physical sensations, emotions, and the mind and body connection, was another shared experience of participants. The experience of greater connection to oneself also consisted of increased capacity for introspection and recognizing links between past trauma and current behaviors. This was an emotionally intense experience for some participants, as they became more aware of difficult emotions and sensations, many of which had been "suppressed" for many years. One participant described this greater connection to inner experiences as "waking up." Throughout the study, many participants noticed how they had previously been unaware of, or disconnected from, various aspects of their lives that were related to the trauma. For instance, increasing awareness in all of these areas seemed to also elicit greater understanding of the significance and impact of their trauma histories as well as attunement to symptoms and behavioral patterns resulting from the trauma (e.g., patterns of symptom awareness).

These findings parallel the claims made by practitioners and researchers of

mindfulness and yoga for many years. For instance, many well-known yoga practitioners have posited that yoga helps to increase self-awareness, interoceptive awareness, and one's connectedness to the surrounding environment (Arpita, 1990; Baptiste, 2002, Iyengar et al., 2005; Schell et al., 1994). Research by Siegel and colleagues (2009) also described some of the primary benefits of a mindfulness practice as recognizing, acknowledging, and accepting feelings. Furthermore, these findings are consistent with the literature that suggests mindfulness practices rebuild connections between body and brain (Follette & Vijay, 2008; Kempson, 2007; van der Kolk, 2006). Brain scans and neuroplasticity studies have also demonstrated that the practice of meditation strengthens areas of the brain associated with introspection, attention, and well-being (e.g., Davidson et al., 2003).

In addition to feeling a stronger connection to one's inner experience, participants also noted stronger connections to others. Being involved in TIY allowed many of the women to feel less alone in their struggles. This was demonstrated in the deepening of personal relationships with important others, such as feeling more comfortable and confident with intimacy and physical closeness, situations that previously elicited a vulnerability that was too overwhelming. One reason for increased comfort in these areas was reportedly the experience of being in a group of other trauma survivors—being in their bodies and being safe together. This experience was regarded as validating and normalizing within the context of the study and their lives more generally. In fact, some women explained that they derived strength from this experience as they felt a sense of shared purpose and solidarity, that is, everyone was working towards healing and do

something healthy with their bodies. For a few women, this also triggered a sense of hope and optimism for future possibilities of healing and connection. In fact, women likened the feelings of “being in this together” and sharing a sense of purpose to deep, spiritual connection with people and “life in general.”

Participants’ experiences of greater connection to oneself and others supports van der Kolk’s (2006) hypothesis that a person may find deeper connections in relationships as one becomes more aware of one’s internal experience and Ware’s (2007) suggestion that a stronger mind-body connection can lead to healthier lifestyle choices, stronger interpersonal relationships, and heighten one’s sense of interconnectedness to other living beings and the universe overall (Ware, 2007). Furthermore, these findings substantiate results of a study by Siegel (2007) that found a positive correlation between increases in attunement to internal states resulting from the practice of mindfulness and activation of brain regions associated with feelings of connectedness to others.

**Acceptance.** A long-lasting effect of trauma, for many of the participants, was a negative self-perception, thus the experience of increased self-acceptance in TIY was a substantial shift for many of the women. This involved feeling less ashamed and less embarrassed about their bodies as well as an increased comfort being in their bodies, with the look of their bodies, and accepting their bodies’ current capabilities. Moreover, increased body acceptance and TIY’s emphasis on “meeting your body where it is” seemed to elicit an increased acceptance for one’s self more generally. For example, the recognition that there was no right or wrong way to do the postures—as the focus was on finding which form of a posture works best for their own bodies versus how others were

doing it—allowed some of the women to feel more accepting of themselves overall with less need to compare themselves to others on and off the mat. In other words, these realizations applied to other areas of participants' lives, such as acting in line with individual needs, rather than “keeping pace” with others, “people-pleasing,” or looking for external validation from others (e.g., “I don't have to be like everyone else to be able to exist”).

Increased self-acceptance is an experience shared by many yoga practitioners, and is proposed to be one of the primary benefits of yoga (Arpita, 1990; Baptiste, 2002, Iyengar et al., 2005; Schell et al., 1994). In fact, the physical postures (asanas) are not only intended to be a path towards increased physical capabilities, like flexibility and balance, but also aim to increase awareness and acceptance of the body, its capabilities, functions, and reactions, as well as comfort with movement (Desikachar, 1999; Ware, 2007).

Another aspect of acceptance for the participants was in regard to life experiences. The sense of validation from being with other women who are struggling as well as internalizing the teacher's encouragement to “meet your body where it is right now” contributed to a greater acceptance of life experiences. Indeed, acceptance of one's body in its current state also meant acceptance of how one's body got to that state. Thus, many of the women began to acknowledge the severity of the trauma they had been through and while this was often an emotional process, many came to a greater acceptance of their past experiences (e.g., “made me see like the magnitude of this and how much I've really been through”). This is not to say the women accepted the past

experiences as being “okay,” but rather they acknowledged trauma and its impact as part of their life’s history. Part of accepting past experiences, for a couple women, also meant recognizing non-traumatic aspects of their past (e.g., “some good things my mother was able to give us, and I’m starting to appreciate some of them as separate from all of the trauma...”). Greater acceptance of life experiences, including past trauma and its long-term impact, is a notable shift given the tendency for many women to avoid trauma-related memories and facts (Steil, Dyer, Priebe, Kleindienst, & Bohus, 2011).

These findings parallel results in Deary and colleagues’ (2011) qualitative study with adults in a hatha yoga program in which participants reported feeling more at peace with their lives and acceptance of life’s events. Their findings also suggest a connection between acceptance and other benefits experienced in yoga, such as more balance in life and greater hope. Similarly, the experience of increased acceptance in the current study appears interconnected with a number of other experiences that are discussed within the other four G.R.A.C.E. themes, such as greater confidence in oneself, increased efforts toward self-care, an openness to new possibilities, and a shift from experiencing each moment through the lens of one’s traumatic past to a here-and-now experience rooted in the present moment. This latter finding is in-line with van der Kolk’s (2006) proposition that self-acceptance helps individuals to find internal balance, which leads to the next theme of “centeredness.”

**Centeredness.** Over the course of the study, participants began to feel more centered in mind and body. The calming effect of yoga, physically and mentally, carried over to experiences outside of the classes as participants reported a greater ability to find

a sense of calm even in difficult or stressful situations. Participants described having a clearer mind from the yoga as it helped to ‘quiet racing minds,’ lessen anxiety, and reduce ruminative thinking (e.g., “Easier to think now that I don’t spend so much time being all panicky”). A sense of calm and clear-mindedness afforded some of the women more mental “space” to engage in meaningful activities, such as artwork or thoughtful discussions, for which they previously did not have the focus or attention. Participants also reported more positive feelings (e.g., “now thinking randomly good thoughts”); and the ability to respond to others with thoughtfulness rather than automatic reactivity (e.g., “don’t get as impatient... a more thoughtful approach...”).

Indeed, these quotes and other participants’ sentiments, reflect Bhikku’s (2007) position that a mindfulness practice creates stability as one develops the ability to manage stress and their own internal experience (Bhikkhu, 2007). These findings are also consistent with research by Deary and colleagues who found that after a hatha yoga program, adults reported a new awareness of integration and balance in their lives as well as less reactivity (2011). Additionally, Kabat-Zinn and colleagues posited that awareness of internal sensations, without avoidance or dissociation, can promote one’s ability to control emotional reactivity (Kabat-Zinn et al., 1992). While traumatic memories often take over one’s mental space, yoga helps to bring individuals into the present moment and to the realization that each moment comes to end (as has the trauma). More specifically, postures are held for a period of time and while they may be physically challenging, this exertion always comes to an end; this experience can provide a sense of deep relaxation (Desikachar, 1999).

A greater sense of calm and less time thinking about the trauma or symptoms allowed participants to be more present in their lives as they experienced a greater capacity for a present-moment awareness and being engaged with oneself and others (e.g., “I feel numb...I go through the motions like a robot...but I stopped doing that.”). Relatedly, for some of the women, the combination of feeling centered and connected to inner experiences created a deep feeling of wholeness or integration (e.g., “My identity is much more whole”). Participants also described a strengthened connection between their minds, bodies, breath, feelings, and physical experiences (e.g., “feel what muscles were being used, but I could also feel the breaths and I had control over it;” “...the concentration on breathing and the meditation and sort of the deeper inner understanding, if you will...”).

