Research

# Bridging Body and Mind: Considerations for Trauma-Informed Yoga

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## Abstract

Individuals who suffer from trauma-related symptoms are a unique population that could benefit from the mind-body practice of yoga—or have their symptoms reactivated by it, depending on the type of yoga. Trauma-informed yoga (TIY), that is, yoga adapted to the unique needs of individuals working to overcome trauma, may ameliorate symptoms by creating a safe, tailored practice for students to learn how to respond, rather than react, to symptoms and circumstances. Yoga not thus adapted, on the other hand, may increase reactivity and activate symptoms such as hyperarousal or dissociation. This article reports on expert input about adapting yoga for individuals with trauma, with special considerations for military populations. Eleven experts, recruited based on literature review and referrals, were interviewed in person or via telephone and asked seven questions about trauma-informed yoga. Verbatim transcripts were subjected to open-coding thematic analysis and a priori themes. Findings revealed that TIY needs to emphasize beneficial practices (e.g., diaphragmatic breath and restorative postures), consider contraindications (e.g., avoiding sequences that overly engage the sympathetic nervous system), adapt to limitations and challenges for teaching in unconventional settings (e.g., prisons, VA hospitals), and provide specialized training and preparation (e.g., specialized TIY certifications, self-care of instructors/therapists, adaptions for student needs). TIY for veterans must additionally consider gender- and culture-related barriers, differing relationships to pain and injury, and medication as a barrier to practice. *Justice, Brems, & Ehlers. Int J Yoga Therapy 2018(28). doi: 10.17761/2018-00017R2.*

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## Introduction

Posttraumatic stress disorder (PTSD) is defined by the experience of a traumatic event followed by development of four clusters of symptoms, including intrusive symptoms (e.g., memories, nightmares, dissociation), avoidance symptoms (e.g., avoidance of memories or cues that are reminders of the traumatic experience), negative alterations in mood or cognitions, and increased arousal or reactivity.[1] These symptom clusters, as well as the traumatic events that trigger them, are heterogeneous and complex,[1] making accurate diagnosis and treatment challenging.[2]

Individuals seeking treatment for PTSD and other trauma-related disorders have high rates of attrition and report a lack of symptom resolution.[3–8] They are likely to seek complementary and alternative treatments, consistent with a general growing interest in integrative medicine. An estimated 39% of individuals diagnosed with PTSD have used one or more integrative treatments to find symptom relief.[9] In response to this expanding demand for integrative treatments, the U.S. Department of Veterans Affairs (VA) has requested additional research on the use and validity of integrative therapies, with yoga among those in highest demand.[10] Although this demand may be met by the growing field of yoga therapy and other yoga practices, research on the specific mechanisms of yoga in the treatment of trauma and its effect on specific trauma populations is still forming.

Trauma-informed care is a developing feature of medical and mental healthcare meant to target barriers to treatment for individuals with histories of trauma.[11] Trauma-informed practices aim to minimize exposure to situations and interactions with healthcare providers that could provoke trauma symptoms (e.g., dissociation, avoidance, or hyperarousal). Trauma-informed yoga (TIY), following guidelines of trauma-informed medical practices and facilities, is a type of yoga designed to meet the growing demand for yoga as a treatment or treatment adjunct for specific disorders.[12–14] Yoga that is adapted to the unique needs of individuals working to overcome trauma-related symptoms may

help ameliorate symptoms by creating a safe space for students to learn how to respond to, rather than be overwhelmed by, their symptoms and circumstances. Yoga not thus adapted, on the other hand, may inadvertently increase reactivity and activate PTSD symptoms.

Growing evidence supports the use of yoga to heal the effect of trauma on the autonomic nervous system (ANS).[12,15–18] The ANS has two branches: the parasympathetic nervous system (PSNS; also called the rest-and-digest system) and the sympathetic nervous system (SNS; also called the fight-or-flight system). When the SNS is engaged for long periods, as is common during the experience of trauma or PTSD symptoms, an individual can become "stuck" in hyperarousal without any mechanism to dispel that energy.[7,19,20] An optimally functioning ANS returns to homeostasis after SNS arousal; however, individuals with PTSD-related hyperarousal symptoms may take much longer than others to self-regulate and return to a more balanced physiological state.[5,7,15,19] The inability to re-regulate after an SNS-initiated fight-or-flight response may negatively affect the PSNS, which in optimally functioning individuals facilitates rest, grounding, and rehabilitation. An extreme PSNS response may in fact lead to immobilization (a freeze or submit response) that fails to allow the individual to respond appropriately to a given stressor. Peter Levine[19] explains that this "immobility response not only becomes chronic, it intensifies. As frozen energy accumulates, so do the symptoms that are trying desperately to contain it" (p. 105).

SNS-induced hyperarousal is one of the primary symptoms of PTSD.[1] It is a dysregulating experience for individuals with PTSD symptoms as it activates the amygdala (fear center of the brain) and deactivates the prefrontal cortex (control center of the brain).[7,21–23] The activation of fear in the absence of rational control leaves individuals unable to respond thoughtfully and traps them in a habitual and reactive mode of emotionality and behavior.

