

A Journey to Embodied Healing: Yoga as a Treatment for Post-Traumatic Stress Disorder

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This article introduces the spiritual dimension of the experiences of 40 participants in an 8-week Kundalini yoga (KY) program to treat the symptoms of post-traumatic stress disorder (PTSD). Trauma disrupts the mind–body connection, while yoga is dedicated to holistic reintegration by positively affecting the nervous system and improving self-regulation, mood, and feelings of self-worth. Treatment involved yogic techniques of meditation, breath regulation, movement, and relaxation, together with a routine of meeting once a week. A phenomenological approach was used to derive the meaning of participant experiences. Narratives of program participants are presented and coincide with factors pertaining to spiritual or personal beliefs defined by the World Health Organization Quality of Life Group. Implications for holistic embodiment practice are discussed.

KEYWORDS *embodied healing, identity, Kundalini yoga, mind–body–spirit, post-traumatic stress disorder, self-regulation, spirituality, well-being*

INTRODUCTION

Post-traumatic stress disorder (PTSD) is a highly debilitating and prevalent condition resulting from exposure to traumatic events. Individuals

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with PTSD experience disintegration between body and mind (Rothschild, 2000). This disconnect may manifest itself as any of a variety of symptoms of dysregulation, including spontaneous re-experiencing of the traumatic event, avoidance behaviors, mood disorders, and hyper-arousal. Observed physiological changes include low parasympathetic nervous system (PNS) activity, inhibited heart rate variability, and increased cortisol and decreased gamma-aminobutyric-acid (GABA) levels in the brain (Porges, 2001; Streeter, Gerbarg, Saper, Ciraulo, & Brown, 2012; van der Kolk, 2006).

Current PTSD treatments use cognitive and pharmacological models that primarily address symptoms of PTSD. Van der Kolk and colleagues (2014) conclude that PTSD treatments have a high rate of incomplete response and do not address the deep physiological, psychological, and sociological disintegration and dysregulation characteristic of PTSD. Garber (2006) explains that negative cognitive structure and worldview are connected to anxiety and depression. Negative beliefs about self, the world, and the future contribute to global attributions of negative stress creating a vicious cycle. Dalton (2009) concludes that spirituality is related to positive identity development as well as meaning and purpose in life. In light of these new understandings, there is today an increased interest in holistic or embodied therapeutic modalities.

Kundalini yoga (KY) is a comprehensive contemplative system of practices incorporating physical postures, breath and mantra, meditation and mental focus, self-observation and relaxation. The discipline of yoga is dedicated to the awakening of the potentialities of the self and ultimately to the personal realization of oneness, known as *samadhi*. Thus, while yoga may be applied as a therapy to treat the immediate bodily and mental distresses of the individual, the ultimate aim is self-realization (Eliade, 1958; Mishra, 1972; Newberg, 2009).

The practice of yoga was introduced to North America in the late 1800s (Syman, 2010). Yoga treatment interventions have demonstrated effectiveness in various studies of chronic pain, insomnia, depression, anxiety, and medical disorders involving stress reactions (Balasubramaniam, Telles, & Doraiswamy, 2012; Büssing, Michalsen, Khalsa, Telles, & Sherman, 2012; Kohn, Persson Lundholm, Bryngelsson, Anderzen-Carlsson, & Westerdahl, 2013). Yoga therapy affects psychophysiological changes that reduce activity of the body's stress response systems and enhance self-regulation, mood, well-being, quality of life, and resilience (Büssing et al., 2012). Recent neuroscientific studies of yoga and meditation have led to an increase in scholarly focus on the therapeutic applications of yoga and meditation to issues of mental health (Anderzen-Carlsson, Persson Lundholm, Kohn, & Westerdahl, 2014; Kissen & Kissen-Kohn, 2009; Wallace & Shapiro, 2006). To date, studies focused on yoga as a treatment for PTSD symptoms have not investigated participant perspectives in relation to the theme of spirituality.