The emphasis on connecting mindful movement with breath and intentional relaxation allowed participants to feel more integrated in their experiences. Another element of TIY that was noted as helpful in eliciting a sense of centeredness was the practice of bringing self “back into the room” when one’s mind or focus has drifted. The teacher’s gentle encouragement to come back to the room by noticing breath, body sensations, or her voice were also helpful reminders during the yoga class, and participants began to give the same gentle reminders to themselves outside of class. Such practices brought present-moment awareness that allowed some participants to experience an increased sense of meaning and intention to their actions and choices in life. These elements of TIY are part of the recommended aspects of helping trauma survivors reclaim their bodies and sense of self. Emerson and Hopper (2011) describe this

as creating a safe space where trauma survivors can practice becoming aware of the body and its experiences in the present moment, which then allows them to have choice in responding with openness and compassion to these experiences rather than automatic reactivity.

**Empowerment.** The skills gained through yoga, and the application of these skills to other aspects of life, often fostered a sense of personal empowerment. For instance, participants described a newfound realization that they have control and ownership of their bodies—ranged from an awareness of one’s body to a realization of one’s power to make decisions about what happens to one’s body. One woman used the powerful analogy of a baby discovering she has a body for the first time. Another woman shared her recognition that “this is me” as she described a sense of ownership of her body that gave her the power to say ‘no’ to an unwanted sexual encounter.

Successful use of yoga techniques (e.g., controlled breathing and stretching) on and off the mat allowed participants to feel more self-reliant and capable in dealing with difficult situations, including panic attacks and even flashbacks. In other words, participants began to see how they could use their body and their breath as a resource for emotion regulation, self-soothing, and impulse control. Furthermore, with the effective use of yoga techniques for affect management and emotion regulation, participants began to feel safe and comfortable to experience and confront difficult emotions. That is, participants were able to tolerate emotion that may have previously felt too threatening or triggering, such as anger, self-shame, or vulnerability in healthy intimate situations, as they were now able to take effective action to manage it, feel comfortable with it, and

even elicit a sense of calm in the midst of it.

These findings reflect some of the major benefits of a mindfulness practice, as described by Siegel and colleagues (2009), including regulating or experiencing emotions rather than attempting to control them. Controlled breathing is also intended to enhance one's ability to balance physiological patterns as well as mental and physical relaxation (Ware, 2007). Baer's (2003) proposition that acceptance and awareness of emotion allows for greater tolerance of emotion and reduced likelihood of being triggered by intense emotion also appears to be consistent with the current findings. Many of the women described each of these benefits, and illustrated how they became more aware of feeling states, learned to accept (rather than reject or avoid) their feelings, and gained skills to manage their emotion (e.g., "now when I feel something I don't just push it in nearly as much...now I always think I've got to breathe when I'm in stressful situations").

As the women began to feel more confident in their abilities to successfully use the tools they learned, in yoga class and in life, they also became more comfortable in expressing themselves. The women shared that this developing voice was helping them to set healthy boundaries, effectively communicate their needs to others, and open dialogue with important others in their lives. This was useful in various interpersonal situations and within intimate, therapeutic, and family relationships. In fact, a few of the participants directly acknowledged the ways in which the skills learned in yoga aided deeper communication and exploration in therapy (e.g., "I took a direct approach and attacked [the flashback] head-on with my therapist...I felt like I had developed some sort

of voice from the yoga class.”).

Furthermore, some participants’ shared that going to yoga classes, and doing something that was healthy and positive for oneself, acted as a catalyst for pursuing other activities. As the women spent less time disconnected from life through TIY, they became active participants in their own lives and felt more confident in their ability to manage obstacles (e.g., anxiety or other symptoms) that previously prevented such involvement. This finding parallels Deary and colleagues (2011) finding that yoga elicits intentionality, which involves increased motivation and action toward healthy lifestyle choices.

In a similar way, recognizing they could successfully participate in yoga, and that it seemed to be a path toward healing, gave most participants hope for new possibilities in life. While previously unsuccessful attempts at healing diminished participants’ hope for a future free of suffering, experiences in TIY brought openness to possibility. Participants expressed their increased sense of hope for the future and for pursuing new directions in life. Some even shared their new plans for the future, including exploring a different career, trying other physical activities, continuing to confront difficult emotions for healing, deepening communication in relationships, and exploring other facets of yoga and mindfulness (two participants were considering training in therapeutic yoga to share it with others who are struggling).

### **Integration of Findings and Research Literature**

Several theoretical perspectives and fields of research were used as a framework for understanding participants’ experiences of trauma-informed yoga. The following two

sections will integrate the findings within the context of current theory and research, and will discuss how the findings inform current perspectives on: 1) the treatment of complex trauma, and 2) the facilitation of personal growth and empowerment.

**TIY as a treatment for complex trauma.** The way in which participants described the long-lasting effects of trauma on their lives was consistent with research on complex trauma and conceptualizations of its symptom presentation. When considering their experiences and level of functioning prior to the study, the women reported the same chronic issues and symptoms described by many trauma researchers, including problems with emotion regulation; lack of presence in life; negative self-perception; troubles with interpersonal relationships; disconnection from their physical experience and a poor understanding and tolerance of internal sensations; and no hope in the future or sense of meaning in the world (Courtois, 2008; Ford & Kidd, 1998; Herman, 1992a, 1992b; Pelcovitz et al., 1997; van der Kolk et al., 2005). Just as these symptoms of CPTSD have proven to be quite difficult for traditional trauma treatments to address, study participants attested to the tenaciousness of post-childhood trauma symptoms and their non-responsiveness to years of treatment—an outcome of complex trauma that has been consistently documented (Roth et al., 1997; van der Kolk et al., 1996). As pointed out by Minton et al. (2006), the most common treatments for PTSD use top-down processing rather than bottom-up processing, as they focus on thoughts and emotions but lack sufficient attention to body sensations and internal states.

Fortunately, participants in the current study noticed changes in symptoms and experienced forms of personal growth, which supports the belief that a focus on the body

(rather than cognition or emotion) is a helpful first step in treating the effects of trauma on the body, which in turn helps in processing trauma and facilitating emotional and cognitive processing. That is, the body- and mindfulness-based intervention of trauma-informed yoga (TIY) helped participants identify and acknowledge emotional and bodily states, build skills to tolerate and appropriately respond to these sensations, and feel safe in doing so.

The study findings seem to suggest that yoga is a very relevant fit to treating trauma. That is, the areas in a person's life that are compromised by complex trauma are the very experiences that yoga has the potential to bolster and heal. TIY's foci on physical experiences and self-awareness in the present moment targeted both the physical and visceral dimensions of PTSD as well as the interrelated problems of CPTSD (e.g., poor self-perception, psychosocial functioning, and interoceptive awareness). Through their experiences in TIY, the TIY participants inferred that yoga is an apropos treatment as it alleviated some of the primary struggles related to CPTSD and raised their ability to experience acceptance, connectedness, centeredness, empowerment, and compassion. Interestingly, there seemed to be a close correspondence between the struggles and limitations that trauma survivors face and the benefits of TIY.

This section of chapter five explores how this study's findings inform current conceptualizations of complex trauma treatment. While I focus on the symptom categories that challenge traditional trauma treatment approaches (i.e., self-perception, attention and presence, interoceptive awareness; affect regulation; self-perception; interpersonal relationships; and systems of meaning and future-orientation), I consider

both participants' experiences of symptom-reduction as well as experiences of growth and empowerment within these categories.

*Attention and presence.* Consistent with typical symptoms of CPTSD, participants in the study described how they often felt disconnected or dissociated from their present reality. However, through their participation in TIY, some participants noted less dissociation, such as Nina who said, “so much of my life was maybe numb...and all of a sudden I am here.”). In addition to feeling less disconnected, a number of women also reported feeling more centered and present in their lives. Fran, who previously “spent a lot of time in dissociated parts,” said that since TIY “I walk outside and I see the trees and I see the colors - it doesn't all become an abstract...felt good for the most part and centered.” This comment, along with comments by the other participants, suggest that TIY fostered a present-moment awareness and diminished the amount of dissociation or time spent living life from the lens of one's traumatic past. Such an experience is consistent with literature positing that yoga facilitates greater awareness and intentional choice, including the capacity to recognize when one's reactions are connected to the present moment or to past experience (Follette & Pistorello, 2007).

In addition to a greater sense of presence, some women also acknowledged feeling as if they became more active participants in their lives and began to see new possibilities for the future. Their reports seem to go beyond an amelioration of symptoms and reflected a sense of empowerment and growth as they began to pursue activities and goals, which previously felt unattainable. For example, Nina explained how TIY made her “want to make the most of the time that I have here” and Evelyn expressed her plans

to “have sex again, sing again, run and jump and play again, all these things that were great joys to me...something physical can be part of my future.”