Yoga, as a mind-body practice, engages downregulating practices that emphasize activation of the PSNS as well as upregulating practices that stimulate the SNS. Mindful use of up- and downregulating practices over time helps individuals learn to discern cues from their ANS, recognizing when they are either hyper- or hypoaroused, and teaches them how to recalibrate or balance their ANS. A healthy ANS requires use of both the PSNS and SNS. Research on heart rate variability, a key indicator of a balanced ANS, suggests that the capacity to access and activate the PSNS is an important skill in helping to stabilize the ANS.[15] This is the very aim of TIY, which provides students with practices that help them access the ANS in general (e.g., through breath control) and re-engage the PSNS in particular (e.g., through calming guided mediations). Accordingly, research has demonstrated that the sympathetic stress response arises from the motor and somatosensory cortex.[24] This pathway provides a neuroanatomical basis for the stress-regulating effects of movement-based practices such as yoga. In other words, deliberate engagement of the ANS (via breath, movement, and meditation) may help individuals with trauma histories recover and rebalance their nervous systems after exposure to a stressful circumstance or environmental cue.

A related mechanism developed via yoga is the capacity for interoception. The development of interoception teaches individuals first to recognize and then manage bodily experiences by building mindful awareness of internal sensations.[5,7,25] Initially for individuals working to overcome trauma-related symptoms, this may be a threatening task because it can heighten awareness of hyperarousal symptoms. However, as the literature on interoception suggests, when the body begins to calm itself, interoception as a practice and a skill may also become more accessible and less threatening.[25–27] Yoga, as a practice that activates both the SNS and PSNS, may help TIY practitioners to learn to distinguish between the two with greater discernment and skill. In other words, as practitioners learn to identify internal sensations of calm and focus, they may reside in those sensations for longer periods. Likewise, as practitioners identify internal sensations that remind them of trauma symptoms, they may employ grounding techniques or mindfulness practices to help mitigate negative reactions.[16]

A growing number of yoga styles offered in studios, gyms, schools, and healthcare settings do not discern between PSNS- and SNS-activating yoga practices. In fact, many athletic yoga practices are geared toward inducing hyperarousal and may thus be contraindicated for individuals with trauma symptoms. The heterogeneity of yoga practices can make referrals by health practitioners ambiguous and misleading for clients seeking treatment for trauma-related symptoms. Individuals who suffer from trauma-related symptoms might either benefit from or potentially be harmed by the mind-body practice of yoga, depending on the type of yoga practice in which they engage.[28] For example, some yoga classes may emphasize practices that initiate and even sustain an SNS response (e.g., because of high numbers of students in close proximity to one another, lack of pose modifications, overexertion). Thus, in offering yoga to individuals with trauma symptoms, providers and instructors have to be certain to offer practices that are specifically adapted, often quite unlike those offered in fitness-based classes.

An increasing number of TIY and body-centered programs are emerging that target safe ANS re-balancing. Notable examples include Trauma-Sensitive Yoga,[13] Somatic Experiencing,[19] and Sensorimotor Psychotherapy.[20] Growing

evidence in the form of randomized controlled trials supports the use of yoga for trauma-related symptoms.[17,29,30] However, despite documented successes in the use of yoga therapy and body-centered approaches for trauma recovery, a need exists to identify the specific beneficial and contraindicated practices of yoga in this work.[10,29,31] As therapeutic yoga protocols are developed for specific disorders, barriers to practice must also be considered for specific populations that may otherwise underuse yoga as an adjunct form of treatment.[32,33]

One group of individuals disproportionately affected by PTSD is veterans. These individuals not only struggle with symptoms secondary to significant trauma experiences but also face unique cultural barriers to treatment.[34] An estimated 20% of veterans returning from Iraq meet diagnostic criteria for PTSD; however, only 53% of those (about 300,000 veterans) pursued treatment within a year of their return.[35] Additionally, veterans often do not seek treatment within the VA system because of stigma associated with mental disorders[36–38] and negative beliefs about mental health treatment.[39]

Initial pilot trials suggest that yoga may benefit veterans working to overcome trauma-related symptoms.[40–42] Veterans typically report having PTSD symptoms in each of the four symptom clusters: intrusions, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity.[1,43] Sleep disturbance because of hyperarousal was the most frequently reported symptom; also commonly reported were irritability and difficulty concentrating in male veterans and avoidance symptoms in female veterans.[44] Despite barriers to care, veterans report using integrative therapies emphasizing stress management 2.5–7 times more often than civilians.[45] Additionally, post-9/11 veterans report being more likely to seek care if that care is either undertaken with or used by their peers.[46]

Although research has shown yoga to be helpful for PTSD symptoms and the practice thus holds great potential as a trauma-informed treatment for veterans, particularly if done in a group setting,[47,48] barriers may preclude veterans from accessing yoga. One significant potential barrier is related to gender. Research into yoga practitioner demographics has consistently identified an 80% dominance of female practitioners,[49–51] whereas current statistics for veterans indicate a 9:1 ratio of males to females in the military.[47,48] Males may also be more susceptible to media representations of yoga as a barrier to practice.[33] Other barriers include increased likelihood of physical restrictions that may require modifications to poses,[10] difficulties in establishing veteran-specific classes within the VA or other accessible locations,[47] and cultural differences between veterans and yoga instructors.[48] As yoga research on veteran populations continues to show difficulties in recruitment and attrition,[40,41] these barriers may require further exploration and intervention.

