

Healing Trauma through Yoga: Assessing the effectiveness of an 6-week Trauma-Informed Yoga Therapy intervention on the PTSD symptoms of women survivors of complex sexual exploitation & abuse.

Stefania Herrera Guzman and Sheetal Shah

Abstract

There are an estimated 30,000 potential survivors of human trafficking and sexual exploitation in the Netherlands, illustrating an increasing national crisis, where providing assistance to victims is of great concern. Survivors of such complex trauma will experience detrimental physical, neurobiological, and mental health consequences impeding them from rebuilding their lives. Recent conceptualizations of trauma recovery highlight the requirement for alternative therapies which consider a mind-body connection approach in trauma healing. The present qualitative research study involves two in-depth case studies from survivors of sexual exploitation and abuse through human trafficking and considers how trauma-sensitive yoga (TSY) can reduce symptoms of post-traumatic stress disorder (PTSD) and enhance wellbeing. The TSY program was designed by the primary investigator with the explicit aim to address the mind-body connection in traumatic healing. The program consisted of six sessions of 90 minutes, with thematic structure, trauma-sensitive poses, and anxiety-reduction breathing techniques. Semi-structured interviews were administered in pre-and post-intervention along with field observations during and after yoga session feedback, to assess the reduction of PTSD symptoms and overall impact of the program. Interpretative phenomenological analysis (IPA) was implemented to conceptualize the lived experiences of participants. The narratives were thematically organized regarding the program's impacts on PTSD symptomology and enhancement of traumatic healing, to capture how participants understand the effect of sexual exploitation and abuse on their lives. Research findings are further discussed in case study form, providing an in-depth investigation of the effect of the yoga phenomenon on participants. These outcomes provide important insight and sensitivity for those working with trauma survivors while promoting a more holistic approach for therapeutic treatment for survivors of sexual exploitation and abuse through human trafficking. Implications and future directions are discussed.

Keywords: human trafficking, survivor of sexual exploitation and abuse, post-traumatic stress disorder, trauma-sensitive yoga, Interpretative phenomenological analysis, case study, trauma healing.

Introduction & Literature review

There's been an increased need to find alternative routes for trauma healing, one that considers the importance of mind-body connection. This is particularly true for survivors of sexual abuse and exploitation through human trafficking, a population which endures atrocious conditions, resulting in detrimental consequences to their physical and mental health. The experience of being trafficking is characterized by extreme violence, threats, coercion, lack of freedom, control, and isolationⁱ. As a result, women who have entered the sex industry through human trafficking have been broken down physically, psychologically, emotionally and spiritually, and left in a perpetuating cycle of never ending trauma. Reliable statistics are difficult to obtain, due to the staggering number of unregistered cases. In the Netherlands, there's an estimation of 5,000-7,000 victims unreportedⁱⁱ. However, the most recent report by Dutch National Rapporteur on Trafficking in Human Beings and Sexual Violence against Children, shows that 72 % of the victims are women, with the majority (58%) being trafficking for purposes of sex exploitation. Furthermore, women also comprise 56% of the world's trafficking victims, with 70 % being trafficked into the sex industryⁱⁱⁱ. Awareness of these statistics obliges the recognition of national and worldwide crisis and the critical obligation to aid victims.

It is imperative to consider how complex trauma affects the physical, neurobiological and mental health of survivors. The mental health consequences of trauma survivors are detrimental, the most common effect being post-traumatic stress disorder (PTSD)^{iv}. In previous research, 55% of participants met the criteria for depression, 48% for anxiety, and 77% for PTSD^v. Furthermore, trauma also impacts physical health, with somatization of mental health consequences, as well as possible development of cardiovascular illnesses and immunological functioning^{vi}. Additionally, chronic trauma can also have significant effects on impairments in self-perception, interpersonal relationships, and systems of meaning^{vii}.

Recent evidence suggests that the complexity of symptoms associated with trauma can be in part due to the impact traumatic experiences has on survivors' physiology, brain structure and functioning^{viii}. Trauma affects the functioning of the pre-frontal cortex, amygdala, and hippocampus, abnormal regulation of neurotransmitters, and the endocrine system^{ix}. Due to the detrimental neurobiological effects of trauma, research indicated that when a traumatic memory is activated, it significantly impacts the functioning of speech and language centers^x, which will possibly impact the effectiveness of talk therapy. Therefore, it is crucial to find alternative therapies for trauma healing, which consider the mind-body connection^{xi} and can be implemented through a trauma-informed lens, considering all the needs of survivors and the complexity of their trauma.