These findings suggest TIY’s ability to not only reduce symptoms of dissociation, but to also heighten one’s level of presence in the world. Given that deeper relaxation of the mind and body, centering of attention, and increased presence and engagement in the world are common “side-effects” to a mindfulness practice, it follows that such “side-effects” would be particularly useful for trauma survivors who tend to miss the present moment as they cycle between hyperarousal, dissociation, and avoidance. This practice also seems to benefit trauma survivors as it brings them into contact with their body and internal sensations, from which they often disconnect and experience as overwhelming and triggering. TIY’s impact on interoceptive awareness is discussed below.

***Interoceptive awareness.*** Many complex trauma survivors—including women in the study—experience poor interoceptive awareness or no sense of an inner self at all (van der Kolk, 2006). Disconnection from one’s inner experiences was a particularly detrimental effect of chronic trauma for many of the women in the study. A lack of awareness, ownership, or appreciation for one’s body and internal sensations led to a variety of risky behaviors such as self-harm, lack of self-care, further violation and abuse from others, and poor treatment due to negative body image.

However, throughout the study, as participants became present to their current experiences they also strengthened their interoceptive awareness and felt less overwhelmed or triggered by internal sensations. Evelyn, for example, described her shift from disconnection to connection when she said, “My body sort of energetically started

shifting around...I was walking...and I was like, ‘I have legs. What is that?’” She then said, “...the trauma came back and I immediately assumed there was something wrong,” but this time Evelyn noticed that thought and felt safe to “...stay with it. It was like, ‘No, I’m just feeling I have nerve endings in my legs that apparently I didn’t know I had.’” As demonstrated by this last quote, increased awareness of internal states also seemed to inspire action. Nina illustrated this when she said “I think just being able to pick up on my own feelings in my body is helping me isolate stressors in my life so that I can actually make a plan for how to deal with it instead of just going through and feeling out of control and like not knowing why I feel that way.”

Given these findings, it seems reasonable to consider the possibility that increased connection with one’s internal experience through TIY allowed the women to more accurately assign emotional significance to incoming stimuli, and in turn respond in a relevant and effective fashion. Indeed, some participants acknowledged how increased awareness of internal sensations, or interoceptive awareness, fostered greater attunement to physical pain or injury and thus they were more likely to seek out necessary self-care or medical attention to care for their body. A prerequisite to interoceptive awareness and self-care, however, is the recognition that one actually has a body that needs to be cared for. Many of the women described feeling a sense of guilt, shame, and even disgust about their bodies, prior to the study, and often experienced a sense of discomfort in their own bodies (e.g., “incredible self-loathing”).

Such feelings are consistent with past literature describing negative body image as a typical consequence of physical or sexual abuse (Naparstek, 2004; van der Kolk, 1996,

2006). As van der Kolk (2006) pointed out, these feelings along with the memories of pain experienced in the body during the trauma can often result in a significant amount of disconnection and dissociation from the body. However, for many of the participants, engagement in the study facilitated a growing awareness of ownership and control over one's body as well as greater appreciation for one's body, including a deeper sense of responsibility and compassion. For instance, Nina said, "I listen to it a lot more now... Like if something is hurting, I think 'hmm, why is that hurting'... instead of being like that doesn't hurt, I'm just being weak."

These findings suggest that TIY not only aided in building interoceptive awareness, but also facilitated greater understanding of one's inner experiences; strengthened the ability to tolerate and confront difficult emotions and sensations; and fostered effective action and self care. Expert yoga practitioners have suggested similar benefits, including yoga's ability to increase connectedness to the body and somatic states; offer relief from physical pain, strain and chronic stress patterns in the body; and heighten compassion towards oneself (Arpita, 1990; Baptiste, 2002; Iyengar et al., 2005; Schell et al., 1994). Previous research has demonstrated similar outcomes, such as a study by Impett and colleagues (2006) that found positive correlations between yoga practice and body awareness and responsiveness, as well as a negative correlation between yoga and self-objectification among participants in a yoga immersion.

***Affect regulation.*** Difficulties dealing with emotions and impulses posed significant problems for participants as they described the long-lasting struggles they experienced for many years prior to entering the study. However, nearly all of the women

described an increase in their ability to regulate emotion after the study. Moreover, participants noted difficulties calming or soothing themselves prior to the study. However, through their experiences in TIY, participants reported feeling calmer and having a clearer mind that allowed them to identify appropriate behavioral responses (e.g., deep breathing) in emotionally difficult situations, including when triggered or experiencing flashbacks.

While alterations in brain activity were not monitored in this study, such changes in affect regulation may suggest that participants' bodies were "rebalanced" through TIY. This potential implication would fit with previous research demonstrating yoga's anti-stress effect on the dysregulated systems and structures of the brain and body (Booth-LaForce et al., 2007; Mandle et al., 1996; Raub, 2002; Minvaleev et al., 2004; Schmidt et al., 1997; Streeter et al., 2007, 2010). Such changes may also support the proposition that yoga can activate the medial prefrontal cortex, mediate limbic structures, and aid individuals in gaining back awareness of internal experiences, which in turn allows for an integration of cognitive, emotional, and sensorimotor elements of experience (van der Kolk, 2006)

These findings are also consistent with previous pilot studies examining the use of hatha yoga with trauma survivors. A randomized quantitative study by van der Kolk and colleagues compared DBT and hatha yoga and, in the yoga group only, they found decreases in hyperarousal, intrusive thoughts, and emotion regulation (Emerson et al., 2009). The findings also reflect the sentiments of expert yoga practitioners who propose that hatha yoga helps with self-regulation (Baptiste, 2002; Iyengar et al., 2005).

The data in the current study implies that TIY had the capacity to reduce hyperarousal and affect dysregulation, as well as help participants build the skills to effectively tolerate difficult emotion (e.g., through breath and body). Gaining skills to manage emotional states and impulses also contributed to increased feelings of personal acceptance, self-confidence, and empowerment. This is discussed further below.

***Self-perception.*** Common to the “typical” presentation of CPTSD, women in the study experienced long-lasting damage to their sense of self after their traumas. They shared views of themselves as shameful, hopeless, numb, worthless, and unlovable (e.g., “more shame, more insecurity, more feeling alone,” “no one would love me ever again”). Such perceptions of oneself often led to feelings of despair and yearning to die, panic and apprehension, depression and self-loathing. It is therefore no insignificant finding that participants began to view themselves in a more positive light through their experiences in TIY. Participants reported more self-acceptance and less self-judgment (e.g., “this is what I am and I am an ongoing project,” “I shouldn’t be ashamed or embarrassed...I’m a woman, and just taking control of me”).

In addition to feeling more self-accepting, some of the women expressed feelings of gratitude and compassion for themselves. This ranged from a sense of comfort and pride in oneself (e.g., “I’m generally happy...comfortable being myself,” “gave me a lift every week...a sense of accomplishment”) to increased efforts at self-care and direct acts of self-love (e.g., “take care of myself in the best possible way,” “started like kissing myself, showing myself self love”). Moreover, participants described gaining a sense of personal empowerment through their experiences in TIY, such as feeling more confident

in their abilities to manage difficulties in life and having choice and control in their futures, particularly given all they have been through.

A shifting self-concept was also demonstrated in participants' descriptions of an emerging integrated identity. Some of the women described this as feeling whole, feeling their "parts" working together, or seeing the trauma as only an aspect of their history rather than the defining aspect of their identity (e.g., "the whole course of my life has been dictated by [the trauma]...[now] it's almost as if it's separate from who I am, even though it created me"). These findings are consistent with another recent pilot study by Dale and colleagues (2011), which showed that frequent yoga practice had a significantly positive effect on the level of overall self-concept among women with histories of childhood abuse. Similarly, other studies have linked the practice of mindfulness with higher levels of positive affectivity, vitality, life satisfaction, self-esteem, optimism, self-actualization, autonomy, and competence (Brown & Ryan, 2003).

These findings suggest the potential for TIY to not only target the deeply entrenched negative self-perceptions that result from complex trauma, but possibly to also set the foundation for developing a positive self-concept. This is a prime illustration of TIY acting as a modality for symptom reduction and personal growth. More specifically, such changes in self-perception reflect those defined in the posttraumatic growth literature, including a shift from victim to survivor (participants even described an integrated identity); greater sense of self-confidence and strength; and hopefulness about new possibilities and directions in life (Calhoun & Tedeschi, 2006). Based on these findings, it is not surprising that an increasingly positive self-perception would begin to

show up within interpersonal relationships and have a beneficial impact on connections to others. This is discussed below.