To help inform the development of guidelines for yoga instructors/therapists and professionals in the trauma field and to reduce barriers to practice, this study sought the perspective of yoga professionals with expertise in TIY and yoga for veterans. By interviewing these experts, we explored strategies and approaches for providing therapeutic yoga specifically adapted to meet the needs of individuals with trauma-related symptoms.

## Methods

### Participants

Upon approval from the Pacific University Institutional Review Board, potential participants were identified via literature review and word of mouth. Identified experts were approached by written invitation to participate in an interview. The final sample consisted of 11 expert yoga professionals in the United States with advanced yoga therapy training and specialization in trauma-informed work. Of the 11 key informants (KIs), nine had worked with veterans either within or outside VA settings. Depending on KIs' locations and preferences, interviews were conducted either in person ($n$ = 2) or via phone ($n$ = 9) between April and June 2016. Interviews ranged in length from 40 to 115 minutes (average 60 minutes).

All KIs were fluent English speakers and had a minimum certification of Experienced Registered Yoga Teacher (E-RYT) 200. The KIs (two men, nine women; all non-Hispanic/Caucasian) ranged in age from 30 to 69 years old (mean 49.3 years). Experience ranged from 3.5 to 25 years of teaching yoga (mean 13.0 years). The 11 participants were experienced yoga instructors from Oregon, California, Vermont, New York, Pennsylvania, Colorado, Massachusetts, and Virginia. They considered themselves yoga therapists, were certified yoga therapists, or had yoga therapy training representing several yoga traditions and therapeutic orientations, including Iyengar yoga, Phoenix Rising Yoga Therapy, Somatic Experiencing,[19] Sensorimotor Therapy,[20] iRest,[52] Mindfulness-Based Stress Reduction,[53] Hanna Somatic Education,[54] and Trauma-Sensitive Yoga.[13]

### Instruments

A demographics questionnaire was developed to collect data about KIs' gender, race, age, years teaching yoga, specific training in yoga, and training in trauma-informed work. A KI protocol was created to probe content related to the study's purpose and consisted of seven open-ended questions exploring trauma- and veteran-specific barriers to practice, motivators to practice, symptom management, contraindications, and useful adaptations. The KI protocol questions included:

1. What types of special considerations do you make when working with yoga students with trauma histories?
2. What are the best yoga interventions that help yoga students with trauma histories manage or overcome their symptoms?
3. What are the biggest challenges posed by yoga students with a history of trauma?
4. Is there an aspect of the practice or types of yoga that are contraindicated for yoga students with a history of trauma?
5. Have you ever taught veterans? If so, how much experience do you have (i.e., what type of yoga did you teach and for how long)?
6. What are the best yoga interventions that help yoga students who are veterans?
7. What are the biggest challenges posed by yoga students who are veterans?

**Qualitative Data Analysis**

All interviews were transcribed verbatim and imported into NVivo, a qualitative data analysis software program. Once imported, transcripts were read and independently coded for themes by two coders using the systematic open coding thematic analysis outlined by Corbin and Strauss.[55] After preliminary themes were developed based on coder knowledge of and literature on TIY, comparisons across data and across coders informed the development of additional themes.[56] Once new themes stopped emerging, a dictionary was finalized with clear definitions for all newly developed concepts along with the predetermined ones. All interviews were fully recoded using this finalized dictionary.

## Results

Once the KI interviews were coded, results were analyzed based on five overarching final themes that emerged from the data: Beneficial Practices (e.g., engaging the PSNS, cultivating interoception, creating safety, modifications and adaptations, invitational language); Contraindications for TIY (e.g., engaging the SNS, indiscriminate touch and common studio practices); Limitations and Considerations for Teaching in Unconventional Settings; Instructor Training and Preparation for TIY Classes (e.g., training and education, self-care, awareness of power dynamics); and Additional TIY Considerations for Veterans (e.g., gender and cultural barriers, pushing through pain, role of medication). Themes are summarized in Table 1. "Yoga instructor" is used here as a broad term to reference any yoga teacher or yoga therapist who may currently be teaching TIY or is interested in learning about TIY. Although distinctions among these communities are improving as yoga therapy certification is increasing, KIs referred to these roles interchangeably. Similarly, KIs often referred to "commercial" yoga classes to group some popular yoga styles and approaches that differ from TIY. Although this distinction may oversimplify the complexity of different yoga styles being offered within a Western yoga context, for clarity this article refers to "commercial yoga" to categorize classes that strive for larger sizes and often emphasize fitness-based sequences to meet the demands of their existing consumer base.

