



Published in final edited form as:

Int J Stress Manag. 2017 May ; 24(2): 173–195. doi:10.1037/str0000040.

Trauma Sensitive Yoga as a complementary treatment for posttraumatic stress disorder: A Qualitative Descriptive analysis

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Abstract

Research on Posttraumatic Stress Disorder and chronic childhood abuse has revealed that traditional trauma treatments often fail to fully address the complicated symptom presentation, including the somatic complaints, loss of awareness of one's emotional and physical being in the present moment, and overall lack of integration between the self and the body. The mindfulness-based intervention of hatha yoga shows promise as a complementary treatment, and focuses on personal growth in addition to symptom reduction. This qualitative study explored the experiences of thirty-one adult women with PTSD related to chronic childhood trauma who participated in a 10-week Trauma Sensitive Yoga class, specifically examining perceived changes in symptoms and personal growth. Five themes were identified that reflect participants' feelings of Gratitude and compassion, Relatedness, Acceptance, Centeredness, and Empowerment. Results and implications for research and clinical work are presented.

Keywords

Posttraumatic Stress Disorder; Childhood Abuse; Yoga; Personal Growth; Mindfulness

Stress has been defined as the disruption of an individual's biological, psychological and social dimensions secondary to environmental challenges or perceived threats (Jeter, Slutsky, Singh, & Khalsa, 2015). Posttraumatic stress disorder results from such environmental challenges and perceived threats, and is particularly common following interpersonal trauma – defined as rape, molestation, physical attack, and physical abuse (PTSD; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Women, compared to men, have twice the risk of exposure to interpersonal trauma (33.2% and 17.8%, respectively), and twice the lifetime prevalence of PTSD (10.4% and 5.0%, respectively; Kessler et al., 1995). Furthermore, research suggests that chronic interpersonal trauma in childhood can result in a complex presentation of PTSD symptoms that last well into adulthood (van der Kolk, 1996). This includes core symptoms of PTSD (i.e., re-experiencing, avoidance/numbing, and hyperarousal) as well as disturbances in self-regulatory capacities, such as affect dysregulation, troubles in relational capacities and self-perception, alterations in attention and dissociation, somatic distress, and poor body awareness (Briere & Spinazzola, 2005; Jackson, Nissenson,

& Cloitre, 2010). The high rates of somatic complaints among traumatized individuals indicate that trauma is “remembered” in the body.

Research suggests that the variety of symptoms related to chronic childhood trauma can present significant challenges in treatment (Jaycox & Foa, 1996; Lanius et al., 2010), including premature dropout and exacerbation of symptoms (Cloitre, Koenen, Cohen, & Han, 2002; McDonagh-Coyle et al., 2005; Scott & Stradling, 1997). For instance, treatment outcome studies have reported that trauma-processing treatments are less effective for individuals with histories of childhood trauma compared to adult-onset trauma (van der Kolk et al., 2007). Insight-oriented therapy may be limited because long-term abuse is associated with trouble verbally expressing one's experiences. Exposure treatments (e.g., cognitive-behavioral, prolonged exposure, eye movement desensitization and reprocessing) are popularly used, and often effective, in treating PTSD (Foa, Keane, & Friedman, 2000; Marcus, Marquis, & Sakai, 2004). However, they have also been found to have a high rate of incomplete response and substantial residual symptoms among those with histories of chronic trauma due to deficits in self-regulation when faced with traumatic stimuli (Bradley, Greene, Russ, Dutra, & Westen, 2005; Schnurr et al., 2007).

PTSD research suggests that teaching skills to regulate arousal is essential to recovery (Cloitre et al., 2010; Ford, Steinberg, & Zhang, 2011). Cloitre and colleagues (2010) compared a phase-based treatment of skills training followed by memory processing with an exposure-focused treatment and found the phase-based approach most effective. Experts now recommend phase-based treatment where individuals are taught to modulate their arousal prior to engaging in memory processing (Cloitre et al., 2011). Accordingly, the International Society for Traumatic Stress Studies (ISTSS) issued guidelines for PTSD treatment related to chronic trauma and highlight the importance of an initial phase focused on somatic experience, affect regulation, and distress tolerance. However, many treatments do not give direct attention to how trauma is held in the body through heightened physiological states and somatic symptoms (van der Kolk, 2006).

As a way to address physiological dysregulation and somatic symptoms, scholars have begun to explore the use of mind-body practices (Minton et al., 2006; Salmon, Lush, Jablonski & Septon, 2009). Techniques that increase mindfulness of internal states and physiological responses to internal and external stimuli have especially demonstrated promise in addressing the way trauma is held in the body (Follette, Palm, & Pearson, 2006; Ware, 2007). Recent studies have also shown that mindfulness-based interventions reduce PTSD symptoms and improve functioning by increasing the capacity to recognize, tolerate, and utilize internal states and ease the physical co-morbidities often associated with PTSD (Boden et al., 2012; Thompson, Arnkoff, & Glass, 2011; Vujanovic, Youngwirth, Johnson, & Zvolensky, 2009).