Among the various studies on the use of expressive therapies for trauma healing, Yoga, which combines elements of mindfulness and body-based treatments, may be particularly useful as a healing modality^{xii}. Various research suggests that Yoga, when used as an intentional form of intervention, can reduce symptoms of PTSD, including anxiety and depression, in survivors of sexual abuse^{xiii xiv}. However, not all types of yoga may be appropriate for survivors of sexual trauma. Trauma-sensitive yoga (TSY), created by Emmerson and van der Kolk (2011), guides trauma survivors in the process of befriending the body and while easing the mind and triggers. Its theoretical foundation is based on Trauma Theory and practices of Hatha yoga, which combines *asanas* (postures), meditation and breathing techniques. Furthermore, TSY encompasses four key aspects: language, assists, environment and postures^{xv} which instructors must keep in mind when working with survivors of trauma. Although still a young area of

research, evidence has shown that TSY has been effective in reducing PTSD symptoms on women survivors of sexual abuse^{xvixviiixviiiixix}. Nonetheless, little to no evidence has been found on how TSY can aid survivors of sexual exploitation and abuse through human trafficking in their recovery of trauma and effects of PTSD symptomology.

Methodology

The study aimed to assess how effective a 6-week Trauma-sensitive yoga (TSY) program will be in reducing the symptoms of PTSD of women survivors of sexual exploitation and abuse through human trafficking. Collection of data was done through semi-structure in-depth interviews and field observations. Procedure consisted of three phases, were in-depth interviews were administered before and after the TSY intervention to measure conditions of PTSD and psychosocial symptomology. Participants engaged in a 6-week TSY program, once a week for the duration of 90 minutes. The yoga program was designed by the primary investigator, consulting previous research on TSY programs^{xxxxixxi}. Furthermore, the primary investigator, who possesses a 200-hour Yoga Teacher Training in Mindfulness Holistic Ashtanga Yoga, Hatha Yoga, and Yoga Therapy, certified by Yoga Alliance International, was also the yoga instructor for this intervention. A special resources package was given to participants post-treatment, with infographics of the yoga poses, breathing exercises, relaxation techniques, and further resources (safety, psychological). Analysis of data combined Interpretative Phenomenological Analysis and Thematic Analysis, placing this research in a phenomenological-thematic analysis, for it seeks to make sense of the emerged data as it related to the themes adhere to the Contemporary Trauma Theory (CTT) theoretical framework, while respecting the subjectivity of participants' interpretation of the experienced phenomenon.

Results

Baseline Conditions of Participants Demographic Profiles

Participant	Age	Gender	Nationality	Level of education	Legal status	Current living situation	Date of arrival in the Netherlands
Alice	46	Female	Nigeria	Primary school	Undocumented	Unstable (with a friend)	2014
Bina	48	Female	Nigeria	None	Undocumented	Shelter	2001