*Interpersonal relationships.* While issues in psychosocial functioning may be considered a “secondary” symptom of complex trauma, troubles in this domain caused some of the most significant pain for participants. Consistent with findings from many researchers of complex trauma, when participants reflected on interpersonal functioning before the study, they described feeling isolated, alone, and disconnected from other people (Calhoun & Tedeschi, 2006; Fleming et al., 1999; Herman, 1992a; Luxenberg et al., 2001; van der Kolk et al., 2005).

However, through experiences in the study, a number of participants reported a stronger sense of connection to themselves and others. In particular, as the women in the study started to feel more aware of their present-moment experiences and experience greater self-confidence, they began to engage more authentically in relationships (e.g., “more myself with other people”). This manifested as stronger feelings of connectedness and increased comfort with intimacy (e.g., “small intimate moments like holding hands...more open than I would have been”) and greater abilities to express oneself and set healthy boundaries (e.g., “putting up boundaries when I feel like I am being pushed too far”).

Furthermore, a number of participants acknowledged ways they became more expressive in both personal and therapeutic relationships through the study (e.g., “comfortable expressing [anger], mostly to my therapist,” “relax a little bit more and be more ourselves...led to this whole new burst of work [in therapy]”). This supports

literature hypothesizing that a greater capacity for emotion regulation, interoceptive awareness, and self-acceptance may lead to benefits in expressing the narrative of one's trauma and trauma-related experiences without becoming overwhelmed (Franzblau et al., 2006). Indeed, van der Kolk (2006) suggested increasing awareness of internal states can strengthen regulation of emotion and may have to occur before one can effectively engage in talk therapy (van der Kolk, 2006). This also seems to support the notion that different treatment approaches may be valuable during different stages of PTSD treatment (e.g., Kilpatrick, Veronen, & Resnick, 1982; McFarland & Yehuda, 2000; van der Kolk, 2002).

Being in a group of other trauma survivors who seem to have the same healthy intentions of healing made some participants realize they were not alone in their struggles and elicited a sense of connectedness and shared purpose. Some participants also found this experience normalizing, validating and empowering (e.g., “we’re all in this together...connection to life and other people...”) These findings substantiate previous research that has found a positive correlation between attunement to internal states and activation of brain regions associated with feelings of connectedness to others (Siegel, 2007).

The reduction in symptoms causing interpersonal difficulties as well as the experience of deeper connections and greater expression within relationships is another good example of the way in which TIY seems to target trauma-related concerns and foster personal growth. More specifically, within the PTG literature, one of the primary domains of growth is considered relating to others (Calhoun & Tedeschi, 2006).

According to PTG theory, growth within this domain involves aspects of relating that were also experienced in the current study, such as a greater sense of intimacy and closeness as well as increased comfort to be oneself and communicate openly (Calhoun & Tedeschi, 2006).

***Systems of meaning and future orientation.*** Prior to the study, a sense of disconnection from others and even from their own experience was often related to weariness about the future and feeling no sense of purpose in life (e.g., “did not have any hopeful understanding of what my life’s meaning was...I really didn’t have a grasp on my future”). This is consistent with literature discussing the impact of trauma on life perspective and suggesting potential existential isolation, spiritual or religious questioning, or feeling a lack of purpose or meaning in life (Calhoun & Tedeschi, 2006; Herman, 1992a; Luxenberg et al., 2001).

However, through experiences in the study, a number of participants reported a stronger connection to life, which elicited a deeper sense of meaning and hope for the future. Some women described this as a general sense of hope for a positive future (e.g., “this was a part of my future and this was a healthy step and this was something I could continue...that was the hope, I could take it with me”). Other participants, however, explained that TIY helped them find meaning and appreciation for their experiences, even the “smaller things” (e.g., “I’m starting to appreciate what is happening in the moment...and not just...when I’m having fun, but just the day-to-day stuff too”). Additionally, a few participants described shifts in their perspectives on life that had a more spiritual or existential quality, such as a deeper connection to all life (e.g., “there’s a

greater connection to the world in general,” “sacredness in people’s lives and these moments when we’re in the room...solidarity of people even though I didn’t know them.”).

Once again these findings suggest that TIY has the dual capacity of both ameliorating the symptoms of CPTSD associated with alterations in systems of meaning as well as promoting growth towards a more hopeful future and a sense of meaning. While the women described feelings of hopelessness, pessimism toward the future, or a sense of having no future at all before the study, following the study they reported positive outcomes consistent with PTG theory (Calhoun & Tedeschi, 2006), which describes growth in philosophy of life as finding purpose, shifting priorities to fit with one’s values, or a greater appreciation for life and one’s experiences.

### **Facilitating Personal Growth**

As discussed in chapter two, theories of personal growth described growth as positive changes in the domains of self-perception, interpersonal connections, and philosophy of life (Joseph & Linley, 2006). The sections above provided thorough descriptions of participants’ experiences in these three domains as well as the forms of growth experienced by participants that are not directly acknowledged in these categories. More specifically, in addition to experiencing growth in these three domains, the participants also described areas of growth in the forms of: gratitude, including increased patience and gentleness with oneself, self-love, and efforts towards self-care; relatedness to oneself, greater self-understanding, and a deeper connection to one’s inner experiences; acceptance of oneself and one’s past experiences; centeredness, greater

sense of presence in life, and a integrated sense of self (which indicates movement beyond the perception of oneself as a “survivor of trauma”); and empowerment, including active engagement in life, a sense of choice and control in their lives, and viewing themselves as tools for effective action.

Given that participants’ experiences of growth have been carefully explored in previous sections, the current section focuses on aspects of TIY that may have helped to facilitate growth based on the Organismic Valuing Theory (OVT) framework described in chapter two. To briefly review, OVT posits that people are active, growth-oriented organisms that are “naturally inclined to integrate their psychological experiences into a unified sense of self...” in efforts to attain personal well-being and fulfillment (Joseph & Linley, 2005, p. 269), even after trauma. However, there are various factors in the individual and social environment that can facilitate or impede this process. In fact, participants’ descriptions of their level of functioning prior to the study reflected a lack of awareness of, or inability to access and express, their organismic valuing process. Given their histories of complex trauma and their reported symptoms, it seems likely that, before the study, participants’ levels of rumination, hyperarousal, and constant reliving of the trauma hindered their ability to engage in the cognitive processes associated with posttraumatic growth (Tedeschi & Calhoun, 1995; Kilmer, personal communication, October 27, 2008) and that their social environment may not have supported their organismic valuing process (Joseph & Linley, 2005). Nevertheless, the current study suggests there are factors associated with TIY that set these processes in motion.

According to OVT, one’s cognitive appraisal processes (i.e., assimilation or

accommodation) and one's social environments, pre- and post-trauma, are primary factors that can help or hinder personal growth and the ability for a person to act in accordance with her organismic valuing process (Joseph & Linley, 2005). While the pre-trauma social environment could not be altered through TIY, the post-trauma environment is still a factor that could potential influence participants' experiences of growth. Thus, the post-trauma environment in the context of TIY is discussed below.

A post-trauma factor that OVT proposes as important to one's experience of growth is a person's appraisal process. More specifically, growth is most often associated with positive accommodation of trauma-related information (versus negative accommodation or assimilation; see chapter two for more information). This consists of modifying one's existing model of the world to accommodate the trauma-related information, such as 'the trauma was not my fault, you never know what life will bring, and so I want to be present in each moment' (Joseph & Linley, 2005). A healthy social environment can aid one's ability to appraise a situation in this manner, and while the early social context in which the majority of women in this study were raised was not growth fostering, their more recent social environments combined with TIY seemed to offer such a facilitating environment. More specifically, participants' reports of TIY were consistent with OVT's description of what constitutes a social environment that would foster positive accommodation, including a safe, reliable, and emotionally validating atmosphere (Cloitre et al., 2006). In this atmosphere participants were able to learn skills for affect regulation, emotional expression, and distress tolerance that may have provided the mental space to engage in the appraisal process described above and become aware of

their organismic valuing process (i.e., access their innate knowledge of what is best for them).