### 1. Beneficial Practices

#### *Engaging the Parasympathetic Nervous System*

Qualitative data analyses revealed that KIs most often endorsed the importance of using a variety of practices that engage practitioners' PSNS. Breathing practices (e.g., diaphragmatic breath and prolonged exhalations) as well as restorative postures were repeatedly endorsed by KIs. As one explained:

> [Many students] are terrified of disarming the nervous system and feeling the underlying vulnerability and the fear of it . . . then trusting that their body will not be stuck in that state forever. I want to remind them to think that it will be okay and they will not be hyperaroused for a lifetime.

The combination of calming breathing practices and restorative postures recommended by KIs was considered an important basis from which to teach grounding and self-soothing techniques.

#### *Cultivating Interoception*

KIs cited the importance of slower pacing and repetition as techniques (e.g., mindfulness cues) to help students become more mindful of their sensations and their breath throughout the class. One KI commented on her pacing, noting, "I am like a metronome, I maintain a rhythm and I maintain stability for the entire class. I hope this helps to guide a more calm internal experience for my students." KIs discussed how, if an instructor's voice tone, pacing, and presence are not attuned to their class, it may be difficult for students to approach a calm space within themselves. Another KI described using interoception skills: "What matters is regulating breathing and how that can shift the state of mind and the nervous system. Those practices help to develop that intuitive sense . . . to develop new brain connections." KIs also clarified that meditation and guided imagery that aim to invite interoception need to be exactly that: *guided.* As one KI discussed:

> There shouldn't be the assumption that we can quickly draw students into a more silent mindful practice, for

**Table 1.** Summary of Recommendations for Trauma-Informed Yoga, *continued on next page*

| Theme | Recommendations |
|---|---|
| Beneficial Practices | **Engaging the parasympathetic nervous system**<br>• Breathing practices to reduce hyperarousal (e.g., diaphragmatic breath, prolonged exhales)<br>• Restorative poses<br>**Cultivating interoception**<br>• Repetition and slower pacing<br>• Use of breathing practices and mindfulness cues that emphasize these skills<br>• Guided meditations<br>**Creating safety**<br>• Space that encourages personal boundaries for students (mat orientation, student awareness of exits, minimal outside disruption)<br>• Student engagement in setting up and modifying practice space<br>• Minimal instructor movement throughout the class<br>**Modifications and adaptations**<br>• Practice modified to individual needs and promotes safety (e.g., modifications to sexually suggestive postures)<br>• Selective and intentional use of props<br>**Invitational language**<br>• Invitational language that offers students options and equal levels of encouragement<br>• Invitational language that emphasizes adaptability, exploration, and individual differences<br>• Selective use of Sanskrit |
| Contraindications | **Sustained engagement of the sympathetic nervous system**<br>• Breath retention or complicated breathing practices<br>• Deep backbends<br>**Indiscriminate touch and common studio practices**<br>• Sequences that include many postures positioning the hips in vulnerable ways, overly complicated breathing practices, or prolonged silences<br>• Large classes in which students are positioned very close to one another<br>• Touching without prompting and therapeutic relevance |
| Limitations and Considerations for Teaching in Unconventional Settings | • Consistent, safe, and stable locations for class<br>• Consideration of how to reduce barriers related to time, money, location, and culture (e.g., implementing classes in settings serving a given population)<br>• Understanding of how trauma-informed yoga can function within a larger community or healthcare agency (using referrals)<br>• Training for instructors on how to take initiative in how they implement classes in VA facilities, hospitals, shelters, jails, and prisons<br>• Being adaptive and "taking the lead" when there may be reduced availability of a consistent space and props |
| Instructor Training and Preparation for Classes | **Training and education**<br>• Knowledge about the autonomic nervous system and how to observe changes in students<br>• Knowledge of the range of trauma experiences<br>• Specialized training in trauma-informed practices<br>• Education on attachment styles, boundary setting, and rapport building<br>**Self-care**<br>• Knowledge of self-regulation<br>• Use of mindfulness techniques to improve instructor resiliency<br>**Awareness of power dynamics**<br>• Knowing how to use personal power as a therapeutic tool rather than simply being an authority<br>• Methods to reduce power of instructor over students (e.g., slower pacing, use of invitational vs. command language)<br>• Flexibility for individual student advancement |

**Table 1.** Summary of Recommendations for Trauma-Informed Yoga, *continued*

| Theme | Recommendations |
|---|---|
| Additional Considerations for Veterans | **Gender- and culture-related barriers to practice**<br>• Awareness of gender dynamics<br>• Use of language to minimize biases that yoga is a feminine practice<br>• Use of military language and terminology<br>**Pushing through pain**<br>• Awareness of cultural expectation to work through pain and not acknowledge limitations<br>• Emphasis on adaptation as an advanced expression of the practice<br>**The role of medication**<br>• Knowledge of physical and mental health disorders that co-occur in this population<br>• Medication- and side effect-related health concerns |

> trauma that can be very overwhelming. With trauma-informed yoga, there should be more guiding from the teacher, less silence at first because that is a more advanced practice. You also need to be paying attention to the types of imagery you are using and making it supportive to the population you are working with.

Although long periods of silence for self-reflection and self-exploration may be appropriate for some advanced practitioners, KIs generally preferred more intentionally guided meditations for TIY.