Psychological and Psychosocial Effects of Trauma & TSY Impact

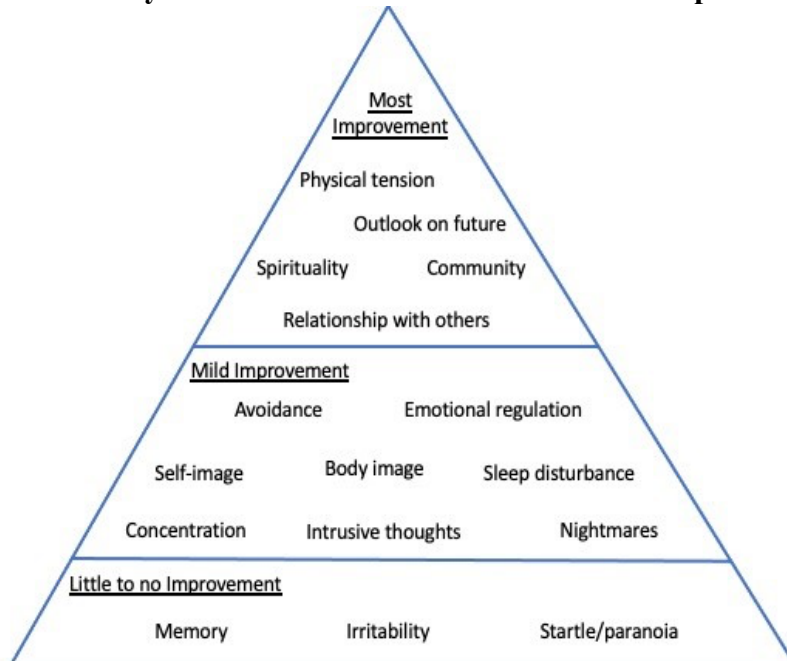


Figure 1: Hierarchical pyramid of Improvement of PTSD and Psychosocial symptoms post-interventions

The primary goal of this research was to assess the impact the TSY program had on symptoms related to PTSD and psychosocial effects of trauma. Findings were contextualized in ranking format to distinctively represent the TSY program’s impact in symptom reduction and management. Due to space limitations, this paper will only expose certain post-intervention quotes from participants, as they pertain to each categorical ranking.

Symptoms in the category of Little to no improvement are Startle/Paranoia (Cluster E: Arousal), and Memory and Irritability (Cluster D: Negative cognition and mood).

PTSD	Post-Intervention
Memory	<i>Bina: “No, it did not help”</i>

	<i>Alice: "Well this made me realize I don't need to think about it too much. I relax and feel good."</i>
Irritability	<i>Bina: "I'm still angry." Alice: "No I don't normally feel really angry. I can calm down now"</i>

In the category of Mild Improvement both symptoms related to PTSD and psychosocial effects were impacted by the TSY program: Intrusive thoughts and Nightmares (Cluster B: Re-experiencing), Cluster C: Avoidance, Emotional regulation (Cluster D: Negative Cognition and Mood), Sleep disturbance (Cluster E: Arousal), Self-image and Body image.

PTSD	Post-Intervention
Emotional regulation (mood swings, numbing)	<i>Alice: "It helped me relax and calm down emotions." Bina: "Not too much, breathing help a bit but I still feel angry and sad"</i>
Intrusive thoughts	<i>Bina: "Not too much" (remained the same) Alice: "It helped me to pull it down, sometimes I still remember but it helped a little bit."</i>
Avoidance	<i>Alice: "yes, very better, I can calm and talk better" Bina: "is good but still difficult"</i>
Self-image & Body Image	<i>Alice: "Yeah, It's up to me. It helped. Because you know, I'm doing it mostly to feel relax, if I feel pain in my chest, I breath and I feel better about myself...I do yoga at home and feel better. I still have pain" Bina: "It helped a bit; I feel the same"</i>

The most improved symptoms were mostly related to psychosocial effects of trauma, Outlook on future, community/relationship with others and spirituality, along with PTSD symptom Physical tension (Cluster E: Arousal).

PTSD	Post-Intervention
Physical Tension	<i>Alice: "Yeah, When I get home, the pain is normally half, I don't have that much pain when I do the yoga." Bina: "It helped a bit."</i>
Outlook on future	<i>Alice: "Yeah the breathing helped me with thoughts of the future. It helped me a lot."</i>

TSY Program Evaluation and Integration of Field Observations

General Experience	Positive experience: <i>“If I do these exercises regularly, I know my pain will go away.”</i>
Breathing exercises	4-7-8 breathing technique: use of anxiety reduction <i>“When I'm in the house in the night and I feel some pain in my chest, Do you know I do that? Because I remember the breathing and I (takes deep breath) I remeber and the pain goes away. I liked it.”</i>
Meditation	Overall: body scan mediation preferable; guided imagery meditation too difficult Alice: <i>“Yeah, when I did it I felt like falling asleep. Sometimes in class I felt like sleeping.”</i> Bina: Positive experience; struggled with concentration
Changes to program	Removal of aromatherapy Program structure: <ul style="list-style-type: none"> • 90 minute session=too challenging • asanas for 30 minutes (instead of 45), meditation for 8 minutes (instead of 10), and elongating beginning stretches and cooling down. Removal of post activities
Continuation of program	Positive: <i>“Yeah, I would like to be doing it again.”</i>

Findings from the interviews and field observation also illustrate the evaluation of the TSY program, in which components of the program were assessed by participants (*asanas*, meditation and breathing techniques), what they would change to the program and whether they would want to participate in a TSY program in the future. These findings allow for the TSY program to be tailored-made for this population, considering their specific needs, in attempts to incorporate a TSY program into their trauma healing.