There are many ways to cultivate mindfulness, including mindfulness-based psychotherapy approaches (e.g., Dialectical Behavior Therapy, Acceptance and Commitment Therapy, and Mindfulness-Based Stress Reduction), all of which can be beneficial in the treatment of trauma. Some researchers, however, have posited that cognitively oriented treatment without body work is a less direct way of overriding or reorganizing the over-reactive physiological

responses caused by traumatic reminders or memories of the trauma (Minton, Ogden, & Pain, 2006; van der Kolk, 1996). Incorporating a body-based intervention like hatha yoga may be most fruitful due to the emphasis on present moment awareness along with a direct focus on using the body to build interoceptive awareness. This heightened awareness may facilitate recognition and tolerance of physical and physiological states, rather than avoidance, and enhance the ability to act on internal cues (Salmon et al., 2009; van der Kolk, 2006).

Hatha yoga as a complementary treatment

The intention of hatha yoga (commonly referred to simply as “yoga” in the western world) is to cultivate mindfulness through a combination of physical movement, breathing exercises, and intentional relaxation. The practice of yoga has demonstrated benefit for many medical disorders, such as heart disease, chronic pain, hypertension, and insomnia (Becker, 2008; Jeter et al., 2015; Khalsa, 2004), and has thus become one of the most widely practiced forms of complementary healthcare in the US (Barnes, Powell-Griner, McFann, & Nahin, 2004; Cabral, Meyer, & Ames, 2011). The practice of yoga has also been linked to the alleviation of mental health problems, such as anxiety and depression (e.g., Menezes, Dalpiaz, Rossi, & Oliveira, 2015; Skowronek, Mounsey, & Handler, 2013), eating disorders (Carei, Fyfe-Johnson, Breuner, & Brown, 2010), schizophrenia (Vancampfort et al., 2012), and attention-deficit hyperactivity disorder (e.g., Abadi, Madgaonkar, & Venkatesan, 2008).

In addition to addressing common comorbid conditions, there are many pathways by which the various elements and benefits of yoga could be especially relevant for addressing posttraumatic symptoms. For instance, focused breathing is associated with improved emotion regulation and sympathetic nervous system functioning (Arch & Craske, 2006; Brown & Gerbarg, 2009), meditation with reduced anxiety and depression (Schreiner & Malcolm, 2008), and moving one's body alongside others with increased feelings of interpersonal connection (Berrol, 1992; Macy et al., 2003). Furthermore, the physical benefits of yoga practice, such as reduced muscular tension and pain, may address somatic complaints (Woodyard, 2011), while biochemical and physiological changes (e.g., autonomic system activation, increases in GABA, decreases in catecholamines and basal cortisol) have an anti-stress effect and improve affect regulation (Rocha et al., 2012; Sarang & Telles, 2006; Streeter et al., 2010; West, Otte, Geher, Johnson, & Mohr, 2004). The psychological benefits, such as increased mindfulness, interoceptive awareness, attention regulation, and self-acceptance are linked to decreases in stress, dysfunctional coping, and avoidance (Dick, Niles, Street, DiMartino, & Mitchell, 2014; Follette et al., 2006; Michalsen et al., 2011; Thompson & Waltz, 2010; Vujanovic et al., 2009).

Indeed, a growing body of evidence demonstrates the efficacy of yoga in treating PTSD (Dale et al., 2011; Mitchell et al., 2014; van der Kolk, 2006). In a pilot study of women with PTSD randomly assigned to eight sessions of hatha yoga or dialectical behavior therapy, only the yoga group showed significant decreases in hyperarousal and intrusion symptoms (van der Kolk, 2006). In another randomized clinical trial, Mitchell and colleagues (2014) found that women with full or subthreshold PTSD symptoms showed decreases in re-experiencing and hyperarousal after 12 sessions of Kripalu yoga. Secondary analyses of this

data found that the yoga group demonstrated improvements in emotion regulation (Dick et al., 2014) and decreases in alcohol and substance use (Reddy, Dick, Gerber, & Mitchell, 2014). Dale and colleagues (2011) reported that yoga experience significantly contributed to the prediction of self-concept and dysfunctional coping among women with an abuse history. Similarly, a randomized controlled trial of survivors of intimate partner abuse compared two 45-minute sessions of yoga, narrative testimony, 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, Smith, Echevarria, & Van Cantfort, 2006).

While research demonstrating the impact of yoga on PTSD is growing, few studies have examined the use of yoga for adults with PTSD specifically related to chronic childhood trauma. One study randomly assigned women with PTSD related to childhood trauma to either 10 weekly sessions of Trauma Sensitive Yoga or a waitlist control (van der kolk et al., 2014). Women in the yoga group showed significantly greater reductions in PTSD symptoms as compared to waitlist controls. The current study aims to expand this literature by examining *how* yoga impacts symptoms from the perspective of adult women with chronic PTSD related to childhood trauma.