### *Creating Safety*

Similarly, when discussing how to cultivate a safe internal space (i.e., a balanced nervous system), KIs highlighted the importance of maintaining a safe external space in the practice room. One KI noted the importance of students being able to identify and share with instructors what may help or hinder their own sense of safety:

> I think the biggest intervention is safety. Them really understanding that they are allowed to create that for themselves. But with every person it is different, with one person it might be the breath, for another it might be a texture or color in the room. I use a lot of resourcing. Can we find the resource for safety?

Methods discussed by KIs for creating a sense of safety within a practice room emphasized the importance of personal boundaries, student awareness of orientation within the room, and minimal disruptions from individuals not involved in the class. KIs discussed taking extra care in how the practice space is set up. Specific recommendations included making sure students have enough space between themselves and other practitioners, orienting students toward exits (or at least making sure they are aware of the location), not "stacking" mats in rows so that some students are behind others, and instructors minimizing their own movement around the room. Additionally, KIs encouraged making sure students know where to find bathrooms and have input about spacing, lighting, and room temperature. A KI explained:

> I want to consider safety and a sense of ease more than I would in a general yoga class. I look at myself as more of a caretaker. I stay in one place in the room. If I move, I make sure that it is clear and announced that I am doing that.

### *Modifications and Adaptations*

Modifications and adaptations, with or without props, for certain poses were identified by KIs as a useful method for helping students to feel supported by their instructors. KIs emphasized use of modifications and adaptations for poses that could be sexually suggestive (e.g., down dog or happy baby), as well as those that position the hips and groin in highly vulnerable ways. However, KIs indicated that modifications of these poses could retain the therapeutic elements of those shapes (e.g., stretching the hips, relieving low-back tension) without placing students in a shape that may provoke psychological symptoms (inducing a flashback, dissociation) or aggravate a physical injury.

KIs recommended being thoughtful about the use of props. One recommended way to make decisions about prop use was to show students the space in which they will practice and the props that may be used. One KI noted:

> I use tons of props. I use bolsters, blankets, blocks, sometimes straps. [I'm often thinking…], "What can we do to aid you?" If the prop isn't actually aiding them I won't use it and I let them choose what they would feel supported by. I want to offer everything to see where the client is. Anything could be a threat, but it also has the opportunity to become something too. I want to meet the client where they are . . .

Some KIs observed that the positioning of props in TIY may be similar to that found in some other styles of yoga (e.g., Iyengar), but with a more express purpose of balancing the nervous system (as opposed to intensifying a stretch). Use of props was highlighted as an apparent difference between TIY and fast-paced or Vinyasa Yoga that may not provide sufficient time between and during postures to facilitate the use of props and thereby support the stabilization of the nervous system and the development of interoceptive skills.

***Invitational Language***

KIs highlighted how the type of language and descriptions used in class can make the difference between creating an environment of safety and calmness versus an environment of competition or self-neglect. Invitational language was emphasized by the respondents as an important vehicle for self-exploration that is nonviolent, truthful, and conducive to examining personal physical and psychological boundaries. Language that is too directive and fails to invite options and modification was emphasized by KIs as potentially injurious:

> [I am always] making sure that students have options. Instilling that the students have control and responsibility. Saying things like, "when you're ready," "when it feels right to you," etc.

Language that may imply judgment (even if positive, such as "beautiful pose") may infuse an atmosphere of evaluation, comparison, and self-consciousness. This is highlighted in a statement by one KI discussing studio, or more commercially targeted, yoga classes:

> You are not learning about yourself, you are learning how to do a physical task. There is a lot of shaming that happens in studio classes; it is the language and a lot of the languaging . . . it emphasizes too much shame. You do not need that when you are trying to go to a space to create change for yourself.

KIs noted that language needs to be observational and all students need to be addressed with equal levels of encouragement and feedback to minimize shame and self-judgment. Invitational language (e.g., "you may choose to . . ." or "some individuals may enjoy . . .") was highlighted as another way to empower students to make decisions about modifications and adaptations that honor their individual needs and body feedback.

The KIs encouraged selective use of Sanskrit. Some KIs felt that Sanskrit may cognitively overwhelm students who are attempting to reconnect with their bodies or who may have traumatic brain injury. The use of Sanskrit was also viewed as potentially too closely associated with spiritual aspects of the practice. One KI's approach was as follows: "I always say the English word first, then the Sanskrit word. I say that so they don't think that it is a super-secret society." Although KIs recommended selective use of Sanskrit as a helpful way to honor the heritage of yoga, KIs prioritized keeping language simple and secular.

**2. Contraindications for Trauma-Informed Yoga**

***Sustained Engagement of the Sympathetic Nervous System***

Commensurate with the recommendation to emphasize practices that engage the PSNS, KIs concluded that practices that overly sustain SNS activation, such as breath retention or heart-opening postures, should be minimized or left out. Although it can be valuable (and under some circumstances beneficial) to engage the SNS, it was noted that overactivation may simulate hyperarousal symptoms and cause some students to dissociate or panic in response.