While admitting any definition of spirituality to likely be deficient and contestable, Crisp (2010) describes it as an awareness of the "other"

which provides the basis for understanding our experiences of, and asking questions about, meaning, identity, connectedness, transformation, and transcendence (p. 7). Significant relationships have been demonstrated among spirituality, wholeness, and well-being (Miller & Thorensen, 2003; Saxena & WHO-QOL Group, 2006). The scale devised by the World Health Organization in this light is of particular interest because it is one of the few that embraces both secular and religious interpretations of spirituality in the context of quality of life and holistic embodiment (Saxena & WHO-QOL Group, 2006).

This study presents participant perspectives in relation to the lens of spiritual and integrative healing. The narratives of participants involved in an 8-week KY intervention are examined for insights into embodied – physiological, psychological, social, and spiritual – healing.

Reformation of Self and Identity Through Yoga

Embodied healing does not come easily or naturally in our culture, where the mind and body have long been considered separate and distinct entities. This accepted bifurcation dates back at least as far as Descartes's statement that the basis of his being resided in his thinking, "I think, hence I am." (Descartes, 1537/1986, p. 27) and still dominates our Western medical paradigm. Greenwood and Delgado, in countering this mentalist tendency, have designated the physical body "the locus of human agency" in this world (Greenwood & Delgado, 2011 p. 948). Through the body, our consciousness is localized. Through it, we see and are seen, act and are acted upon. Without the body, we practically do not exist.

In yoga therapy, the body provides not only the foundation for the integrative work to come, but also the keystone of yogic psychological understanding: the system of chakras, vortexes of psychophysicality, aligned with the spine and ascending to the top of the head. They correspond roughly with Maslow's hierarchy of needs, ranging from physiological needs to security, to social needs, self-esteem, and self-actualization (Maslow, 1943). The chakras of KY philosophy, representing eight domains of aptitude and experience, competence or incompetence, differ most significantly from Maslow's needs hierarchy in that they are situated in alignment with a series of distinct locations in the spine and brain. In succession, they are: survival and self-destruction at the rectum; creativity and rejuvenation at the sex organs; identity, power, and judgement at the navel; compassion and forgiveness at the centre of the chest near the heart; knowledge, truth, and willpower at the throat; discovery at the brow; connection with the infinite at the top of the head; and lastly, well-being in the magnetic field. As the chakras are awakened, their ontological faculties, individually and cumulatively, are considered to have an integrative and empowering effect on the individual (Khalsa, 2001).

In 1932, when KY was first being considered as an adjunct to Western psychotherapy, Carl Jung delivered a series of four lectures on the psychology of Kundalini yoga, most of which was devoted to a detailed analysis of the chakras (Jung, 1932/1996). In his essay “Yoga and the West” Jung effused that yoga is “one of the greatest things the human mind has ever created” (Jung, 1969, p. 537). His only concern was for the West’s capacity to assimilate the yogic paradigm.

Breath control serves an important function in yogic integration and self-regulation, as it is believed to focus and calm the mind and help direct it away from emotional causality. Etymology points to cross-cultural links between breath, wellness, and spirituality. Our word “health” derives from “hale” meaning whole or sound in Middle English, and is directly related to “inhale,” to breath in, even as our verb “inspire” derives from the Latin “spirit,” which originally meant breath (*Webster’s New Encyclopedic Dictionary*, 2002). Numerous contemporary studies have affirmed the capacity of breath-based therapies to treat the symptoms of insomnia, stress, anxiety, and depression (Brown & Gerbarg, 2005a; Brown & Gerbarg, 2005b; Choliz, 1995; Descilo et al., 2010).

Meditation, the churning of the conscious and subconscious minds, serves a most important role in the yogic discipline of personal integration, self-regulation, and self-actualization. It is the yogic understanding that the healing of the organism is a natural outcome of the practitioner’s adherence through meditation to their intrinsic, spiritual nature and their shedding of “the false sense of union with mental and physical disorders because they are not inherent properties of body and mind” (Mishra, 1972, p. 97).

The yogic quest for Supreme Consciousness, or *Brahman*, considered to be the inherent, disease-free state of being, shares some similarity with the dynamic of Ryan and Deci’s (2000) Self-determination Theory (SDT). Both theorize the superiority of an intrinsic locus of control over an extrinsic locus developed over time. Although yogic philosophy focuses on knowledge and perception of self, while SDT focuses instead on motivation, they coincide in their understanding that deviation from what is intrinsic is stressful and therefore unhealthy for the organism. Both offer remedies for unhealthy, extrinsic influences (Ryan & Deci, 2000).