Empowerment and personal growth in treatment

In addition to symptom reduction, yoga has demonstrated effects on personal growth (Büssing, Michalsen, Khalsa, Telles, & Sherman, 2012), such as improvements in self-efficacy and self-confidence. Previous studies have linked mindfulness practice with higher levels of positive affectivity, vitality, life satisfaction, self-esteem, optimism, autonomy, and competence (Brown & Ryan, 2003). The consideration of personal growth, in addition to symptom reduction, reflects a paradigm shift in the field of trauma treatment and acknowledges that people can experience growth in addition to distress following adversity (Poorman, 2002). Rather than having a sole focus on alleviating symptoms, “strengths-based” interventions emphasize the need to strengthen resources, foster positive development, and cultivate personal empowerment (Cloitre et al., 2012; Johnson, Worell, & Chandler, 2005; Tedeschi & Calhoun, 2004). Unfortunately, there is little research on specific treatment modalities that foster personal growth, such as how yoga may foster growth among individuals with PTSD.

Current Study

The current study aimed to address gaps in previous research by interviewing adult women with chronic, treatment-resistant PTSD related to chronic childhood physical and/or sexual abuse following their participation in a 10-week Trauma Sensitive Yoga (TSY) program. The parent study was a randomized controlled trial (RCT) followed by qualitative interviews, and the present article will focus solely on the qualitative component. For information on the RCT examining the short- and long-term impact of TSY on symptoms of PTSD as compared to attentional waitlist control, please refer to van der Kolk and colleagues (2014). The entire study received Institutional Review Board approval and informed consent was obtained.

Methods

Given the exploratory nature of the study and the dearth of research that exists on the use of yoga as an aid in the healing process after chronic childhood trauma, a qualitative descriptive methodology was used. This form of inquiry is frequently used in practice disciplines as it aims to collect data from the primary source and capture insights from those who have lived the experience. The approach lends itself to the acquisition of information through straightforward, but thorough summaries of data (Sandelowski, 2000). Primary research questions included: 1) do participants perceive any personal or symptomatic changes through their experience in the program, and 2) if so, how do they perceive TSY as having an impact, if at all, on those changes?

Procedure

Participants were recruited via their involvement in the randomized controlled study noted above (van der Kolk et al., 2014). All 31 women who completed the TSY intervention agreed to be interviewed and completed a consent form, 22 of the 31 consented to be audio- or video-taped, and all gave permission for notes to be taken during the interview. Individual interviews were conducted by the first author or a doctoral-level research assistant, ranged in length from 60 to 105 minutes, and were conducted one-on-one, in-person, and in a private room. Participants were given \$75 as a token of appreciation for their participation.

Participants

Due to the sensitive nature of participants' histories and as a way to preserve confidentiality, only general demographic characteristics of the participants are provided. All participants were women between the ages of 18-58 with chronic, treatment nonresponsive PTSD related to ongoing or repeated physical and/or sexual abuse in childhood. Ongoing physical abuse combined with emotional abuse was the most common form of trauma in this population. However, many participants reported a combination of physical, sexual, and emotional abuse. Parents or siblings were the most common perpetrators; however some reported other perpetrators and a few reported multiple perpetrators.

Participants all met diagnostic criteria for PTSD, which was established by scoring a minimum of 45 on the Clinician Administered PTSD Scale (CAPS; Blake et al., 1995). PTSD chronicity was determined by meeting criteria for PTSD in relation to an index trauma that occurred at least 12 years prior to intake, and treatment nonresponsiveness was based on having had at least three years of prior therapy focused on the treatment of PTSD. Given that TSY is considered a supplemental treatment, participants were also required to be currently involved in psychotherapy for a minimum of 6-months prior to the study. This requirement also allowed investigation into whether TSY can target symptoms that persist despite ongoing psychotherapy.

At the beginning of each interview, participants were asked to describe their level of functioning prior to the study. Their accounts were consistent with the symptom picture of PTSD related to chronic trauma exposure: trouble identifying and regulating emotion, negative self-perception and self-care habits, poor body awareness and connection to internal

experience, lack of meaning and purpose in life and the future, and troubled interpersonal relationships.

Most participants interviewed identified as White/Caucasian (N = 23; 74.2%), three (9.7%) identified as Black, one (3.2%) as multiracial, one (3.2%) as Hispanic/Latina, one (3.2%) as American Indian, and two (6.5%) did not respond. Sixteen (51.6%) worked full-time, four (12.9%) part-time, six (19.3%) were unemployed, two (6.5%) were students, and three (9.7%) did not answer. Participants had limited to no prior exposure to yoga or mindfulness practices.