***Indiscriminate Touch and Common Studio Practices***

KIs discussed how fight, flight, freeze, and submit responses to a threat could be initiated in reaction to seemingly common practices used in commercial yoga classes. For example, complicated breathing practices (e.g., breath of fire), postures that place the hips in vulnerable positions, long silences used in meditation practices, crowded classrooms, and indiscriminate touch are common in many studio yoga classes but are considered contraindicated for TIY by KIs because of their propensity to simulate or trigger the very symptoms TIY aims to ameliorate. Although KIs believed these practices may be accessible in the long term for students who develop sustained and deep yoga practices, for beginners these practices could be harmful or distressing. One KI explained:

> There is an assumption in more and more yoga classes and schools that it is the teacher's job to put their hands on as many students' bodies as possible. I have had yoga teachers explicitly state it is their approach to teaching that they do touch and they will touch in their classes. That leaves a fear and discomfort in students. I think yoga students with a ton of experience take for granted that the body can be very unsafe for other students. We are now asking students to feel the body, and that assumes that the student is ready to do that. That language and the potentially crowded spaces for yoga can be very prohibitive for students with a history of trauma. Many students have reported a sense of urgency in large yoga classes and that is activating to the nervous system.

TIY must therefore be sensitive to the needs of new students and how the touch of a well-meaning instructor could become threatening. Even simple actions, such as approaching a student too quickly, from behind, while eyes are closed, or while distracted, may cause a student to startle or dissociate.

**3. Limitations and Considerations for Teaching in Unconventional Settings**

KIs cited the importance of working alongside administrative and managerial staff in prisons, hospitals, jails, shelters, and VA facilities to find appropriate spaces for regular TIY classes. Although consistency, soft lighting, and minimal noise were listed as important considerations for creating a TIY environment, many obstacles in acquiring such a space and limited resources were noted. KIs found that hosting classes within familiar settings improved retention greatly and diminished common barriers for students such as time and money to attend classes. KIs found this also helped to emphasize group dynamics that are mutually supportive and nonthreatening.

KIs, however, had one important caveat: The yoga instructor must "take the lead" in advocating for space safety, prop availability, and minimal disruptions during class. One described these challenges:

> Generally classes work better if they are piggybacked onto something else. If people are already there, they will be more willing to practice. The other challenge is working with the institution. The logistics of the class are very challenging . . . Things are constantly changing. Things get lost. There are all types of things that make getting people in and out of a room difficult. The cleanliness of a room, all the things you take for granted in a yoga studio, are not there in these institutions. It becomes really hard to offer something regularly that can be safe and predictable.

KIs noted that if there was a high likelihood of disruptions, they made a point of locking doors when possible and clearly explaining to the class that they as the instructor would adapt the classroom to hold space for the students' needs. Some KIs explained that although they believe there is more appreciation for implementing TIY in nontraditional settings, instructors may also have to come prepared to talk to staff and potential students about the benefits of their services. TIY instructors were encouraged to have a keen understanding of or gain training on how TIY can function within a larger community or healthcare agency. Collaboration with mental health professionals and knowledge of referral sources both within and outside these systems and agencies were also highlighted. KIs often disclosed that they themselves work mostly within a larger healthcare or community service network.

**4. Instructor Training and Preparation for TIY Classes**

***Training and Education***

KIs highlighted the necessity for additional training for yoga instructors interested in providing TIY. Prior to embarking on TIY classes, KIs cited the importance of gaining additional knowledge in types of trauma, symptoms of trauma, the ANS, attachment styles, and boundary setting. KIs discussed the growing availability of TIY-specific trainings and emphasized the importance of becoming knowledgeable about TIY before embarking on this therapeutic work. KIs noted that additional knowledge and training in TIY serves to make well-intentioned instructors more ethical and effective when they work with trauma. Finally, many KIs advocated for TIY preparation even within basic teacher training noting, "Even if you do not teach TIY specific-classes, you will have students impacted by trauma."

***Self-Care***

KIs considered having a personal self-care practice as essential for TIY instructors to prevent burnout (i.e., feeling overworked and under-resourced). One KI stated:

> I think the biggest challenges for teachers in trauma informed yoga training is telling them what not to do, not what to do. [TIY trainings are] telling them what to do on behalf of the client, not what do to on behalf of themselves. Yoga teachers default to caring for their students, and they often leave their center when they are doing it. Self-regulation for teachers is also very important and somewhat lacking.

As TIY instructors hold space for their students, they must also model staying mindful of their own nervous systems and reactivity. KIs discussed the importance of mindfulness cues and slowing down as not only beneficial for students but also as useful techniques to keep instructors feeling resilient after a class as opposed to drained. KIs noted that these techniques may help instructors know when additional self-care practices could be beneficial.

***Awareness of Power Dynamics***

KIs considered knowledge of power dynamics in the student-teacher relationship important for TIY. Many KIs identified a lack of awareness in commercial yoga classes about power dynamics, and many found knowledge of the instructor's position of power to be essential for TIY. From an instructor's perspective, one KI discussed integrating knowledge of power dynamics: "The most important thing about yoga forms is that nobody is coercing anybody so that

people get to be in charge of their own bodies. The facilitator makes room for people to have their own experience." Another KI noted, "That includes pacing, the degree to which you engage." If an instructor's pacing is too fast, it does not facilitate mindful processing.