Ryan and Deci’s approach would nurture intrinsic motivation by encouraging behaviors and cultivating environments characterized by a sense of security and relatedness, while yogic methodology would instead focus on rediscovering that which is intrinsic through meditation (Ryan & Deci, 2000). Moreover, the three human needs of competence, relatedness, and autonomy identified in SDT also cohere with yogic philosophy. Herein, this study uses the term self-realization to encompass Maslow’s concept of self-actualization and Ryan and Deci’s (2000) notion of self-determination. The yogic path itself may be termed a journey toward: (a) *autonomy* from extrinsic forces, (b) the experience of *relatedness* to the Absolute *Brahman*, and (c) the realization of

competence through continued practice of meditation and self-actualization (Mishra, 1972; Ryan & Deci, 2000). From Greenwood's perspective based on biokinetics together with Delgado's focus on theological anthropology together with her personal journey through anorexia, they welcome yoga as a possible way to "restore the body-spirit divide" (Greenwood & Delgado, 2011, p. 950)

Yoga Therapy for PTSD

Our societal dissociation of mind and body may be seen reflected in a number of significant morbidities endemic to modern cultures. The objectification and commodification especially of the female body that can result in eating disorders and unhealthy self-image is widely recognized (Thompson, Heinber, Altabe, & Tantleff-Dunn, 1999; Grabe, Ward, & Hyde, 2008). The connection between our increasingly sedentary lifestyle, unhealthy dietary choices, and our current pandemic of obesity are also known and studied (Hu, Li, Colditz, Willett, & Manson, 2003; Ogden et al., 2006). Our general dissociation of body and mind is further exacerbated by traumatic stress (van der Kolk, 2006).

In their review of literature on trauma, PTSD, and resilience, Agaibi and Wilson have suggested that self-regulatory deficits could be the most far reaching effects of psychological trauma (Agaibi & Wilson, 2005). By focusing on mastery experiences, an effective treatment intervention for PTSD may develop self-efficacy and lift the mood of participants (Seligman, 1998). Changes in patterns of bodily movement and posture, through an integrative body-mind intervention, may bring about changes in emotional responses, beliefs, and sense of self as postulated by van der Kolk (2006) and Odgen and colleagues (2006).

Yogic exercise and meditation engages the entire organism in the process of psychological healing. With practice, victories in self-regulation, small at first, lead to predictable improvements in mood, self-confidence, and resilience. These positive developments may then lead to a greater sense of self-worth.

Psychological healing also implies social healing for individuals with PTSD, who tend to isolate socially. In his study of the social history of addiction, Bruce Alexander argues that, unlike some other mammals, humans are not well adapted for survival in isolation (Alexander, 2008). As he points out, the aggravated trauma of social isolation leads to a heightened susceptibility to addiction among the PTSD population. According to the polyvagal theory of Stephen Porges, the myelinated vagus nerve, which plays an important role in human social engagement by governing vital functions such as vocal and facial expression and heart rate variability, is functionally depressed by trauma (Porges, 2001). The healing of the body through yoga may contribute

to the repair of the vagus nerve and subsequent restoration of psychosocial integration (Streeter et al., 2012).

Improvements in self-regulation, self-confidence, and self-esteem are integral to the reformation of dysfunctional constructs of self and identity. The continued practice of yoga aims toward the realization of a higher level of self-determination (Ryan & Deci, 2000), a greater degree of self-actualization (according to Maslow's pyramid of needs), and a convergence of the individual being, defined by its limitations, with the infinite, spiritual Self according to the yogic paradigm.

To our knowledge, few studies have investigated the qualitative experiences of participants partaking in yoga treatment (Anderzen-Carlsson et al., 2014; Cramer et al., 2013). No studies have examined participant perspectives in relation to a KY treatment intervention to understand how individuals with PTSD make meaning of their yoga treatment experiences in relation to spirituality. The aim of the present study was to understand the holistic dimensions of yoga through the narratives of individuals with PTSD.