Interviews

The development of the interview protocol was guided by the broad symptom categories of PTSD and Organismic Valuing Theory (OVT; Joseph & Linley, 2005). OVT describes the experience of adversarial growth after highly stressful life events (e.g., improved self-perception, stronger relationships, greater appreciation for life) as individuals integrate their experiences and strive toward psychological well-being. Consequently, the study explored participants' perceptions of any changes (positive, negative, or both/neither) through participation in TSY in the following domains: avoidance and numbing, affect-regulation, attention and presence, self-perception and self-care, body awareness, relationships, and outlook on life and the future.

Interview guides followed a semi-structured, open-ended format (Seidman, 1991), which allowed for both consistency as well as flexibility in following the accounts of each interviewee. Questions invited participants to reflect openly on experiences and changes they observed in themselves. The primary questions included: what are ways in which dealing with trauma has shaped your life (emotionally, intra- and inter-personally, cognitively, etc.); have there been any changes in these areas during and following participation in TSY (positive or negative); and were there any particular aspects of TSY that played a role in these changes. Participants were provided opportunities to discuss changes not accounted for within these domains. Clarifying questions were used frequently to ensure accurate understanding of their perceptions (Lincoln & Guba, 1985) as were questions encouraging participants to add information not directly asked (e.g., "have you noticed any other shifts in your life that we have not already covered?" or "Is there anything I have not asked that would be important for me to know?"). All questions were reviewed with experts in the field prior to administration. Throughout the interview phase, field notes and feedback from participants were used to modify interview questions when necessary.

Trauma Sensitive Yoga treatment protocol

Trauma Sensitive Yoga (TSY) is a form of hatha yoga designed to directly address symptoms associated with traumatic exposure by offering a gentle teaching approach and a safe environment to cultivate compassionate awareness of what is happening in one's body in the present moment, recognize choice when relating to one's body, and develop the ability to take effective action based on that knowledge (Emerson & Hopper, 2011). The 10-week TSY program consisted of a weekly, hour-long class led by an instructor who is a licensed mental health counselor and registered yoga teacher, with specialized training in TSY. Each

session focused on the core elements of hatha yoga – physical asanas (referred to as “forms”), breathing, and mindful silence – and focused on one key TSY theme per class: 1) having a body - aims to heighten awareness of, and sense of ownership over, one's own body, 2) befriending your body - emphasizes choice with body (e.g., modifying a form), and 3) body as a resource – highlights tools for effective action and moving in a way that feels good (Emerson & Hopper, 2011).

Throughout each class, the instructor offered posture modifications verbally and through demonstration from which participants could choose if they experienced discomfort or pain. TSY teachers use invitational language (e.g., “when you are ready,” I invite you”) to create a safe environment to notice, explore, and observe physical experiences. The language used is present moment focused and directly centered on the class (versus attempts to translate themes to life outside of class). There was no verbal processing of the group experience or trauma histories in the classes. To avoid discomfort or unnecessary triggering among participants, spiritual traditions commonly associated with yoga (e.g., chanting, use of Sanskrit) were not used.

Data Analysis

Working within a Qualitative Descriptive framework, content analysis (Sandelowski, 2000) was used to analyze the transcribed interviews and field notes. No constraints were placed on the data through pre-developed codes in an effort to stay close to participants' voices and accurately capture the multiple dimensions of their perspectives (Downe-Wamboldt, 1992). After gaining deep familiarity with the data by reading through each interview transcript and detailed field notes, the data was analyzed by the first author using three steps: 1) identify relevant codes to help organize expressed content, 2) condense codes into categories for a broader expression of the text, and 3) abstract themes that identify links and recurring ideas in the data (Graneheim & Lundman, 2004). The codes and categories were refined through an iterative process between these steps (Downe-Wamboldt, 1992). The active coding process came to a close when no new codes were emerging from the data.

To assure credibility and confirmability, a peer review process (Graneheim & Lundman, 2004) was conducted whereby the second and third authors reviewed the data and coding to refine categories and develop the most descriptive labels at each level (Downe-Wamboldt, 1992). Any inconsistencies or disagreements were addressed by making revisions that created an accurate picture of the interview data and developed a clear and comprehensive set of labels (Elo & Kyngäs, 2007; Graneheim & Lundman, 2004). As an additional measure of credibility, a broad sampling of direct and representative quotes from the participants were culled together for the results section to demonstrate how well the themes reflect the data (Graneheim & Lundman, 2004). Rigor was also established with thorough and transparent documentation of data collection and analysis.

The results of the data analysis are presented in the following sections. Identifying information was removed, and brackets with general terms are used to preserve the meaning of participants' words while protecting confidentiality.

Results and Discussion

Five major themes that reflected participants' perceptions of TSY arose from the interview data: "Gratitude and compassion," "Relatedness," "Acceptance," "Centeredness," and "Empowerment." The acronym G.R.A.C.E was developed by the first author as a way to refer to the five themes and to reflect their overlapping nature. An overview of the themes with descriptions and direct quotations can be found in Table 1.

