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Yoga's Impact on Psychological Trauma's Manifestations in the Body: The Mediating Role of
Interoception on Alexithymia, Hyperarousal, and Depressive Symptoms

Abstract

Psychological trauma is frequently conceptualized simply as a disorder of the mind, and as such, many researchers fail to take into account the physical manifestations of trauma when studying treatments. More recent literature examines the use of bodywork practices such as yoga as a complementary treatment for trauma, without considering mechanisms or mediating variables for how it works. The purpose of the present study is to examine the efficacy of using yoga as a treatment for trauma by examining the physical benefits of yoga practice and their impact. Based on findings from past literature, it is reasonable to expect that yoga will improve participants' internal awareness of bodily sensations as well as improve their willingness to experience emotions and sensations, thereby decreasing physical symptoms of psychological trauma.

The present study will examine how yoga affects one's traumatic symptomology levels, using an experimental group (attending a weekly trauma-informed yoga class along with therapy with their already established clinician) and a control group (only attending therapy with their already-established clinician). Researchers will evaluate trauma experiences and symptoms, body awareness, and emotional awareness of both groups through self-reported surveys administered at outset, midpoint, and completion of the intervention. Using these results researchers will assess the effects of yoga on one's symptoms of trauma.

Description of Research

Exposure to physical and psychological trauma can significantly impact the wellbeing of an individual. Research shows that exposure to interpersonal trauma in early childhood can cause post-traumatic stress (PTS) symptoms that persist into adulthood (Jeter and Brannon 2014). Trauma results in disconnection from the body, as evidenced by the symptom clusters that have some physical nature (hyperarousal, avoidance, depressive symptoms). In turn this can lead to an increased expression of negative physical health outcomes (Perez et al. 2012). In a 2018 study, Guina and colleagues detail types of trauma exposure and their related symptomology. This study found that trauma type significantly predicts symptom severity (Guina, Nahhas, Sutton, & Farnsworth 2018). Goldsmith and colleagues highlight the element of betrayal (traumatic events perpetrated by someone whom the victim knows) as an important piece in conceptualizing traumatic experiences. Specifically, they found that individuals who experienced traumatic events with an element of betrayal, as opposed to those without, report more days sick and worse physical health outcomes overall. Previous studies have only examined the physical health outcomes of physical, not psychological, trauma.

Cultivating interoception (body awareness) helps heal trauma by reconnecting a person with their bodily sensations as well as teaching them to recognize ways in which difficult emotions are expressed by the body (LaChiusa 2016). LaChiusa found that yoga practice facilitates interoception. Alexithymia, or a lack of emotional awareness and difficulty describing feelings, may be one mechanism by which psychological symptoms influence physical health outcomes (Goldsmith et al. 2012). Previous studies have not examined interoception or alexithymia as mechanisms by which yoga can help heal

psychological trauma symptoms. The present study will assess how yoga impacts a person's levels of interoception and alexithymia, and in turn how those affect the physical symptoms of psychological—specifically with some betrayal aspect—trauma (hyperarousal and depressive symptoms).

An author-written demographics questionnaire will be administered at baseline of the study. The questionnaire will assess date of birth (to gather age), sex, gender, race, ethnicity, diagnosis if applicable, and employment status (employed full time, part time, unemployed, student). To assess exposure to trauma and level of betrayal of those traumatic experiences, The Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2006) will be administered at baseline for both groups.