Discussion

The current study explored the impact a 6-week Trauma-sensitive Yoga (TSY) program had on PTSD symptoms of women survivors of sexual exploitation and abuse through human trafficking. The primary aim of this research was to begin an exploration into how this population experiences a TSY yoga program, as well as adhere to Trauma-informed care principles, which postulate that when working with trauma survivors one must minimize risk of re-traumatization, as well as promote safety, empowerment, and resilience^{xxiii}. The collected data and results generate a significant insight and understanding into how survivors experienced the TSY program. Furthermore, the findings illustrate the effectivity of the program in terms of symptom reduction and management, with emerging themes which emphasize the program’s impact on participants’ psychological and psychosocial symptoms. A thematic map (figure 2) has been assembled in an attempts to highlight how the TSY program became part of participants’ coping mechanisms, which consequently impacts psychological and psychosocial symptoms in efforts to promote trauma healing.

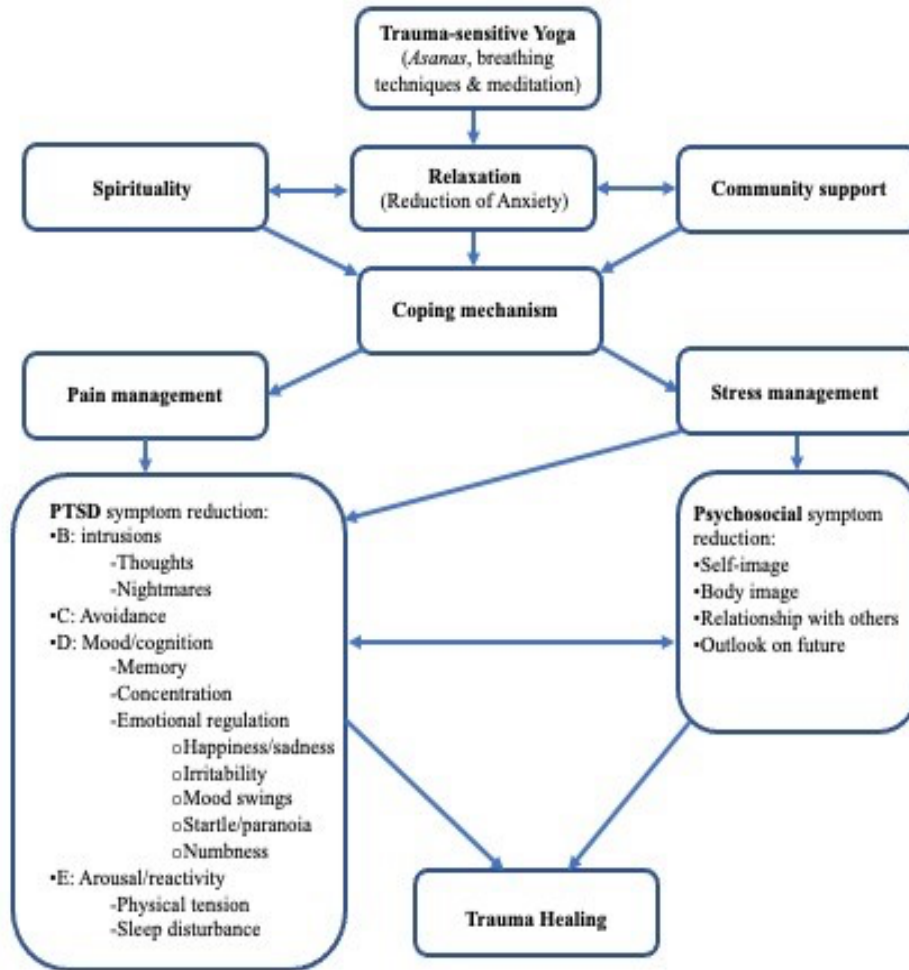


Figure 2: Thematic map Trauma-sensitive Yoga as a coping mechanism

Analysis of the interviews allowed for an exploration of the specific factors from the TSY program which aid symptom reduction and management. The emerged themes and contextualization of the map was done through the lens of CTT, which explores the notion that presenting problems and symptomology are a consequence of maladaptive coping with unresolved traumatic experiences^{xxiv}. Treatment through the lens of CTT emphasizes the need to strengthen individuals' coping mechanism in order to decrease the detrimental effects of trauma. Participants mentioned how a skill provided by TSY program, breathing techniques, promoted relaxation. Implementing relaxation as a coping mechanism seems to have improved participants' pain and stress management,

Alice: "(yoga) helped a lot, the meditation, to breath and relax. Also, to stretch and feel better... When I get home, the pain is normally half, I don't have that much pain when I do the yoga."

Bina: "Still have stress. Breathing helps a bit but still have stress"

Yoga practice has a direct effect on the stress response system (including downregulation of the hypothalamus-pituitary-adrenal axis and the sympathetic nervous system), consequently reducing PTSD symptoms and associated problems from prolonged traumatic exposure^{xxv}.