Furthermore, participants noted that TIY helped to foster healthier attachments involving more trust, intimacy and safe boundaries; this may have impacted the social context outside of TIY in a way that also supported one's positive accommodation and organismic valuing process. This raises the other post-trauma factor that OVT views as vital to the experience of growth, which is a social environment that facilitates the organismic valuing process by meeting a person's psychological needs of autonomy, competence, and relatedness (Joseph & Linley, 2005). Fortunately, three key principles in TIY are personal choice, self-awareness, and acceptance; skill-building for self-care; and presence, connectedness, and engagement in life. Moreover, based on the way participants' extrapolated what they learned in yoga into their lives outside of yoga, it is hoped that such experiences began to take place outside of TIY as well.

In summary, when considering the current data in light of theories of personal growth, it appears that foundational elements of TIY are consistent with the environmental factors that are necessary to facilitate growth. Furthermore, TIY may remove the barriers (e.g., symptoms) that impede the organismic valuing process and may enhance promotive factors of the organismic valuing process (e.g., development of strong, healthy, trusting relationships).

When considering TIY in comparison to other forms of treatment, theories of growth might identify structural differences that make TIY an effective growth-fostering intervention. For instance, Tedeschi and Calhoun (2004) have suggested that therapeutic

interventions can foster growth by helping clients “rebuild their self-structures by reintegrating self with experience” (Joseph & Linley, 2006, p. 1049). TIY offered these experiences quite directly as it uses the body to enhance present moment awareness, interoceptive awareness, and taking effective action. A deeper connection to one’s inner experience may have allowed participants to get in contact with their organismic valuing process (i.e., identifying their current needs and making choices that are in line with their needs and values) in an environment that supported action towards this process.

Similarly, OVT describes structural differences between treatments that foster growth compared to those that do not, that is, a combined focus on subjective and psychological well-being versus a focus on one or the other (Joseph & Linley, 2006). TIY may be considered an intervention that focuses on both psychological well-being (i.e., sense of meaning and purpose in life, sense of strength, and psychological maturity) and subjective well-being (i.e., overall satisfaction and level of happiness). While subjective well-being (SWB) tends to be primary in many traditional forms of treatment, TIY aims to reduce levels of distress as well as enhance psychological well-being (PWB), rather than one or the other.

Furthermore, it is important to acknowledge that while growth in the current study appears salutogenic, a number of studies have found mixed results including positive and negative correlations between PTG and psychological distress. Thus, a recent body of literature has begun to explore the complexities of PTG. While a review of the various studies is beyond the scope of this dissertation, an overview of the general sentiments in the field based on these mixed findings provides further context for the results in the

current study.

Inconclusive research about PTG had led many researchers to agree with Maercker and Zoeller's (2004) Janus-face model of PTG, which posits that PTG has two "faces"—one that is functional and constructive and one that is illusory and self-deceptive. The former may be reflected in one's acknowledgment of both the pain and severity of trauma and the perceived growth, such as Nina's comments describing both how she started to "appreciate the level of trauma" and "give myself a little credit for all I've survived...I think a lot of courage." The illusory side of PTG may be reflected in a comment that infers growth, yet seems to deny the trauma. Zoeller and Maercker (2006) provide an example of someone who experiences a significant financial loss and says it has not made her poorer, but rather richer and more mature; a statement that suggests illusory growth and cognitive avoidance. According to Zoeller and Maercker (2006), the illusory side of PTG may be considered palliative and work as a positive illusion to cope with significant distress, but if utilized in the long-term it can be detrimental.

Although data is inconclusive as a whole, the illusory side of PTG tends to be associated with increased distress and decreased psychological adjustment, and the opposite is found with the functional side of PTG (Zoeller & Maercker, 2006). This is not surprising given that the illusory side has similarities with cognitive avoidance symptoms of PTSD, and may serve solely as a way to calm down oneself immediately after a trauma (versus a more constructive, self-transcending perspective associated with functional PTG). In fact, illusory PTG is most commonly identified immediately after a trauma, whereas constructive PTG tends to remain over the long-term (Zoeller &

Maercker, 2006).

Regardless, some researchers suggest that either side of PTG can be detrimental when PTG thoughts are not followed by action that matches the cognitive process of PTG (Hobfoll, Hall, Canette-Nisim, Galea, Johnson, & Palmierie, 2007). This body of research posits that, in order to understand when PTG has adaptive effects, we must go beyond our conceptualization of PTG as a cognitive process and consider whether PTG cognitions facilitate action. The ability to take action, however, also depends on a facilitating environment. In fact, experiencing the cognitive process of PTG without an environment that supports related action may be a factor related to increased distress (e.g., experiencing PTG in an environment of ongoing terrorists attacks is unlikely to support action and likely to increase distress). Indeed, a study by Davis and colleagues (1998) found that individuals who originally saw benefits, and then lost this sense of benefit due to an unsupportive environment, had the greatest increase in psychological distress. This action-focused perspective infers that it is not the perception of PTG that promotes adjustment, but the combination of perception and action.

Such hypotheses are consistent with the OVT framework, which highlights autonomy, competence, and relatedness as concepts that must be translated into action, rather than remain in the cognitive realm, in order to foster growth (Joseph & Linley, 2005). These concepts were also revealed in the experiences of participants in the current study, along with recognition of the intensity of the trauma (versus avoidance), thus indicating that participants experienced the constructive form of PTG. Furthermore, the current study may lend support to the assertion that constructive PTG (including

perception and action) is manifested when environmental factors and life circumstances (e.g. stability, safety, nurturance, and so on) support its process. In summary, participants disclosed an acceptance of one's past trauma, growth perceptions, and growth actions, and they also gave credit to the supportive environment of TIY for this growth.

Finally, despite the need for a deeper understanding of the complexity of PTG and the inconclusive research around associated outcomes, most researchers believe that it is a worthwhile concept to consider in a psychotherapy context (Calhoun & Tedeschi, 1998; Saakvitne, Tennen, & Affleck, 1998; Zoeller & Maercker, 2006). Moreover, the intellectual dialogue around the two sides to PTG and the conceptualization of growth as involving both perception and action provides providers with more awareness of the signs of growth and may heighten the focus on identifying actions that are in-line with clients developing organismic valuing process.

### **Limitations**

Prior to discussing implications and recommendations for future research, it is important to first consider potential limitations to the current study. First, results of the study cannot be generalized to all complex trauma survivors engaged in trauma-informed yoga. Additionally, the trauma-informed yoga framework used in this study offers a unique approach to the practice of hatha yoga that is particularly sensitive to the needs of complex trauma survivors, thus the results of the study cannot be generalized to all forms of hatha yoga. That being said, as Graneheim and Lundman (2004) point out, it is up to the readers to determine if they consider the findings to be transferable or relevant in other contexts or with other group of individuals.

There may also be sampling limitations in the current study. While all participants in the TIY class engaged in the qualitative interview, only 11 of the 21 interviews I conducted were audio- or video-recorded and subsequently used for analysis. Of the 10 interviews that were not recorded, four were due to participants choosing not to be recorded (the other six due to external factors noted in chapter two). While I can speak anecdotally and say that most women who chose not to be recorded also chose not to be recorded at the assessment prior to the study and that their reported experiences were quite similar to their 11 recorded counterparts, it is possible that participants with more positive experiences in TIY were those who agreed to be recorded. Furthermore, all of the women in the study had histories of complex trauma, had been in consistent therapy for three or more years, had little to no yoga experience, and experienced their primary trauma many years prior to the study. One might imagine that women who had more experience with yoga, or other mind-body practices, may have had different experiences of TIY, as would individuals whose last trauma experience was more recent and or presently occurring.

In addition to sampling limitations, the increasing popularity of yoga in the U.S. (7.5% of U.S. adults have tried yoga at least once and it is one of the top ten most widely practiced forms of complementary healthcare in the U.S.), there may have been a halo effect influencing participant reports (Barnes et al., 2004; Harvard Mental Health Letter, 2009). In other words, participants may have been influenced by a cognitive bias whereby their perceptions of yoga may have been idealized leading to a more positive reports of their experiences. On the other hand, a number of participants entered the study

with skepticisms regarding how yoga would be able to help them, which may have also affected their experiences.

### **Implications**

Despite these limitations, the results of this study offer a number of useful findings that suggest implications for both research and practice. Many of the implications discussed in the following paragraphs are derived from the participants in the study, either directly or indirectly, as they commented on characteristics of the study design and the framework of the yoga practice. While participants' experiences of TIY were generally positive and the findings clearly suggest the potential benefits of a mindfulness- and body-based treatment like TIY as a supplemental treatment for CPTSD, their reported experiences inspired a number of considerations for practice and research. These implications are primarily in regard to TIY as a CPTSD treatment, fostering personal growth, the TIY framework, and safety considerations.