METHOD

Design

Qualitative research provides an understanding of how participants make meaning of a treatment intervention and its contextual impact (Verhoef, Casebeer, & Hilsden, 2002). This study utilized a descriptive design with phenomenological methodology. Phenomenological analysis is grounded in the philosophy that reality is only an object of human consciousness and language is vital to making meaning (Dahlberg, Drew, & Nystrom, 2001; Husserl, 1999). An inductive phenomenological oriented approach was utilized whereby participant interviews were examined for similarities and patterns of response. In consideration of this approach, qualitative interviews were gathered and utilized to understand and describe the meaning that individuals with PTSD attributed to their KY experience.

Study Sample and Setting

Participants of the present study were recruited from the KY and PTSD RCT. Twenty-nine participants completed the KY PTSD intervention and 21 participants were part of the wait-list control condition (Jindani, Turner, & Khalsa, 2015). The RCT took place in Toronto, Ontario, Canada in 2012, and participant interviews were completed 1 week following completion of the RCT. The University of Toronto office of research ethics granted approval for the study. Informed consent was obtained from participants at study onset. Confidentiality was ensured by assigning each participant a numeric code which was used in the data analysis.

All 50 participants who completed the 8-week KY treatment intervention were invited to participate in a semistructured interview with the lead researcher. Ten participants were unavailable for the interview a week after study completion due to scheduling issues. The narratives of 40 participants were analyzed for the purposes of this study.

Three certified KY yoga instructors in Toronto, Ontario, each with a personalized yoga practice and over 5-years mental health teaching experience, taught the 8-week KY program. Inclusion criteria for study participation was a score of 57+ on the PTSD Checklist (PCL-17), no current contemplative practice, and being 18 years of age or older. In total, 31 females and 9 males participated in the semistructured interview. Mean age of participants was 44.7 years ($SD = 11.2$) years. The majority of participants were not practitioners of yoga. In total, nine participants had practiced yoga and/or meditation in the past. Participants were generally interested in partaking in the program as it was specifically designed for PTSD.

Procedures and Measures

The team that designed the treatment protocol consisted of the lead researcher, a trauma-certified psychologist, a clinical psychologist, a social worker, a war veteran who used KY personally for PTSD healing, and a KY teacher trainer. All program developers were certified KY teachers with personal yoga and meditation practices. The 8-week KY PTSD treatment program comprised a number of strengths-based elements dedicated to cultivating resilience and self-efficacy, with a focus on reintegration and the development of coping strategies.

The protocol was specifically designed according to KY yogic philosophy to: (a) help participants learn to relax and manage trauma and related stress; (b) engage them in mindful awareness of their body, mind, breath, and surroundings; (c) help them improve their cognitions, behavior, and emotions related to self-esteem and self-efficacy; (d) encourage participants to develop greater physical flexibility and strength; and (e) help them to reintegrate socially.

Empowering affirmations were used in the treatment program to support the healthy reformation of self and identity. *Sat Nam* (true identity), the “seed mantra” of Kundalini yoga, is an affirmation to “be your Self” (Shannahoff-Khalsa, 2010, p. 241). Similarly, chanting “I am, I am” was a technique to center participants in their essential wholeness and to support self-acceptance and empowerment (Fowles, 1975, p. 32).

Rather than looking to the trauma narrative situated in the past, the emphasis in the KY PTSD program is on accessing the powerful possibilities inherent in the here and now using mindful breathing and movement. In this way, individuals with PTSD can learn to become comfortable and attune to their internal sensations. While KY provides physical exercises that allow

for deep relaxation and help participants feel at home in their bodies, it simultaneously embraces the emotionally integrative and spiritual aspects of their healing.

Study participants met for 8 weekly 90-min group yoga practice sessions. Each week's program built upon the work of the previous week. Participants were introduced to exercises of increasing difficulty and duration. Relaxations which at first were short and led by the facilitator, gradually were lengthened and unguided.

Overall, the program included: (a) a publicly expressed intention of "getting better," (b) a daily practice to help realize that intention, (c) exercises believed in yogic theory to "correct underactivity of the PNS and GABA system in part through stimulation of the vagus nerve and reduced allostatic load" (Streeter et al., 2012, p. 571), (d) exercises designed to increase mental focus and bodily awareness, (e) positive visualizations, (f) guided and unguided relaxations, (g) group support, and (h) a supportive facilitator.