In addition to substantiating previous findings suggesting TSY's impact on symptom-reduction (van der Kolk et al., 2014), participants provided their own perceptions of TSY's impact on their symptoms and personal development in and out of the class. They described the experience of such changes as both rewarding and challenging. For example, some women reported greater awareness of symptoms as they tuned into their inner experiences, which elicited a variety of feelings. On one hand, some felt sadness as they realized the extent to which symptoms impacted their lives; on the other hand, this awareness was empowering in that it brought a sense of agency when responding to and managing symptoms, rather than feeling controlled by them. In other words, gains often came with hard work and difficult realizations.

G.R.A.C.E. Theme 1: Gratitude and Compassion

In various ways, participants acknowledged increased gratitude and compassion that emerged from practicing TSY. Becoming aware of what one needs to feel healthy, noticing that everyone moves at a different pace, and integrating TSY's emphasis on doing what feels good, generated a level of gentleness with one's body and patience with the process of change. One woman said that she "learned more about patience in the process...instead of being so strict about what was right or wrong for myself...I am an ongoing project;" and another said that she started "giving myself permission to take things slow...don't have to walk to the beat of everyone else's drummer...take care of yourself and do what's right for you." Some participants described more compassion for their bodies and increased self-care: "more connected to my body...sensitive to the fact that I am not going to do something against my body's wishes."

Greater compassion for one's body often translated to greater respect for oneself. Some women described feelings of pride and gratitude by taking action toward healing and a healthy life by engaging in TSY classes. For example, one woman shared that when she was "on one leg and...balancing and you've got your hands wrapped and you're bending forward...you feel a huge sense of accomplishment...even if you do it for a millisecond." Another revealed a broader sense of satisfaction for "being alongside people who are struggling [too]...gave me a lift every week." Other participants began to acknowledge and appreciate all they have endured ("grateful that I have a body and that it has survived a lot;" "appreciate how huge it is that I was able to survive"), and described increased "sense of self-love." One participant expressed this as a deep internal shift in her self-perspective: "I'm starting to think that I ought to give myself a little credit for all I've survived...I might be worthwhile...worth attention...I ought to like myself..."

G.R.A.C.E. Theme 2: Relatedness

Relatedness reflects participants' perceptions of coming into contact with their inner experiences, or a sense of knowing and being attuned to what is occurring within, such as physical sensations and emotions as well as stronger connection in personal relationships. This ranged from a greater ability to connect to one's physical and emotional experience and increased mind-body connection to a greater capacity for introspection and recognizing links between past trauma and current behaviors. One participant explained that while practicing yoga she "made a point to just feel what was inside...concentrate on internal [sensations]...feeling my body...and looking inward." A few participants also acknowledged the difficult experience of gaining awareness of feelings from which they had previously disconnected: "more cognizant about what I'm feeling and I'm able to identify it." Moreover, they described gaining a stronger sense of connection to the significance of their trauma histories and greater awareness of resulting symptoms and behavioral patterns. One woman started to "relate how I was acting to the trauma symptoms" as she previously "didn't know they were symptoms and probably didn't look much further to see that anything could be solved." These perceptions are consistent with literature positing that yoga facilitates greater capacity to recognize when one's reactions are connected to the present moment or to past experience (Follette et al., 2006).

Prior to the intervention, women in this study, similar to other survivors of chronic trauma, reported poor interoceptive awareness or no sense of an inner self at all (van der Kolk, 2006), and this is often correlated with risky behaviors such as lack of self-care, self-harm, or further violation and abuse from others (Courtois, 2008). However, as participants' reconnected with themselves and strengthened interoceptive awareness, they were able to recognize what their bodies needed and were inspired to reduce self-harming actions. This parallels results from a previous study, which revealed positive correlations between yoga practice and body awareness and responsiveness, and a negative correlation between yoga and self-objectification (Impett, Daubemier, & Hirschman, 2006). It seems that a growing sense of connection to one's body can also generate a sense of responsibility for it (e.g., "take care of myself in the best possible way"). Expert yoga practitioners have suggested similar benefits, especially yoga's ability to increase connectedness to the body and somatic states, offer relief from chronic stress patterns, and heighten compassion towards oneself (Iyengar, Evans, & Abrams, 2005).

Nearly every participant described increased connection to others. This manifested in two broad ways: a deeper sense of community and a greater comfort with vulnerability and being intimate (situations that previously felt extremely overwhelming). While there was little verbal interaction between the women, participants linked some of their stated benefits with the experience of engaging in TSY with other survivors and realizing they are not alone in their trauma histories or struggles. Being surrounded by others also trying to heal, "moving our bodies together" and "doing something healthy with our bodies," was normalizing, empowering, and created a sense of solidarity and strength: "everyone was working towards healing and doing something healthy with their bodies." Consistent with the knowledge that growth and empowerment, for women, occur in a relational context (e.g., Jordan, Kaplan, Miller, Stiver, & Surrey, 1991), this new sense of relational connection instilled hope and

optimism for future possibilities. Participants described feeling “a sense that we're all in this together...connection to life and other people” and “I felt a general solidarity of people even though I didn't know them.”