*TIY as a CPTSD treatment.* Some important implications arise when considering these reported findings in light of the challenges experienced when treating CPTSD with traditional talk-therapies. As described in chapter two, difficulty attending to and managing internal sensations, trouble with accurately processing incoming stimuli and verbal expression of one's experiences, as well as a general distrust of others and frequent dissociation and hyperarousal, all pose significant challenges to effective navigation of the present moment and the development of trust and authentic engagement in therapeutic relationships (Damasio, 1994; van der Kolk, 1994). Participants' reports suggest that yoga helped to dissipate and address some of the long-standing symptoms of

CPTSD that are hard to address in approaches that rely on insight and understanding, on creating a narrative of the past, or on making meaning of the past. Given the association between these symptoms and ones biological functioning, future studies may want to further research TIY's impact on brain structure and functioning.

Furthermore, these findings may imply that yoga is a useful technique to incorporate in the treatment for CPTSD as it helps to reorganize the physiological responses connected to symptoms. Whereas recalling the trauma may have elicited reactions such as dissociation or flashbacks in the past, with these physiological changes and skills, participants were able to manage the trauma-related physical sensations or feelings as they arose. This has implications for exposure therapies, insight-oriented therapies, or other language-based approaches as some participants recognized a greater ability to tolerate trauma-related stimuli and verbally express their experiences with the incorporation of TIY as part of their treatment regimen. Thus, one recommendation for treatment is to consider the possibility of a multi-stage approach to treatment with a body-based intervention as a first stage, or possibly a combined approach of TIY and talk therapy for individuals with CPTSD, especially those whose symptoms are treatment non-responsive.

Additionally, it may be worthwhile to investigate the utility of a collaborative approach between client, therapist, and yoga teacher to foster a more comprehensive treatment plan that can be tailored as the client's changing symptom presentation. That said, a recommendation for future research is to gather therapists' assessments of clients'

change throughout TIY to add an additional source of information from an independent reporter of symptom-reduction and growth.

Relatedly, a number of participants reported ways that TIY helped them go deeper in their talk therapy. Future studies may want to examine this phenomenon more carefully by looking at the potential influence of TIY on the therapeutic alliance and depth of exploration in talk therapy. Furthermore, therapists are in a unique position to influence clients' experiences in a TIY class. While the current study did not explore the ways in which participants' current therapy may have impacted their reported experiences, future studies may want to explore if and how therapy may be contributing to clients' experiences in TIY. For instance, it may be worthwhile to explore whether clients are bringing their TIY experiences into the therapy room, if client and therapist are processing TIY experiences, and how a therapist's perceptions of yoga could mediate or moderate clients' experiences of TIY.

Participants' greater ability to verbalize their experiences combined with their reported appreciation for the assessments, which allowed them to reflect on their experiences, may also raise another possible area of future inquiry exploring the utility of adding a processing element to the TIY framework. However, this would have to be carefully considered, as some participants felt that not having to talk about their trauma made the TIY environment feel more comfortable. Potentially a one-on-one processing element could be beneficial, and may also shed light on how their initial perceptions of yoga are influencing their experiences. Participants in the study acknowledged various preconceived notions and skepticisms about yoga that they carried into the yoga classes

as they began the study. Future research may want to consider exploring the impact of participants' perceptions on their ability to engage in yoga and integrate its potential benefits. As therapeutic yoga becomes more visible in the public arena, examining idealized perceptions in addition to skepticisms will also be important.

This study clearly demonstrates the potential benefits TIY has for individuals dealing with CPTSD, and thus may have implications regarding training of mental health professionals as well. More specifically, many of the postures in TIY are done in a chair making this approach adaptable to the individual therapy room. Therapists who are knowledgeable about the utility of a body-based approach like TIY, or who are trained in TIY, may be able to offer such benefits to clients directly in the therapy room or enhance the skills clients are gaining in a TIY group class.

Similarly, while the participants in the study were identified as having CPTSD, most had additional diagnoses, including other mental and physical health concerns such as major depressive disorder and spina bifida. This may point to TIY's capability to target comorbidities of CPTSD. Furthermore, TIY's emphasis on modifications to meet one's psychological and physical needs may make it an accessible practice to people with physical disabilities or other mental health concerns. Thus, a recommendation for future research is to investigate the application of TIY to additional forms of distress, health concerns, or challenges that may prevent individuals from entering a more general yoga class.

Future research may also do well to explore the use of trauma-informed yoga with other populations. For example, this study examined the use of TIY with women only,

and future studies might investigate whether men with histories of complex trauma experience yoga in similar or different ways as the women in this study. Furthermore, while the increasing number of therapeutic yoga programs, nationally and internationally, may reflect the confidence practitioners have in yoga's ability to offer mental health benefits to a range of populations—e.g., Black Lotus Yoga Project for trauma survivors ([blacklotusyoga.org](http://blacklotusyoga.org)); Street Yoga for youth ([www.streetyoga.org](http://www.streetyoga.org)); Yoga Hope for women in recovery ([www.yogahope.org](http://www.yogahope.org)); Veterans Yoga Project ([www.veteransyogaproject.org](http://www.veteransyogaproject.org)); Project Air for sexual violence survivors ([project-air.org](http://project-air.org)); and the Africa Yoga Project for struggling communities in East Africa—further empirical research is needed to understand the impact of this form of “treatment” for this wide range of populations.

***Promoting growth.*** Participants' reports provided vivid descriptions of experiences of growth and empowerment. Although these findings demonstrate the potential of TIY to promote personal growth, they also raise questions for future practice and research. When considering the current findings in light of recent reconceptualizations of PTG (reviewed in the “facilitating personal growth” section above), future studies may want to consider ways to more directly foster action growth within the TIY setting. In practice settings, teachers of TIY who have an understanding of personal growth might bring a perspective that allows them to more clearly recognize a client's struggle to understand the impact of trauma on their bodies as being a potential precursor to growth, and in turn help them take action towards more valued living.

Given participants' expressions around the importance of the TIY environment providing safety, acceptance, and personal choice, future research may more deeply examine the processes by which participants internalized lessons of TIY and the environmental factors that influence growth in this context. Similarly, participants described a number of ways that the teacher's approach aided in their ability to engage in the classes and take in the benefits. Another recommendation for future research, therefore, may be to explore the influence of the TIY teacher's approach and explore in more depth the particular aspects that augment the growth process, such as particular phrases or suggestions. For instance, does an open-minded attitude on the side of the therapist support students in their individual meaning-making process, in seeing their organismic valuing process, or in their ability to take effective action accordingly? And if so, how does this open-minded attitude get communicated to participants?

Additionally, while the current study looked at participants' experiences two months after their completion of the TIY class, longer-term studies would provide information on the sustainability of the benefits. Considerations for the difference between individuals who continued to engage in TIY or related activities and those who did not would also further our understanding of the long-term effects of TIY. While it appears that women in the current study experienced a more constructive form of growth (based on their level of acceptance of past events and action growth), the potential for illusory growth was not directly examined in the interviews. Thus, future work may find it useful to distinguish illusory growth from constructive growth and consider their relationships to participant outcomes.

*TIY framework.* In addition to the benefits of mindfulness within the practice, TIY's emphasis on safe physical movement, noticing physiological reactions, and taking ownership of one's body also had a notable impact on the women. Participants seemed to benefit from the three primary aspects of hatha yoga—dhyana, asana, and pranayama. While each of these elements may be useful when practiced separately, the combination of dhyana, asana, and pranayama in TIY seemed to offer participants the opportunity to integrate all aspects of their experience or have the option to explore and choose what works best for them. These findings may suggest the utility of a body-based treatment over forms of mindfulness practice that do not include bodywork or a focus on linking breath to movement. While each of the women seemed to utilize the various aspects of TIY, the degree to which they did so is unclear and may be a useful focus of future research.

Furthermore, participants' comments regarding their experiences of the three elements of hatha yoga are consistent with long-held beliefs about yoga. The physical practice (asanas), for instance, aims to purify, strengthen, and calm the body (Arpita, 1990); these benefits were reflected in participants' words describing their use of the postures to bring a sense of calm presence, empowerment, and strength. Breath training (pranayama) is intended to regulate the flow of energy and balance the nervous system (Arpita, 1990), which mirrored participants' use of breath to slow down, reduce anxiety, or sooth anger. The purpose of meditation (dhyana) is to enhance relaxation, refine attention and concentration, and hone one's ability to manage and appropriately respond to the mind and body. Participants also reported these benefits as they shared newfound

abilities to “actually chill out,” be present and engaged in life, and properly care for themselves. These findings may have implications for research that further examines which postures, breathing exercises, and meditative elements were of most benefit. Such information would aid in the continuing development of TIY as a beneficial therapeutic framework, and may also provide information on the potential benefit of developing personalized TIY techniques depending on symptom presentation.