Data Collection

A semistructured interview was conducted by the lead researcher and took place within a week of program completion. The yoga instructors were not present. The interviews were audiotaped with the consent of participants and transcribed verbatim. On average, each interview was approximately 30 min in length. The interviews between researcher and participant were conversational in nature, and participants were encouraged to describe their experiences of the yoga program, treatment outcomes, and suggestions for future yoga treatment interventions. Further descriptions of findings are presented in Jindani and Khalsa (2015) and Jindani, Turner and Khalsa (2015).

Data Analysis

The research team separately read all transcripts several times to familiarize themselves with the interview data. Participant experiences related to self-observed changes, new awareness, and perceptions of the program are described in more detail in Jindani and Khalsa (2015). Using a phenomenological approach, the researchers were open to perspectives that emerged from the data and the meaning that individuals attributed to their experiences (Dahlberg et al., 2001). Research meetings were held to discuss findings, key issues, and to identify themes. The final step consisted of revisiting the dataset to ensure the analytic process and to confirm that all data were reflected in the coding and thematic analysis while retaining the voices of participants.

RESULTS

The majority of participants discussed how an embodied KY practice impacted feelings of energy and renewal, self-esteem, spiritual strength, centeredness, peace, and connection with spirit, self/wonder. While for the purposes of analysis, the authors attempted to distinguish and delineate the various facets of participants' experiences, many participants presented significant overlaps and synergies. Many of them identified yoga as a spiritual or embodied practice supportive of healing for PTSD.

Heightened Energy/Renewal

Heightened energy was one of the most widely reported experiences of embodied healing cited by program participants. Greater energy and feelings of revitalization were particularly noted for individuals with acute depression, low mood, and physical illness. Those with PTSD often feel low in mood, and this impairs their ability to sleep adequately and relax and renew their bodies and minds. A frequently mentioned experience of practicing yoga was the ability to calm down physically and mentally.

Several interviewees shared that the practice of yoga brought their attention to breathing patterns and that they were learning to slow down, pay attention to the body, and breathe slowly and from the abdomen, which supported their feeling better about themselves. The majority of participants noted that in achieving greater self-esteem, they were simultaneously feeling more compassionate toward themselves and others:

It is a powerful thing when we are breathing and moving our body. There is a lot of energy and there is a lot of compassion.

I've noticed that just doing it made me feel better physically, like I have more energy after doing it, so I figured that I might as well keep this up. And I'm having success with my physical health . . . and more self-esteem, by far.

Some program participants stated that the enhanced feelings of internal energy and well-being were reflected in other areas of life. Interviewees shared that because they felt more energy, they were able to participate in other activities and lifestyle changes. Many believed that the physical practices enabled them to achieve improved states of well-being. They related how the combination of physical practice, breathing, and meditation enhanced their mood, calmness, vitality, and compassion.

Self-esteem

Among numerous participants, self-esteem translated into renewed confidence in self and making empowering choices and decisions for self. Participants expressed that because they were feeling clearer in their thinking and emotions, they had greater confidence and were taking time to care for themselves.

Searching for answers outside of self and relying on others are actions characteristic of PTSD. The majority of program participants reported that since feeling enhanced self-esteem and confidence, they were learning to rely on themselves rather than seeking answers from outside, from others. Trusting in themselves was a change that made participants feel greater happiness and confidence:

I am going by my values. I am happy to follow my goals, not somebody else's goals. Who cares? I am learning this is not a problem. I am allowing myself to do what is right for me. I am happy with that. I am very happy with yoga, extremely happy.

I'm asking less for help and just trusting myself more to make my decisions, yeah, like really taking responsibility for myself. I'm so grateful I got to participate in this.

Centeredness

PTSD makes it difficult to recognize what is happening in the moment. As participants learned to be more aware in the present moment, they were learning to attune to and regulate the body rather than being overwhelmed by thoughts as is characteristic of PTSD:

I said to myself, "My goodness, I am present to myself!" When I am in the world, I am in the world. I am not either disassociated or thinking so much that I don't even realize the sun is on my body. That is the biggest change.

As participants practiced living in the here and now and breathing through challenging experiences, they were learning to control their thought patterns. This, in turn, translated into better focus and awareness of emotions and feelings inside of the body:

I just was so aware of the things that were going on in my body, even all the pain, yeah of the sitting. I was way more present and I was surprised since I have not done meditation.