As their experiences were normalized in the context of the study, the women noted improvements in their relationships outside of the study as well. For instance, participants used TSY skills in social situations to feel more comfortable: “Try to keep my back straight and head up...standing like that makes me feel [confident]” and they began to engage more authentically (e.g., “more myself with other people”). Some women also acknowledged an increasing comfort with physical and emotional intimacy (e.g., “small intimate moments like holding hands...more open than I would have been”). These findings substantiate previous research that suggests a positive correlation between attunement to internal states and activation of brain regions associated with feelings of connectedness to others (Siegel, 2007). A stronger mind-body connection through yoga has also been hypothesized to lead to stronger interpersonal relationships and greater sense of interconnectedness to other living beings (Ware, 2007).

Similarly, a number of participants shared the experience of engaging more deeply in therapeutic relationships by using the skills they had developed in TSY. As they became attuned to their emotional state, they gained greater tolerance for the difficult sensations that can accompany those emotions. In turn, they were able to share their experiences in psychotherapy in a way they were previously unable (e.g., “comfortable expressing [anger], mostly to my therapist,” “led to this whole new burst of work [in therapy]”). Being able to stay with the intense emotional state is a critical change given the literature on exposure-based treatment that shows a higher rate of dropout when participants, who have not built skills for self-regulation, are faced with intrusive material (Scott & Stradling, 1997). This may suggest that TSY is acting as an interoceptive exposure, and instead of decompensating or dropping out of treatment when faced with trauma-related stimuli, they are increasingly able to engage in cognitive processing. This supports literature hypothesizing that a greater capacity for emotion regulation, self-acceptance, and interoceptive awareness 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 strengthens regulation of emotion and must occur before one can effectively engage in talk therapy.

G.R.A.C.E. Theme 3: Acceptance

The third theme refers to shifts in participants' levels of acceptance of themselves and their lives. It is important to note that acceptance in this context refers to being at peace with life as it was and currently is, rather than a sense of resignation or giving up. A number of participants reported increased acceptance of their bodies and of themselves overall, as well as a decreased need to compare themselves to others. One woman said she was previously “worried about what other people would think,” but when she realized “there was no right or wrong way to do things” in yoga, she “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.” Another commented on how she “had to get over the notion that I had to keep pace with everyone

else,” which was aided by the teacher's emphasis on “doing what is comfortable to you.” TSY's emphasis on “meeting your body where it is” and finding what works best for one's body seemed to elicit an increased acceptance for one's self more generally with less need to compare themselves to others on and off the mat.

A common feature of childhood abuse is long-lasting damage to one's sense of self; likewise, participants shared views of themselves as shameful, hopeless, worthless, and unlovable prior to TSY. It is therefore an important finding that participants began to view themselves in a more accepting and positive light through their involvement in TSY. Dale and colleagues (2011) similarly showed that frequent yoga practice had a significantly positive effect on overall self-concept among women with histories of childhood abuse. The women in the current study reported specific changes, such as feeling less ashamed and more accepting of their bodies' current capabilities (e.g., “understand that there is nothing wrong with my body...it just needs to be healed.”). This is consistent with reports by expert yoga practitioners who purport that increased self-acceptance is one of the primary benefits of yoga and that physical forms aim to increase comfort with movement, awareness, and acceptance of the body's capabilities, functions, and reactions (Desikachar, 1999; Iyengar et al., 2005; Ware, 2007).

Many participants also described coming to accept their past trauma experiences and the impact on their present lives: “this stuff is going to affect me for the rest of my life, but...I feel like I don't have to let it, I feel like there's a choice.” Acceptance of life experiences seemed to derive from the validation they perceived from being with other women who were struggling: “[seeing others in TSY] actively trying to get better from similar things to myself...was validating and gave me some hope to think that I'm not the only one that went through what I went through.” Acceptance of the past was also cultivated through internalization of the teacher's encouragement to “meet your body where it is right now.” 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. While this was often an emotional process (e.g., “made me see the magnitude of this and how much I've really been through”), it aided in the integration of trauma as part of their life's history. A qualitative study mirrored these findings as participants in a yoga program reported feeling more at peace with their lives and consequently more balance in life (Deary, Roche, Plotkin, & Rothlyn, 2011).