Power dynamics in a yoga class may also be perpetuated through command language, demonstration of poses outside the ability of the majority of a class, careless adjustments, and position of the instructor in the room. KIs noted that inevitably yoga instructors hold more power than students, and this in itself may be used to create safety and maintain predictability. However, instructors may be sensitive to overusing or overemphasizing their power by using invitational language and consistently reminding students that the practice is about reconnecting to oneself as opposed to imitating the instructor.

This awareness may also help instructors to evaluate when students may be able to advance at their own pace. KIs discussed the significance of flexibility and adaptability in all TIY interventions as students develop in their own ways:

> [F]or me I don't feel like you can say those all-encompassing statements. It is like saying that there is only one form of therapy that works for trauma survivors. I've seen a lot of students in a trajectory where their practice evolves over time as their nervous system shifts. For some, stillness can be overwhelming, so they need to start with more movement; for others, movement can be harming depending on their own trauma and their own evolution of practice/physiology.

As this KI suggested, the development of the students' skills over time as well as the development of the student-instructor relationship may facilitate the use of otherwise contraindicated practices.

**5. Additional TIY Considerations for Veterans**

TIY may be a powerful tool to help veteran students heal. However, that tool can only work effectively if instructors engage with students with cultural sensitivity and an empathic connection. KIs recommended that those without prior experience working with veterans could benefit from learning veteran-specific terms (e.g., terms associated with specific service branches) and community resources.

***Gender and Cultural Related Barriers to Practice***

KIs cited many cultural, systemic, and medical considerations in working with veteran populations. Veterans were considered to be more prone to gender-related barriers than the average population that may attend a studio class. For example, KIs considered it a challenge to overcome the image that yoga is for women and therefore emasculating. As one KI noted:

> [The military] is a culture of a male role belief system. Doing yoga is not a part of that belief system. "Yoga is for sissies, yoga is for women, I am not going to do that . . . " Once they do it, their belief system starts to shift.

KIs expressed a preference for classes to be gender-specific because of the high rate of sexual trauma within the military but acknowledged that this was difficult to sustain. As an alternative, KIs recommended the use of gender-neutral and veteran-specific phrasing to help overcome gender and cultural barriers.

***Pushing Through Pain***

KIs emphasized a need for instructors to assume that invisible injuries (e.g., traumatic brain injury, chronic pain) and pain will most likely be present even if not openly acknowledged. One KI explained, "[S]ometimes they report it and sometimes they won't, and most often they won't report it until it has been re-stimulated by yoga. You have to teach with an awareness that you do not know all of their injuries or vulnerabilities." KIs therefore recommended that the instructor actively discuss the importance of tuning into pain rather than pushing through it.

Likewise, KIs spoke about the challenges of veterans learning to adapt to their physical and mental injuries. One clarified that there is "a voice that is constantly there . . . saying that your body is not enough." In TIY, therefore, instructors must once again acknowledge the power their physical presence holds (one of physical prowess and flexibility) because many disabled veterans may be coming to terms with a new physical reality post-deployment.

***Role of Medication***

Knowledge of physical and mental health disorders that co-occur in this population was considered vital in understanding the role of medication. KIs who taught in VA facilities discussed their perception of overmedication of trauma survivors as an obstacle for many students (e.g., falling asleep in class, not attending because of medication-related fatigue):

> The role of medication in the VA is a big problem. It is really out of control. A lot of the students are heavily medicated, and that impacts attention span, ability/interest in physical activity.

Multiple KIs discussed overmedication of their students or sudden changes in dosage as barriers to practice. KIs emphasized the importance of having a basic understanding

of common medications (particularly psychotropic and pain-relieving medications) and their side-effects.

## Discussion

Key informants posed many important considerations for yoga instructors and therapists interested in working with individuals with histories of trauma, including the veteran community working to overcome combat-related trauma. The five themes outlined attempt to reduce barriers to practice and help inform the development of guidelines for yoga instructors and professionals in the trauma field interested in referring to or incorporating TIY techniques. Each theme (Beneficial Practices, Contraindications, Limitations and Considerations for Teaching in Unconventional Settings, Instructor Training and Preparation for TIY Classes, and Additional TIY Considerations for Veterans) also highlights the emergent differences between many commercial yoga practices and therapeutic yoga.

One such difference that distinguishes TIY is the particular focus on interventions (e.g., breathing practices and restorative poses) that facilitate engagement of the PSNS. TIY instructors may benefit from using many different techniques to engage the PSNS so students may better learn how to relate to their bodies in nonthreatening ways. Additionally, it may be helpful for instructors to consider how, without engagement of the PSNS, students might feel threatened when asked to focus on sensations in their bodies. This sensitive exploration of physiological sensations and their meanings is fundamental in confronting how trauma symptoms reside within the body. Therefore, TIY instructors may excel at helping individuals with trauma histories when they help those individuals to explore internal sensations within a context of safety and grounding.