One of the most common recommendations by participants was for the study to offer more TIY. That is, to offer longer classes, more frequent classes, more skills, and a study duration of more than ten weeks. Participants felt that benefits they were experiencing would have continued if they had more access to the classes and skills than one hour a week for ten weeks. These comments raise a number of questions for future research. For instance, how many classes are necessary for participants to experience changes, will there be ongoing benefits the longer participants are involved in TIY, or what other skills may be beneficial for CPTSD treatment?

While participants wanted more TIY, getting to classes was also one of the biggest challenges. More specifically, getting to classes at certain times of day or certain days of the week was difficult for participants for various reasons, such as traffic, childcare, or work hours. The study design did not allow for flexibility in the hours or days classes are held and could not offer childcare. When considering open TIY classes, however, these are all recommendations for future practice (though practical limitations, such as financial and staffing constraints are acknowledged). Such challenges also raise the issue of the accessibility of yoga. While the study classes were free for participants, and the

Trauma Center has been fortunate enough to offer open classes on a donation basis, most yoga studios are quite expensive. In fact, many of the women in the study described financial limitations being one of the primary reasons they were not able to continue practicing yoga in a group setting as regularly as they would like. These findings offer policy implications for healthcare reform as well. For instance, working with insurance companies to cover TIY (or other forms of therapeutic yoga) as a complementary treatment by information on its benefits, would potentially make TIY more accessible to a greater number of individuals.

***Considerations for safety.*** While nearly all participants reported feeling safe and comfortable in the TIY classes, there were a few who reported being triggered within the context of the class. One participant described the difficulties she had with the open pelvis posture of bridge, and two others were triggered into flashbacks—one while lying on her mat near the carpet and the other during a chest opening posture at the beginning of class. Despite the discomfort and distress these experiences elicited, participants stated that the notion of choice allowed them to get through these difficult situations; having a sense of control and personal choice felt empowering and confidence boosting. Although removing all potential triggers may be impossible given the inability to predict the endless number of situations that could be triggering, this may also not be the most beneficial solution based on the finding that working through flashbacks in a safe environment felt empowering. Furthermore, this finding has implications for future practice in that it points to the importance of TIY classes to emphasize personal choice and modification of postures to fit individual needs.

Furthermore, a sense of safety while practicing yoga was a critical aspect to many of the participants' ability to remain engaged in the yoga classes. This finding supports the guidelines outlined in the literature on developing trauma-sensitive classes (Emerson & Hopper, 2011). The implications for future practice include implementation of these recommendations, such as: always offer options to modify the postures to meet the needs of students, use invitational language for students to choose what is best for them, use verbal assists as opposed to physical assists, keep the lights on, and offer the same set up each week. All that said, future research could explore what particular aspects of the class communicated a sense of safety and what may be communicating potential threat.

### **Conclusion**

This research study contributes to the literature on complex trauma treatment, therapeutic yoga, and fostering personal growth. Findings demonstrated that TIY's emphasis on movement, breath, and bodily sensations helps to regulate affective arousal by raising awareness of internal states, increases ability to experience emotions safely in the present moment, and promotes a sense of safety and comfort within one's body. The focus on bottom-up processing in TIY seems to target the very symptoms that complex trauma creates, and even offers benefits beyond symptom-reduction, such as self-acceptance, personal presence, and deeper connections to others, as well as promote feelings of gratitude, self-compassion, and personal empowerment.

Complex PTSD has posed some very difficult challenges for traditional treatments, and the current findings open up new possibilities for working with symptoms of complex trauma, removing those obstacles, and creating new pathways for healing and

personal growth. Participants' experiences of increased gratitude, relatedness, acceptance, centeredness, and empowerment offer hope and inspiration for the field of trauma treatment and the ability for therapeutic approaches to go beyond symptom reduction by supporting individuals on their journey towards personal growth.

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### **Appendix 1: Description Women's Health Education (WHE) Group**

The Women's Health Education Group (WHE) was the attentional waitlist control group that also met for ten weekly sessions at the same time and location (different room) as the trauma-informed yoga groups. The program had four core session components including an introduction, group rules, exercises, and homework that provided the women with information and practice in discussing health issues. WHE group leaders focused on increasing knowledge about different health areas, not including trauma, and reducing anxiety around discussing these issues. Additionally, leaders aimed to increase women's feelings of self-efficacy to seek medical treatment, discuss health issues with professionals, normalize the experience of discomfort when talking about issues of the body, using medical or body terminology, and finally to conduct and pursue self-care activities (e.g., breast exams, healthy food choices). WHE has been used in previous studies and has not been shown to reduce symptoms of PTSD (Hien, 2006), which is why it was chosen as an attentional control in this study. All women in this waitlist control were given the opportunity to take a 10-week yoga course at the Trauma Center after completion of the study. This waitlist yoga class was free of charge and used the same protocol as used in the study.

## Appendix II - Interview Guide

When some people look back at certain traumatic experiences they realize there were long lasting effects. Many people describe things like you have described which are often very difficult to deal with. Sometimes people also report that dealing with such a powerful life event has caused them to learn things that have changed them in more helpful ways. Now, this doesn't ignore or minimize the very difficult and disruptive effects. Instead, you or other people may recognize changes in addition to the struggles.

1. Please think about yourself before this study, and tell me about ways that dealing with the [TRAUMA EXPERIENCE] had long-standing effects on you, both things that were potentially disruptive or potentially useful?
  - a. Emotions and feelings
  - b. Thoughts about yourself
  - c. Outlook on life/future
  - d. The way you relate to your body
  - e. Relationships
  - f. Spirit
  - g. Other?
2. Please tell me about your experience in yoga – both positive and negative? What stands out?
3. Has your participation in the program changed the way you think about the trauma? The role it has in your life? The way you actively participate in life?
4. Considering the areas discussed in the first question, did you notice any changes in yourself throughout your participation? Positive and/or negative?
5. Is there any particular aspect of the program that stands out to you?
  - a. Postures, focused breathing, meditation
  - b. Community (e.g., of trauma survivors)
  - c. Teacher-guided practice and self-guided practice at home
  - d. Being a part of a study/filling out questionnaires
  - e. Other
6. Have you continued engaging in similar activities since? If so, what and how often?
7. Is there anything that could change in the program to have made your experience better?
8. Is there anything I have not asked you that you think would be important for me to know?

### Appendix III: Examples of the Coding Process

Participant ID	Level 3 Themes	Level 2 Categories	Level 1 Codes and Meaning Units
P4	Gratitude and compassion	Patient and gentle	<i>Gentle and compassionate with criticism</i> Whenever I did [yoga]...I could feel more gentle and compassionate towards [my body]. I could be more gentle in more ways without this ridiculous criticism and hyper focus...could be with my body and feel safe and not judgmental...adding a little more space, more gentleness.
P3	Gratitude and compassion	Self-care	<i>Appreciate myself and my body</i> I can say there has been a shift to take care of myself more and to be good to myself...[saying no to unwanted sex] was more of me going, 'ok, say thank you, you did something good for your body, you did something good for yourself, this is fine, I said no'...I know that might be a little bit confusing, but I think it's more that I've come to more appreciate myself and my body.
P7	Gratitude and compassion	Pride and accomplishment	<i>Huge sense of accomplishment</i> I don't know all the names of the poses but you're on one leg and you're balancing and you've got your hands wrapped and you're bending forward. And the first time you do it you feel just a huge sense of accomplishment. You're like, 'I could be on the cover of the yoga magazine. I'm that person. I'm doing this.' Even if you do it for like a millisecond. At least myself I have this sense of, 'Maybe I could do that stand-on-your-head feet-in-air balancing on one shoulder thing.'