Furthermore, participant mentioned the impactful role of community support and spirituality within their healing process. The TSY program aided in the strengthening of these coping mechanism, by creating a communal space for practice and support, whilst allowing participants to connect with their spiritual beliefs. Therefore, community support, spirituality and relaxation appear to have become part of participants' coping mechanisms, which has impacted their pain and stress management. For participants, being able to manage pain directly impacted the reduction of PTSD symptoms, specifically symptoms related to physical tension. What is inevitably pivotal, is how coping mechanisms impact stress management, for it appears to have a significant impact on PTSD and psychosocial symptom reduction. Consequently, reduction of symptoms promotes trauma healing^{xxvixxviiixxviiiixxxxx}. This thematic map provides a lens on how a TSY program can be incorporated into the trauma healing of survivors, as it enhances survivors' coping mechanism.

The program evaluation concludes the importance of providing a safe environment for participants, while preventing elements that might cause re-traumatization, such as the removal of aromatherapy. Moreover, it highlights the *asanas* that were not effective and ways to add yoga modification which will provide comfort to participants and promote healing. Additionally, assessing breathing techniques and guided meditations is another crucial finding of this research. Understanding the unique challenges participants experienced with elaborate guided meditations, is a crucial insight as to how implement these practices with this population. All these factors highlight the essential investigation of how to adequately implement a TSY program to survivors of human trafficking, while preserving their safety and appropriately promote trauma healing.

Discussion of findings would not be complete without assessing the challenges experienced by participants which might impede their adherence to the program and their trauma healing. It was reported through the intake interviews that both participants have struggle with meeting basic needs such a shelter and legal documentations. Theories such as No psychotherapy on an empty stomach^{xxxi} and Maslow's hierarchy of needs (1943), postulate that survivors' basic needs must be in order to adequately implement psychological treatment. Therefore, it is crucial for survivor's basic needs to be cared to before progressing into treatment. Failure to do so might potentially impact any adherence to a psychological intervention. Similarly, previous research done on the mental health implications of undocumented people, demonstrates a unanimous acknowledgement that an illegal status had a great influence on their mental health problems^{xxxii} including the development of PTSD, anxiety, depression and substance use. This illustrates the detrimental effects legal status has on participants, and without addressing such effects, trauma healing cannot be complete.