All interviewees conveyed that as they were learning to become more attuned to the experiences, sensations, and feelings of the body, they were feeling greater tranquility and peace. For many, this was a very new experience.

Spiritual Strength

All participants described program experiences that occasioned new feelings of inner strength and resilience. Several interviewees noted that because they were feeling stronger internally, they were not feeling victimized by the past and also not fearful about the future. They stated that with a stronger confidence they could control themselves and their reactions to situations.

I am actually feeling a lot stronger, more powerful and in charge of my destiny . . . There's no doubt in my mind. This is really powerful for me. It gave me the ability to be grounded.

Some participants described a faith in self and something higher than self. For a few members of the program, this meant having an awareness and confidence that even in difficult times, there will be good times, and for many, this meant a connection to God or a greater power:

I feel stronger, like I have a whole lot of ability to stay upright in difficult times and I don't get knocked down . . . Spiritually, I feel more of the connection with God and that helps so much

Regaining a sense of self, self-control and self-efficacy is critical for PTSD recovery. Many participants shared that as they were feeling greater internal strength and confidence, they felt that their mind and body was working in harmony and this awareness was imperative to learning to live in the present.

Inner Peace

Several participants reported learning to cultivate a sense of inner calm when feeling stressed in their lives. A related overarching theme was that of self-confidence:

Some things in my life have actually gotten crazier, but I'm feeling really, like a really deep peace and balanced and strong in it.

Inner peace, balance, and calm was discussed by participants and related to feelings of self-esteem:

I feel an inch taller after a yoga session. I can stand taller and I feel calmer, and just being in an environment like that always feels calmer afterwards.

Experiencing an internal alignment and peace with self, participants discussed feeling greater strength, balance, and focus in other areas of life. While all participants mentioned that they benefited from the practice, the majority expressed that the program was an introduction and they wanted to continue to practice. Many participants expressed that they were feeling that the peace that comes from a mind–body practice is not an external process, but has to come from within.

Connection With Spirit/Self/Wonder

Renewed vitality, inner strength, calm, and peace led some participants to embody these experiences in other areas of their life. In their interviews, they spoke of this new awareness and connection as an interrelated connection between spirit, self, and wonder, or awe. Interviewees described this awareness as a sense of alignment with their own spirit:

The first week here, when it was over, she said, ‘How was it?’ I said, ‘It was unbelievable!’ And I said, ‘This is about love.’ I just knew it.

Love, peace, emotional integration, security, and centeredness were found to coexist with feelings of spirituality and connection with self. Several interviewees expressed that as they were feeling greater unity between mind, body, and spirit, they were feeling enhanced states of strength and wellness that they were grateful for and that they felt was related to spirituality or something outside of themselves:

I’m spending more time with my spiritual self, doing my meditation and my prayers in the morning, and stopping during the day and just giving thanks. I’m more centered, I think.

The majority of program participants said they felt that by taking part in the yoga program they were developing a new or renewed relationship with spirituality. For some, this included formalized practices while for others, this included a new relationship with external environments like nature or the world in general. In whatever manner this embodied practice manifested, participants expressed that they felt greater control over their healing and thus, felt more empowered living in the world.

DISCUSSION

The 8-week KY program for PTSD introduced a number of simultaneous catalysts into the lives of participants for the duration of the study. The response to this multifaceted treatment was similarly multidimensional. Many participants spoke of experiencing heightened energy and both physical and spiritual rejuvenation in the course of their recovery. Some participants shared their experiences of seemingly contrary sensations. For example, participants described feeling a really deep peace and gentleness and connected these feelings with newfound feelings of strength, hope, confidence, balance, less worry, and alertness. Inner peace was commonly intertwined with other essential capacities such as strength, balance, and mental focus.

Participants discussed a relationship between heightened feelings of energy and calmness, heightened energy and compassion toward self and others, as well as energy being connected to feeling better about self. These findings may be an affirmation of the calming effects of yoga on individuals with generalized anxiety disorder documented by Katzman and colleagues (2012) and possibly the theory of Streeter and colleagues (2012) that yoga affects the overall well-being of the organism by balancing the nervous system and reducing allostatic load.