G.R.A.C.E. Theme 4: Centeredness

Participants reported becoming more centered as they felt the calming effect of TSY-physically and mentally. Most participants said that TSY helped clear their minds, including experiencing a quieter mind, less rumination and more time to think, as well as the ability to see alternative perspectives, be less reactive, and feel more positive. They described this in various ways: “I'm not ruminating as I was,” “yoga made space for...quietness...an ability to restructure and refocus...just letting my mind rest, I'm able to feel renewed and replenished,” “I'm thinking about things other than the trauma and how my life has been impacted in a negative way.” Similarly, some participants' descriptions were characterized by feelings of

wholeness and integration between different dimensions of their identity: “[my] identity is [no longer] as a trauma survivor” and “[my] identity is much more whole.”

Centeredness was also described as a greater ability to find a sense of calm in stressful situations, which is consistent with research demonstrating that yoga has an anti-stress effect on dysregulated systems and structures of the brain and body (Raub, 2002; Streeter et al., 2010). With an increased sense of calm, participants had more space to identify appropriate behavioral responses (e.g., deep breathing) in emotionally difficult situations, including when triggered or experiencing flashbacks. Kabat-Zinn and colleagues (1992) shared a similar finding that awareness of internal sensations, without avoidance or dissociation, can promote one's ability to control emotional reactivity.

For many, a clearer mind opened up possibility: “There are walls that are down and I am able to explore a lot of different avenues that I didn't feel available to me.” They described being consciously aware of the present moment, and thus had mental “space” to engage in meaningful activities, such as artwork or thoughtful discussions, for which they previously did not have the focus or attention. One woman said she no longer “feel[s] numb and go[es] through the motions like a robot” and another no longer “float[s] through the day,” but instead takes “time to actually notice what is happening around me...don't spend every day waiting for it to be over...appreciate what's happening in the moment.” Such experiences of centeredness are consistent with past research suggesting positive correlations between yoga practice and activation of areas of the brain associated with introspection and presence (Davidson et al., 2003).

G.R.A.C.E. Theme 5: Empowerment

All participants reported feeling empowered in multiple ways. TSY was a step toward greater control in one's life as it provided tools for effective action and generated awareness of new possibilities. Greater confidence and engagement in life resulted in not “disconnecting as frequently.” One woman described becoming a more “active participant” in her life and another was able to “immerse [myself in an activity] rather than sitting on the outside watching.”

Many participants shared the empowering realization that they have ownership and control over their bodies as well as a greater ability to acknowledge, tolerate, and confront emotions that previously felt overwhelming, such as anger, shame, or vulnerability. For example, one participant explained that being able to make choices with her own body based on how she feels allowed her to: “Confront...anger about having been abandoned as a child” – a major shift from past coping as she previously “would drink alcohol or take something to make myself fall asleep...forget that feeling inside, because I didn't know what to do about it.” Participants felt more equipped to appropriately respond to these sensations, and this allowed them to take effective action to manage such emotions, and find peace in the midst of them.

Similarly, nearly all participants relayed stories in which they used skills gained in TSY to relieve anxiety and flashbacks, and to soothe themselves in difficult situations. For example, breathing and yoga postures were used to “make me feel strong and balanced on my feet,”

and to “take a direct approach [to a flashback] and attack it head-on with my therapist – I just don't talk about this stuff – but...I developed some sort of voice from the yoga class, it was empowering.”

Many participants also described feeling empowered to voice their needs and effectively communicate them to others: “I'm also saying things to people like, ‘when you do that it upsets me, I don't want you to do that,’” “thinking more about what I need, but doing it in a tactful manner so that other people will understand...we can work this out together.” Similarly, a couple participants described feeling “strong...and empowered enough” from TSY to address “core issues about sexuality” in their relationships: “[a guy is] asking me to do something that I don't want to do...I've come to more appreciate myself and my body and here is someone who is not appreciating it...you need to go...I make the appropriate decision about what is best for me.”

In general, participants were able to change how stress was stored in their bodies, lives, and relationships. These significant signs of empowerment may be linked to TSY's emphasis on moment-to-moment awareness and using this knowledge to take effective action. TSY teachers guide participants to remain connected with their experience in the moment, remind them to bring themselves “back into the room” when focus drifts by bringing attention to breath or bodily sensations, and then bring their attention to their power to choose how to move. Participants expressed how they learned to give themselves these same gentle reminders outside of class.

Moreover, as participants spent less time disconnected, they became more active in their lives and more confident in managing obstacles that previously prevented such involvement (e.g., anxiety or other symptoms). Many reported that TSY classes gave them hope for new possibilities in life and acted as a catalyst for pursuing other healthy activities: “see myself as a more physical person...always felt kind of helpless and hopeless, but that's started to shift”; “doing physical stuff is really important to me and it allowed me to let in that truth and start making plans to do something about it.” Participants noted ways that their experiences in TSY helped them clarify a meaningful future direction (e.g., “Sort of solidified a career direction for me...to help other people because I was so impressed with that and how I felt afterwards.”).