Limitations and Future Recommendations

There were some significant limitations and future implications to consider from this study. The biggest challenge faced throughout this study were the implications from the COVID-19 lockdown in the Netherlands. This societal circumstance affected the recruitment of participants, the consistency of participation and duration of the program. Given the circumstances that the study only had two consistent participants and the start of the program had to be delayed, there were some significant changes from the original proposed study. The research originally proposed a mix-method approach with a program duration of 8-week and a two week follow up. This had to be modified to a qualitative approach and a reduction to the program of 6 weeks. Moreover, it is crucial to note that conducting more extensive research in this area was beyond the scope of a master's level. Nonetheless, this research had the potential to be expanded into higher-level research (such as a doctoral program) which can account for investigating and implementing all the needs of this population. The primary investigator proposes research that will include a mixed-method approach, which can quantifiably assess the reduction of PTSD symptoms and explore the narrative of the program's impact on participants' well-being. Furthermore, this research should account for psychological comorbidities as they inevitably impact participants' adherence to treatment and their healing process. It would also be beneficial to implement a program that is culturally embedded and gender inclusive. This would allow for the program to be more accessible to distinct populations which are affected by the detrimental consequences of human trafficking. Lastly, a crucial component of implementing a TSY program will be to extend its duration, in order to truly assess its effectiveness and impact on survivors. Similarly, conducting a post-program follow-up could allow for the assessment of the long-term effects of having participated in a TSY program.

Future Implications

Nevertheless, exploring the impact a TSY program has on symptoms reduction and management, of the detrimental effects complex trauma has on survivors of human trafficking, has demonstrated potentiality. TSY can be a cost-effective and promising therapeutic approach to healing trauma. Given the current sociopolitical instability in Europe, implementing a program which aids marginalized communities to improve their mental health and overall wellbeing is of pivotal concern. Therefore, there's a futuristic value of a TSY intervention for a special target group that continuously marginalized. Findings from this research illustrate how a TSY program can have a positive impact on symptom reduction and management, and provide a framework which considers a more holistic approach to treatment for complex trauma.

Conclusion

The present study realized its expected benefit to contribute to the exploration of complex trauma treatment, through a trauma-sensitive yoga approach, for survivors of sexual exploitation and abuse through human trafficking. This research corroborates previous findings on the effectiveness of TSY as an approach to trauma healing for marginalized communities. Nonetheless, the vital condition of this research was to ascertain how a TSY approach would impact survivors of human trafficking. Findings highlight how the TSY program impacted the reduction and management of PTSD symptoms and psychosocial effects of trauma in its distinct

degrees. The TSY program accomplished a significant improvement in PTSD symptoms of physical tension as well as psychosocial symptoms dealing with the outlook on the future, community/relationship with others, and spirituality. Using CTT as this research's theoretical framework grants the development of a thematic map that contributes to a further understanding of how the TSY impacted symptomology. The TSY, through the particular *asanas*, breathing techniques, and meditation, evolved into a coping mechanism for participants to manage their pain and stress. Consequently, this impacted symptomology affliction and promotes trauma healing. Furthermore, a pivotal finding of this research is the evaluation of TSY for this population. It is crucial to assess how participants felt with the TSY program, which *asanas* were effective, the additional yoga modalities, breathing techniques, and guided meditations. Participants' feedback along with field observations guided the changes and restructuring of the program in order to effectively integrate it into the participants' healing process. Certainly, the present study merely commences an examination in an area that is of critical concern in the Netherlands and worldwide. Further exploration is required to truly understand how to modify a TSY program into the therapeutic repertoire for survivors of sexual exploitation and abuse through human trafficking.

Notes

ⁱ Cathy Zimmerman et al., "Stolen Smiles: A Summary Report on the Physical and Psychological Health Consequences of Women and Adolescents Trafficked in Europe.," 2006.

ⁱⁱ Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen, "Slachtoffermonitor Mensenhandel 2013-2017." (Den Haag: Nationaal Rapporteur., 2018).

ⁱⁱⁱ Heather Clawson et al., "Human Trafficking into and within the United States: A Review of the Literature" (U.S. Department of Health and Human Services. Office of the Assistant Secretary for Planning and Evaluation., 2009), <http://aspe.hhs.gov/hsp/07/humantrafficking/litrev/#barriers> .

^{iv} Rachel Kimerling et al., "Gender Issues in PTSD," *Handbook of PTSD: Science and Practice*, 2014, pp. 313-330.

^v Mazedra Hossain et al., "The Relationship of Trauma to Mental Disorders among Trafficked and Sexually Exploited Girls and Women," *American Journal of Public Health* 100, no. 12 (2010): pp. 2442-2449, <https://doi.org/10.2105/ajph.2009.173229>.

^{vi} Wendy D'Andrea et al., "Physical Health Problems after Single Trauma Exposure," *Journal of the American Psychiatric Nurses Association* 17, no. 6 (2011): pp. 378-392, <https://doi.org/10.1177/1078390311425187>.