TIY instructors prioritize safety considerations over offering a predetermined sequence or achieving a peak posture. Although specific interventions may vary, TIY instructors may add to their skillset by having multiple strategies for cultivating an external sense of safety (in the practice space, in their own presence, in the tone they set for their classes) in addition to cultivating an internal sense of safety in their students (through interoception and mindfulness). TIY instructors may therefore advocate for keeping classes small, being thoughtful about touch, using modifications, and emphasizing invitational over command language to highlight a sense of safety and choice in their students. Instructors in larger-class contexts are not as able to attend to the individual needs of students, leaving students to model after what they see as opposed to what they feel. This type of context may leave students with trauma experiences vulnerable.

Likewise, overengagement of the SNS is contraindicated for many students of TIY. Many forms of yoga currently exist that emphasize downregulation and grounding (e.g., Yin Yoga, Restorative Yoga, Yoga Nidra), and there are apparent risks in referring new students with trauma histories to practices that use a fast-paced sequencing of poses (e.g., Bikram, Hot Yoga, Power Yoga, Ashtanga, and other more vigorous practices) that could overly engage the SNS. TIY prioritizes the importance of a safe practice where students may be more enabled to have different experiences within group settings. This is distinct from large classes that require a more synchronized practice that may push students to move and breathe at the same pace. For this reason, a specific referral to TIY instructors may help health professionals provide more appropriate support to their patient populations with trauma histories.

Another specific difference between commercial yoga practices and TIY is the incorporation of TIY classes in unconventional settings. For instructors interested in beginning TIY classes, taking initiative within larger organizations that serve individuals with trauma histories (e.g., VA facilities, hospitals, and prisons) may help reduce barriers to practice such as time and cost. However, to begin implementing TIY classes, it is recommended that instructors have a deep understanding of how these systems work. Specifically, networking and gaining methods for collaboration with other health professionals may assist in getting TIY classes to run sustainably and efficiently.

Additional training and education in TIY is recommended to help instructors make informed and ethical decisions when interacting with populations affected by trauma. Many aspects of TIY are complex and may benefit from supervised practice. Specifically, gaining training in attachment styles, power dynamics, methods for rapport building, and methods for self-care may help instructors maintain healthy relationship boundaries and minimize the ways in which they could inadvertently influence TIY students in unhealthful ways. Specialized training in a TIY orientation may help instructors learn a multitude of tools to reinstate a student's sense of autonomy while developing trust within the student-instructor relationship.

For instructors working with veterans, collaboration with veterans in their communities and other health professionals also working with veterans may provide specific techniques to reduce barriers to practice in this population. TIY instructors may benefit from interprofessional collaboration that proactively addresses gender barriers and explores useful veteran-specific terms. Collaboration with health professionals specifically may also provide psychoeducation opportunities for common diagnoses and medications used with this population.

Considering the gender gaps present between yoga practitioner populations and veterans, addressing and normalizing gender-related beliefs are necessary to destigmatize yoga as a treatment option for trauma among veterans. TIY instructors may acknowledge how male veterans can hold beliefs that doing yoga makes them less masculine, or that they may not be good enough because they are not flexible or are unable to complete the postures. Educating veterans on the expectations and goals of TIY (e.g., emphasizing that there is no flexibility prerequisite to practice and some postures will be easier for certain body types but are not gender-specific) may be helpful in reducing barriers to care or attrition.

With regard to pain, veterans have been conditioned to embody strength by pushing through pain. They may even perceive pain as "weakness leaving the body." Therefore, it is important for instructors to repeatedly remind veterans not to push through pain. Although the majority of veterans are believed to suffer from chronic and debilitating lower-back pain, veteran students rarely acknowledge having pain even if a pose appears to be uncomfortable. TIY instructors may thus model how to adapt when a pose could be painful to demonstrate how to take initiative in relieving discomfort.

Findings from this study advocate for yoga instructors to have specialized education in TIY to increase awareness of the differing needs of student populations that may be affected by trauma. Specialized TIY training and guidelines may thus work to reduce barriers to practice in these populations. Additionally, the development of specific TIY recommendations may be helpful for referring health professionals to conceptualize how TIY and other therapeutic yoga practices may be beneficial for specific patients who may otherwise not be interested in, or ill-suited for, a general referral to yoga. Likewise, instructors may benefit from using these guidelines to explain how TIY may be different from other yoga classes in which their clients may have had adverse experiences. However, knowledge of TIY guidelines and training resources could also benefit new yoga instructors, as many may have students with trauma histories even though they do not teach TIY or trauma-specific classes. Therefore, TIY considerations may be useful for many yoga and healthcare professionals interested in improving retention and interest in populations that may otherwise underuse yoga as an adjunct form of treatment.

## Limitations and Future Considerations

The sample for this study was small, predominantly female, and Caucasian. Future research needs to incorporate more diverse views. KIs were asked only about trauma in general and trauma related to veteran populations; specialized protocols (e.g., for sexual trauma) will require additional investigation. Similarly, KIs were not queried about the difference between individual and group TIY. Relationship dynamics may be vastly different in groups versus one-on-one settings.

### *Conflict-of-Interest Statement*

The authors have no financial relationships or conflicts of interest to declare.

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