P3	Gratitude and compassion	Self-love and appreciation	<p><i>Showing self love</i></p> <p>I think that me being able to appreciate myself makes me more able to put up the boundaries and be more cautious (to identify healthy relationships) ...And the way [the teacher] would end the class and saying thank you to yourself, I've actually started like kissing myself, showing myself self love a bit, and I'm pretty certain I never did that, I don't think I did. But it more like oh, I love you (kissing noise) or taking care of me.</p>
P8	Relatedness	Connecting trauma and current experience	<p><i>More self-aware of PTSD</i></p> <p>I am more self-aware. I think that I am also more self-aware of when I am doing something that is a PTSD-ish thing, like being reactive.</p>
P6	Relatedness	Inner experiences: introspection	<p><i>Safe place to concentrate on internal</i></p> <p>When we were doing the stretches and the movements, I made a point to just feel what was inside...I knew I was in a safe place...could just concentrate on internal [sensations]...goes back to feeling your body, disconnecting from the outside and looking inward...</p>
P7	Relatedness	Connection to others: vulnerability; intimacy	<p><i>Comfort with vulnerability</i></p> <p>I'm working on the intimacy part...I think it probably has [changed] a little bit. With this and the therapy I've been doing, I think just dealing with small intimate moments like holding hands or being caring towards another person...probably a little bit more open than I would have been...just letting your walls down [in yoga] and being comfortable with [body] makes you feel vulnerable, it is feeling vulnerable, but it's not totally feeling like you're out there [at risk]...</p>
P4	Acceptance	Acceptance of body	<p><i>Less shame and judgment</i></p> <p>I've never done physical therapy before, I've always turned it down, and I think it's a direct result of yoga that I could go...Even buy a bathing suit and be in a pool, and not feel drenched in shame and not perfect, I think I wouldn't have been able to do it without the yoga, I wouldn't have followed through.</p>

P7	Acceptance	Acceptance of life experiences	<p><i>Past always there, but can overcome too</i>  I probably just thought I was predisposed to these certain things happening to me and I was a victim, but that I had to live with it and that I always had to be a certain way. It frustrated me to lose my temper at someone even though it wasn't about them, but I would always get down on myself like, 'Oh, I shouldn't have done that, but then again what can I do about it. I can try hard not to do that but I can never overcome it.' Now I feel like I have to work on it and everything and it will always be there but I can probably overcome it too. So I guess a hope.</p>
P2	Acceptance	Acceptance of self/less need for external validation	<p><i>Don't have to be like everyone else</i>  ...was really worried about what other people would think or they'd think I was crazy...Just because the other participants were fairly open as well, and that there was no right or wrong way to do things...So, instead of buying into what other people perceive of me, I just decided these postures aren't going to be perfect for everyone else and I don't have to be like everyone else to be able to exist.</p>
P5	Centeredness	Clear-mind: less rumination and anxiety	<p><i>Thinking about other things; not ruminating</i>  I'm not fixated. I'm thinking about other things other than the trauma and how my life has been impacted in a negative way by it. Right now, I feel as there are more walls that are down that I am able to explore a lot of different avenues that I didn't feel available to me...I'm not ruminating as I was...It's as if the walls have come down and I see that there are other ways to go. So I feel as if that there are barriers that are disappearing. My brain is rewiring or something...</p>

P4	Centeredness	Clear-mind: quiet mind	<i>Restructure and refocus</i> There was a certain kind of quiet I could allow myself that the yoga made space for...I think in the meditation and the quietness there's somewhat more of an ability to restructure and refocus...just letting my mind rest, I'm able to feel renewed and replenished, and I think yoga has something to do with that, allowing that kind of space, and knowing that I can just take that time and be quiet and stop, and knowing that I need to incorporate that into my life more.
P4	Centeredness	Integrated sense of self	<i>Sense of wholeness</i> It's different here [at the Trauma Center yoga classes]...my identity is not as a trauma survivor...my identity is much more whole, as [Fatima], who has these different parts, and has learned more resilience, patience, and acceptance, and doesn't have to act on certain impulses, as strong as they may be and has more of a sense of hope than she had before...Whenever I did [yoga], wherever I went the next day it would carry over. I felt like it just gave me more of a sense of wholeness, something that I could do that was good and real with my body...
P6	Centeredness	Presence	<i>Right here; stopped feeling numb</i> I wasn't thinking of external things, I felt like my world was right here...sometimes it's like I feel numb and it's almost as if I go through the motions like a robot and you've done it a million times so you just do it. But I stopped doing that.
P1	Centeredness	Sense of calm	<i>Calmer; can chill out</i> In general, I feel calmer. Not that I just appear calmer but I can actually chill out.
P1	Empowerment	Active participant in life	<i>Immersed rather than watching</i> In general, I feel calmer...allows me to kind of immerse myself in an activity rather than just sitting on the outside watching. Before when I'd go to the pub with my coworkers, I'd sit on the outside and listen to people whereas now I migrate toward the center.

P7	Empowerment	Sense of control/self-confidence: ownership of and control over body	<i>Have a body and have control</i> I just really suddenly got the idea that I have a body and that I have control over it and that I'm the one that decides what my body does or doesn't do.
P11	Empowerment	New possibilities	<i>More physical person; can do this</i> I guess my identity started to shift, how I see myself as a more physical person...Around the body I've always felt kind of helpless—helpless and hopeless—but I think that's started to shift in my beliefs about myself...The thought process is like this. If someone in my physical condition can do yoga and it looks like this, this very minimalist thing, then I can do [martial arts] and it doesn't have to look like Jet Li...it brought up a lot of, 'Oh, maybe I can actually do this'...it's this piece of information that just because your body has limitations doesn't mean it doesn't have strengths.
P2	Empowerment	Tools for effective action: Breath as a resource	<i>Breath in stressful situations</i> Now I always think I've got to breathe when I'm in stressful situations...whenever I feel like I need to. So, whether it's at work and I feel like I'm stressing out or if I'm in the car and I'm stressing out...It was interesting to me for the first part you focused on the inhale and in the second part you focused on the exhale...That stood out for me because I was actually learning how to breathe and breathing management...So when I'm stressed out, when I need more energy I would try to focus on inhaling. When I need calm down I try to focus on exhaling.
P6	Empowerment	Tools for effective action: Self as a resource	<i>Tools to work through flashbacks</i> I feel a little bit more empowered. I feel that even though I have no choice when the flashbacks come, there are more things I can do to kind of work through it...I see that I can be stronger because I have another tool in the toolbox to use.

P9	Practice and design characteristics	Design parameters: Assessment	<i>How do I feel right now</i> I would notice myself...during the weeks in between...think about something on the questionnaire that had been hard to answer and I would be like how do I feel about that right now?
P7	Practice and design characteristics	Design parameters: Study logistics	<i>Longer; classes on breath work</i> ...longer, I guess I could see like doing a couple classes on meditation or breath work or even doing something with stressful situations and how breath work could help and maybe being lead through that a little bit more.
P3	Practice and design characteristics	Initial expectations of yoga	<i>Didn't think there would be improvement</i> Before I really wanted to be in the [women's health session], and I didn't want to be in the yoga session, because I didn't think that there would be any improvement or benefit to doing the yoga. I have - since the yoga actually - I go a massage therapist and she even said 'I can feel this, whatever you're doing, keep on doing this,' because she sensed it in my body, and she knows, and I was like 'wow, it's great.'
P4	Practice and design characteristics	Trauma-informed yoga practice: Asanas	<i>Open pelvis triggering; put in context</i> There's one position that's a little dicey...the open pelvis, legs open. I could do it, but I always thought of stuff...I didn't like the pose, it felt too much like a gynecological examination...but I tried to put it in the context of yoga, I'm wearing clothes, I'm safe...Maybe I didn't need to do it...I wanted to try, but I think I would say no now. It just has too many reverberations. But I was trying to think that I can get beyond this, but certain positions are too much.

P3	Practice and design characteristics	Trauma-informed yoga practice: Asanas	<p><i>Claiming space and feeling safe in body</i></p> <p>The warrior stance...it's like an affirmation. And its claiming your space and feeling your body sort of fill out to the ends, and you're there and it's not unsafe...I didn't get that much of a stretch from it, although it did seem empowering to sink into warrior pose. And, so you were in a warrior pose, and then it was like you're stretching up, so there was something spiritual about it...I remember the warrior pose feeling like, 'wow!'</p>
P6	Practice and design characteristics	Trauma-informed yoga practice: Sense of safety	<p><i>I felt safe</i></p> <p>I could just be there and I didn't have to worry about anything I just had to be there, I felt safe. Because I knew nothing could happen to me.</p>
P9	Practice and design characteristics	Trauma-informed yoga practice: Teacher approach	<p><i>We had choices</i></p> <p>There was one [pose] that I didn't like, but we had a choice, and that's one thing that I really liked too, that there was always a choice, either to not do that pose at all and just relax, or just return to something else that we had done...I loved that [the teacher] constantly reminded us that we had choices, and she would say, 'when you're ready' or 'as you're ready,' like she would always make it our choice.</p>