Discussion of high energy, inner strength, and greater belief in self seem to indicate an intrinsic, holistic healing from the inside out. These findings align with Greenwood and Delgado's (2011) suggestion that yoga may restore the body–spirit divide. Participant narratives also focused on a greater awareness and understanding of one's experiences. The majority of participants discussed feeling a renewed sense of meaning, identity, connectedness, transformation, and transcendence. These perspectives reflect Crisp's (2010) definition of spirituality.

Participant narratives suggest that an embodied KY practice can support those with PTSD in focusing on interoceptive processes contributing to feelings of empowerment. Participants were able to separate from the cognitive trauma narrative and to discuss positive feelings toward self. Participants' negative cognitive structure and worldview dominant at program onset was shifting to include greater perceptions of positive identity (Dalton, 2009) at treatment completion. The restoration of an intrinsic sense of being, resonating both with SDT and yogic philosophy, was deeply ingrained in many of the interviews (Ryan & Deci, 2000). As participants were experiencing enhanced feelings of rejuvenation and calmness, they noted that their perceptions toward self were altering. It is worth noting here that Seligman (1998) associated heightened self-esteem and reduced incidents of depression with increased self-efficacy. For Maslow (1943), self-esteem occupied an important place in his hierarchy of needs, just below self-actualization.

PTSD widens the pre-existing schism between mind and body, making it difficult to recognize what is happening in the moment (Krystal, 1988; van

der Kolk, 2006). As such, those with PTSD are prone to lack of motivation or compulsions that are merely extrinsic. As the yoga practice helped participants find their center, participants noted increased autonomy, relatedness, and competence in line with Ryan and Deci's SDT (2000). These findings suggest that yogic treatment interventions offer an embodied mind–body–spiritual practice whereby those with PTSD can positively grow from their experiences and develop positive self-awareness, self-regulation, identity, and resilience.

Individuals with PTSD are generally known to isolate socially, and most of the participants lived alone (Alexander, 2008; Ferrada-Noli, Asberg, Ormstad, Lundin, & Sundbom, 1998). Significantly, many of the participants bonded together and continued their friendships out of class. This psychosocial integration may have been symptomatic of the healing of the myelinated vagus nerve, considered to be vital to human social engagement (Porges, 2001). It also reflects the self-actualization at the pinnacle of Maslow's (1943) needs hierarchy. This unity between self and others is linked to confidence as well as gentleness toward self, hope, and a sense of social and spiritual connection. This dynamic is familiar to the yogic concept of realizing oneness between the limited individual, others and the unlimited, Supreme Consciousness.

The World Health Organization's Quality of Life Spirituality Religiousness and Personal Beliefs (SRPB) Group's template of eight experiential nonsectarian factors (Saxema, & WHO-QOL Group, 2006) were well represented in the testimonials of group participants, though some of them required a degree of interpretation. In this analysis, the WHO-QOL factors "awe" and "connection to a spiritual being/force" were combined as *connection with spirit/self/wonder* since in a number of cases the sense of communion and the feeling of awe coincided. "Faith" and a sense of "meaning in life" were combined as *self-esteem* and interpreted as an internal dynamic of belief in oneself and trust in the evolving purpose of one's life. "Wholeness and integration" was translated as *centeredness* with the understanding that integration and wholeness are an outcome of cultivating self-awareness in the present moment. While many of the interviews were suffused with a spirit of "hope and optimism," participants were more likely to speak in terms of their *heightened energy/renewal*. "Spiritual strength" and "inner peace" were not combined with other WHO-QOL factors.

Limitations

There are some limitations to this study. In terms of participant recruitment, it is possible that those who chose to volunteer in the 8-week yoga intervention were healthier, more self-aware or more optimistic at program outset than those who chose not to participate. Weekly interaction and the development of trust and safety with the teacher and other program participants who

shared a common background may also have had a positive impact on participants, aside from the yoga. Finally, some participants who had no prior experience with a physical practice suggested that a greater focus on simple, breath-focused meditations that are very easy to learn and practice may have supported their experience in the program.