^{vii} Lawrence G Calhoun and Richard G Tedeschi, *Handbook of Posttraumatic Growth: Research & Practice* (Mahwah, NJ: Lawrence Erlbaum Associates Publishers. , 2006).

^{viii} Jennifer Inge West, "Moving to Heal," *Boston College*, 2011, <https://doi.org/http://hdl.handle.net/2345/2460>.

^{ix} Jonathan E. Sherin and Charles B. Nemeroff, "Post-Traumatic Stress Disorder: The Neurobiological Impact of Psychological Trauma," *Dialogues in Clinical Neuroscience* 13, no. 3 (2011): pp. 263-278, <https://doi.org/10.31887/dcns.2011.13.2/jsherin>.

^x B A Van der Kolk, *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma* (New York, NY: Viking Press, 2014).

-
- ^{xi} Scott Giacomucci and Amy Stone, "Being in Two Places at Once: Renegotiating Traumatic Experience through the Surplus Reality of Psychodrama," *Social Work with Groups* 42, no. 3 (2018): pp. 184-196, <https://doi.org/10.1080/01609513.2018.1533913>.
- ^{xii} Alison M. Rhodes, "Yoga for Traumatic Stress: A Three Paper Dissertation" (Boston College, 2014), <https://doi.org/http://hdl.handle.net/2345/bc-ir:104088>.
- ^{xiii} Mark Lilly and Jaime Hedlund, "Healing Childhood Sexual Abuse with Yoga," *International Journal of Yoga Therapy* 20, no. 1 (2010): pp. 120-130, <https://doi.org/10.17761/ijyt.20.1.87617587116h0h63>.
- ^{xiv} David Emerson et al., "Trauma-Sensitive Yoga: Principles, Practice, and Research," *International Journal of Yoga Therapy* 19, no. 1 (2009): pp. 123-128, <https://doi.org/10.17761/ijyt.19.1.h6476p8084l22160>.
- ^{xv} D Emerson and Hopper E, *Overcoming Trauma through Yoga: Reclaiming Your Body* (Berkeley: North Atlantic Books, 2011).
- ^{xvi} West, "Moving to Heal," 2011.
- ^{xvii} Abbie Shepard Fields, "The Impact of Therapeutic Yoga on Adult Female Survivors of Child Sex Abuse in Nicaragua: Exploring the Mind-Body Relationship in a Culturally Embedded Healing Process," March 2019.
- ^{xviii} Julia Hutchinson, "Yoga As Therapeutic Intervention with Survivors of Sexual Abuse: A Systematic Review," 2015.
- ^{xix} Viann N. Nguyen-Feng et al., "Moderators of Treatment Efficacy in a Randomized Controlled Trial of Trauma-Sensitive Yoga as an Adjunctive Treatment for Posttraumatic Stress Disorder.," *Psychological Trauma: Theory, Research, Practice, and Policy* 12, no. 8 (2020): pp. 836-846, <https://doi.org/10.1037/tra0000963>.
- ^{xx} Emerson et al., "Trauma-Sensitive Yoga: Principles, Practice, and Research," 123-128.
- ^{xxi} Lilly and Hedlund, "Healing Childhood Sexual Abuse with Yoga," 120-130.
- ^{xxii} Nguyen-Feng et al., "Moderators of Treatment Efficacy in a Randomized Controlled Trial of Trauma-Sensitive Yoga as an Adjunctive Treatment for Posttraumatic Stress Disorder.," 836-846.
- ^{xxiii} Jennifer Kung, "Sex Trafficking: an Exploration of Clinician Perspectives of the Type and Efficacy of Treatment Interventions," *Masters Thesis, Smith College, Northampton, MA.*, 2014.
- ^{xxiv} Jill Levenson, "Incorporating Trauma-Informed Care into Evidence-Based Sex Offender Treatment," *Journal of Sexual Aggression* 20, no. 1 (February 2014): pp. 9-22, <https://doi.org/10.1080/13552600.2013.861523>.
- ^{xxv} Alison Rhodes, Joseph Spinazzola, and Bessel van der Kolk, "Yoga for Adult Women with Chronic PTSD: A Long-Term Follow-up Study," *The Journal of Alternative and Complementary Medicine* 22, no. 3 (2016): pp. 189-196, <https://doi.org/10.1089/acm.2014.0407>.
- ^{xxvi} Shepard Fields, "The Impact of Therapeutic Yoga on Adult Female Survivors of Child Sex Abuse in Nicaragua: Exploring the Mind-Body Relationship in a Culturally Embedded Healing Process," 2019.
- ^{xxvii} Rhodes, "Yoga for Traumatic Stress: A Three Paper Dissertation," 2014.
- ^{xxviii} Van der Kolk, "The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma," 2014.
- ^{xxix} West, "Moving to Heal" 2019.
- ^{xxx} Nguyen-Feng et al., "Moderators of Treatment Efficacy in a Randomized Controlled Trial of Trauma-Sensitive Yoga as an Adjunctive Treatment for Posttraumatic Stress Disorder.," 836-846.