Limitations and Future Research

These findings should be considered in light of potential limitations to this study. First, the TSY framework offers a unique approach to the practice of yoga that is particularly sensitive to the needs of trauma survivors, thus the results cannot be generalized to all forms of yoga. Similarly, results of the study cannot be generalized to all trauma survivors engaged in TSY given the limited sample. Another consideration consistent with Reed's (2014) finding that placebo effects are involved in affective benefits of yoga practice is the possibility that expectancy effects due to the increasing popularity of yoga in the U.S. may have increased positive reports among participants or observers. Conversely, a number of participants entered the study with skepticisms regarding how yoga would be able to help them given the many years they had spent in treatment with continued symptoms.

Despite these limitations, the results of this study offer a number of useful findings for both research and practice. For example, the current findings have implications for traditional trauma therapies as some participants recognized a greater ability to tolerate trauma-related stimuli and verbally express themselves in therapy with the incorporation of TSY as part of their treatment regimen. Thus, one recommendation is to consider a multi-stage approach with a body-based intervention as a first stage, or a combined approach of TSY and talk therapy, especially for those whose symptoms are non-responsive to traditional interventions. Similarly, 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 symptom presentation changes. Furthermore, a recommendation for future research is to gather therapists' assessments of client change throughout TSY as an additional source of information from an independent reporter of symptom-reduction and growth.

The findings also have implications for training mental health professionals. Many postures in TSY are done in a chair. Thus, therapists who are knowledgeable about a body-based approach like TSY, or who are trained in TSY, may be able to offer during therapy similar mind-body practices, or enhance skills clients are gaining in a TSY class. Moreover, the fact that many clients had multiple diagnoses, including mental and physical health concerns like major depressive disorder or chronic pain, suggests that TSY may effectively address comorbidities of PTSD. Furthermore, TSY's emphasis on modifications to meet one's psychological and physical needs make it an accessible practice to people with physical disabilities or other health concerns. Thus, a recommendation for future research is to investigate the application of TSY to additional types of challenges that may prevent individuals from entering a more general yoga class.

Conclusion

Findings demonstrated that TSY's emphasis on mindful movement and interoceptive awareness helps to regulate affective arousal, increases ability to experience emotions safely in the present moment, and promotes a sense of safety and comfort within one's body. Furthermore, the qualitative data illustrate ways in which TSY may assist in both symptom reduction as well as personal growth. The G.R.A.C.E themes provide insight into how participants felt TSY led to benefits in their lives on and off the yoga mat, such as the power to make choices and determine the direction of their lives; develop strong connections to others; accept and appreciate themselves and their life experiences; and cultivate a sense of calm and internal balance.

Acknowledgements

Bessel van der Kolk, M.D.; David Emerson; Jennifer Turner, M.A.; Ritu Sharma, Psy.D.; Lisa Goodman, Ph.D.; and Jessica Shore, Psy.D.

This study was supported by Grant 1R21AT003905-01A2 from the United States National Center for Complementary and Alternative Medicine.

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Table 1

Sample quotes for G.R.A.C.E. themes

The G.R.A.C.E. Themes Defined	Sample Quotes
Grace & Compassion: Becoming aware of what one needs to feel healthy, noticing that everyone moves at a different pace, and integrating the TSY 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.	"if something is hurting, I think 'hmm, why is that hurting'...instead of being like that doesn't hurt, I'm just being weak"; "starting to think that I ought to give myself a little credit for all I've survived...I ought to like myself" "appreciate how huge it is that I was able to survive...made me appreciate the level of trauma."
Relation: Coming into contact with inner experiences, or a sense of knowing and being attuned to what is occurring within, such as physical sensations and emotions as well as stronger connection in personal relationships.	"being able to sit with myself [in yoga] allowed me to stay in myself when people tried to be affectionate...there's more closeness in relationships, especially physical comfort";
Acceptance: shifts in participants' levels of acceptance of themselves, their bodies, and their lives; being at peace with life as it was and currently is.	"a little more comfortable with my body...don't have to be a certain size or weight"; "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."
Centeredness: experiencing a quieter mind, less rumination and more time to think, as well as the ability to see alternative perspectives, be less reactive, and feel more positive.	"[my] identity is [no longer] as a trauma survivor" and "[my] identity is much more whole"; "just letting my mind rest, I'm able to feel renewed and replenished."
Empowerment: TSY was a step toward a more active life and a greater sense of control and confidence in one's life as it provided tools for effective action and generated awareness for new possibilities. More engagement in activities also meant a decreased tendency to disconnect when faced with obstacles (e.g., anxiety) that previously prevented involvement.	"[I have started to] acknowledge and confront... anger about having been abandoned as a child"; "stronger because I have another tool in the toolbox to use; "even though no choice when the flashbacks come, there are more things I can do to kind of work through it...stronger because I have another tool in the toolbox."; "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...it feels like it's just all opening up."