Implications for Practice

Some 80 years ago, Carl Jung opined that yoga presented a method of psychological and physiological hygiene

far superior to ordinary gymnastics or breathing exercises in that it is not merely mechanistic and scientific but, at the same time philosophical. In its training of the parts of the body, it unites them with the whole of the mind and spirit, as is quite clear, for instance, in the *pranayama* exercises, where *prana* is both the breath and the universal dynamics of the cosmos. When the doing of the individual is at the same time a cosmic happening, the elation of the body (innervation) becomes one with the elation of spirit (the universal idea), and from this there arises a living whole which no technique, however scientific, can hope to produce. (Jung, 1969, pp. 532–533)

Jung's was a bold endorsement of a practice barely known in the West at the time. While this KY program is a preliminary study, participants' subjective assessment of changes in self-perception, self-regulation, confidence, and connection to self, others, and the world suggest the possibility of deep physiological, psychological, and sociological reintegration and regulation. The role of holistic and spiritual affects in the treatment of trauma was a key finding of the KY PTSD treatment program suggesting intertwined physical, mental, emotional, social, and spiritual dimensions to the journey to wellness and recovery.

In consideration of micro level social work practice, the facilitator's contribution to the group healing dynamic cannot be underestimated. The teacher likely played an invaluable role through encouragement and support of participants, while serving also as a role model. It is possible that the empowerment and inspiration felt by participants was largely an outcome of their personal interaction with the program's facilitators who had been selected for both their knowledge of yoga and their personal attributes. Future studies may examine relational characteristics of teachers, such as trust and empathy that participants might find empowering and significant to their personal growth.

Social support and peer feedback is critical in the healing of PTSD (Price, Gros, Strachan, Ruggiero, & Acierno, 2013). At program onset, numerous participants discussed feelings of isolation and loneliness. The findings of

this research demonstrate that while the majority of participants entered the program as isolated individuals, they completed the program feeling more connected to themselves, their own spirituality, the facilitator, and to others in the group. Mezzo level social work intervention focuses on bringing communities of people together. The relationship developed by participants with the group facilitator and group members likely accounts for a large component of change noted by participants as the KY treatment intervention provided social support for program participants. The KY treatment program may have also offered a safe space for the reinforcement and practice of coping strategies that could later be utilized in daily life. The group was also an opportunity for those with PTSD to interact with others experiencing similar issues.

Another important element of the program was accessibility for those who wanted to participate. Macro level social work practice focuses on systemic issues. Individuals with PTSD often experience numerous barriers to treatment (van der Kolk et al., 2014). The KY treatment program was developed and implemented with the aim of offering an opportunity to address several intersecting issues faced by individuals with PTSD. For instance, the KY PTSD program was developed with specific short and medium term goals and objectives. Efforts were taken by the researchers and teachers to establish a continuum of care between the KY program and involvement in other clinical or health-related programs. The KY PTSD program was relatively affordable, requiring a skilled and empathic teacher, a safe and supportive environment and access to trauma-skilled clinicians. In any holistic treatment program, care must be taken to ensure continuity between sessions, and integrity with the informing vision throughout. Finally, all participants who identified with PTSD were admitted into the program irrespective of sex, gender, class, race, or ability. The accessibility of the program makes it transferrable to other mental health settings.

Future research focused on the spiritual aspect of individuals' quality of life may seek to differentiate the key operative elements of a KY treatment intervention—which exercises, how often, and for how long—that yield the best results. There would be wisdom as well in assessing the long-term compliance of participants with the protocols they had learned, as well as the duration of their personal connections with fellow participants and teachers with a view to assessing their significance in overall recovery. The WHO-QOL questionnaire might prove a useful tool in this regard. For a better understanding of physiological components of the program, future participants might be studied using magnetic resonance imaging and electroencephalography brain scan technology.

While the global prevalence of PTSD is rising, mind–body treatment interventions like yoga offer the possibility of embodied healing: physiological, psychological, social, and spiritual. Empowering PTSD interventions present individuals the possibility of better recognizing their own needs,

interpreting their experiences, and identifying positively with themselves and their social environs. Yoga and similar methodologies offer the potential for the development and implementation of broadly based, cost-effective strategies directed toward individual self-regulation and enhanced self-realization. With the growing acceptance of integrative therapies, social workers, policy makers, and wellness administrators must take into consideration the increasing demand for holistic treatment interventions to make such programs more universally available. The KY program is a promising preliminary study of one such embodied approach for the treatment of PTSD.

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