A total of four assessments of the variables to be studied (physical symptoms, interoception, and alexithymia) will be administered at baseline, midpoint, and conclusion of the intervention for both groups. The Trauma Symptom Checklist-40 (TSC-40; Elliott & Briere, 1992) will be administered to measure traumatic symptoms throughout the study. This questionnaire measures a range of traumatic stress symptoms, many of which are physical in nature, such as headaches, insomnia, weight loss, stomach problems, and feeling tense. As another way to gain insights to physical symptomology specifically, The Pennebaker Inventory of Limbic Languidness—time bound (PILL-t; Pennebaker, 1982) will be administered. The PILL-t is a 54-item scale that asks respondents to rate how often they have experienced common physical symptoms and sensations over the past month with scores for each item ranging from 0 (almost never) to 5 (almost daily). On top of yielding a PILL Total Score by summing participants' rated numbers corresponding to each of these problems, this assessment also quantifies the number of visits in the past month to doctors or other health care professionals, the number of days respondents were sick in the past month, and the number of days in the past month activity was restricted due to illness. The Toronto Alexithymia Scale-20 (TAS-20, Bagby, Parker, & Taylor, 1994) will be administered to quantify alexithymia. This self-report scale contains 20 items, each rated using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), five of which are negatively keyed. The assessment includes three subscales: difficulty describing feelings, difficulty identifying feeling, and externally-oriented thinking. The Multidimensional Assessment of Interoceptive Awareness (MAIA) is a self-report instrument developed to encompass all of the important concepts of interoception or body awareness (Mehling, Price, Daubenmier, Acree, Bartmess, & Stewart 2012).

Participants will be gathered from local counseling practices. Several facilities will be contacted and asked to participate in order to include a variety of participants from different counselors, services, and with different diagnoses. To be considered for inclusion, participants must be planning to continue their services with their clinician for the length of the study, and present with a certain level of alexithymia (a score of at least 52 on the TAS-20). Exclusion criteria include being under 18 and having any reason (physical, religious, time constraints, or otherwise) for not wanting to participate in a yoga course. After recruitment, participants will be randomly assigned to the treatment and control groups.

The control group will receive treatment as usual: the participants will continue to receive services from their counselor on their normal schedule for the duration of the study. The participants in that group will take the next set of assessments as described above midway through and at completion of the study. The treatment group will continue treatment as usual (receiving regular services from their clinician/provider) as well as attend group trauma-sensitive yoga classes weekly. An instructor experienced in providing integrated, trauma-sensitive yoga experiences will teach the classes. There will be 10 weeks of classes, with one class time offered per week. Assessments will be given at the above-prescribed frequencies. For both groups, all assessments will be administered online to be completed within a certain time window at appropriate points before, during, and after the study.

The online survey will tabulate the data for ease of analysis. Data will be used to assess if the yoga intervention helped participants become more aware of their bodily sensations (interoception) and emotions (alexithymia), and the correlation of those with decrease in negative physical symptoms associated with trauma they have experienced.

Time Period

May 2020 - Applying for IRB Approval and preparing for intervention to be carried out over the summer

June 2020- Recruit participants for study and prepare for testing

July/August 2020- Testing participants; assessments administered and completed; data entry

September/October 2020- Data analysis and writing research paper

November 2020 – Present at Fall Research Symposium

Budget with Justification

| Materials | Description | Amount | Total |
|---------------------------------------|---|--|--------|
| Toronto Alexithymia Scale 20 (TAS-20) | Cost of purchasing use of the TAS-20 is \$40. All assessments will be administered digitally, so the only cost is permission to use this assessment. | \$40 | \$40 |
| Facility Rent | Given that plans are uncertain now due to COVID-19, a facility has not been booked. However, there are several facilities (yoga studios, etc) in the downtown Asheville area that charge anywhere from \$60-\$100 per hour. | \$75/hour for 10 hours (1 hour each week for 10 weeks) | \$750 |
| Student Stipend/Teacher Pay | The student researcher that will be conducting the yoga-based intervention has extensive training and experience in teaching trauma informed yoga. Her credentials included 200 hour | | \$1500 |

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|-----------------------|---|-------------------------------|---------|
| | yoga teacher training, two 30+ hour continuing education trainings on trauma informed yoga, and being a certified yoga therapist in training. | | |
| Participation Drawing | To encourage attendance at intervention yoga classes and completion of assessments for the control group, we would like to have a drawing for a \$100 gift card, with a winner from each group (control and testing group) selected among participants with perfect attendance/completion | 2 Visa gift cards, \$100 each | \$200 |
| | | Total: | \$2,490 |

Resources

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Publication Outlet

Publications: UNC Asheville Journal of Undergraduate Research
Presentations: UNC Asheville Symposium Fall 2020

IRB

IRB was approved before this student received any funding