^{xxxii} Becca C. Johnson, “Aftercare for Survivors of Human Trafficking.,” *Social Work & Christianity, Journal of the North American Association of Christians in Social Work* 39, no. 4 (2012): pp. 370-389.

^{xxxiii} Zahra Khazai, “Mental Health Needs of Undocumented Migrants ,” *Athena Institute* , July 2019.

Bibliography

- Calhoun, Lawrence G, and Richard G Tedeschi. *Handbook of Posttraumatic Growth: Research & Practice*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers. , 2006.
- Clawson, Heather, Nicole Dutch, Amy Solomon, and Lisa Grace. “Human Trafficking into and within the United States: A Review of the Literature.” U.S. Department of Health and Human Services. Office of the Assistant Secretary for Planning and Evaluation., 2009.
<http://aspe.hhs.gov/hsp/07/humantrafficking/litrev/#barriers> .
- D’Andrea, Wendy, Ritu Sharma, Amanda D. Zelechoski, and Joseph Spinazzola. “Physical Health Problems after Single Trauma Exposure.” *Journal of the American Psychiatric Nurses Association* 17, no. 6 (2011): 378–92. <https://doi.org/10.1177/1078390311425187>.
- Emerson, David, and Hopper Elizabeth. *Overcoming Trauma through Yoga: Reclaiming Your Body*. Berkeley: North Atlantic Books, 2011.
- Emerson, David, Ritu Sharma, Serena Chaudhry, and Jenn Turner. “Trauma-Sensitive Yoga: Principles, Practice, and Research.” *International Journal of Yoga Therapy* 19, no. 1 (2009): 123–28. <https://doi.org/10.17761/ijyt.19.1.h6476p8084l22160>.
- Giacomucci, Scott, and Amy Stone. “Being in Two Places at Once: Renegotiating Traumatic Experience through the Surplus Reality of Psychodrama.” *Social Work with Groups* 42, no. 3 (2018): 184–96. <https://doi.org/10.1080/01609513.2018.1533913>.
- Hodge, D. R. “Assisting Victims of Human Trafficking: Strategies to Facilitate Identification, Exit from Trafficking, and the Restoration of Wellness.” *Social Work* 59, no. 2 (2014): 111–18. <https://doi.org/10.1093/sw/swu002>.
- Hossain, Mazedra, Cathy Zimmerman, Melanie Abas, Miriam Light, and Charlotte Watts. “The Relationship of Trauma to Mental Disorders among Trafficked and Sexually Exploited Girls and Women.” *American Journal of Public Health* 100, no. 12 (2010): 2442–49. <https://doi.org/10.2105/ajph.2009.173229>.
- Hutchinson, Julia C.. “Yoga As Therapeutic Intervention with Survivors of Sexual Abuse: A Systematic Review.” (2015).
- Johnson, Becca C. “Aftercare for Survivors of Human Trafficking.” *Social Work & Christianity, Journal of the North American association of Christians in social work* 39, no. 4 (2012): 370–89.
- Khazai, Zahra. “Mental Health Needs of Undocumented Migrants .” *Athena Institute* , July 2019.
- Kimerling, Rachel, Julie C Weitlauf, Katherine M Iverson, Julie A Karpenko, and Shaili Jain. “Gender Issues in PTSD.” *Handbook of PTSD: Science and practice*, 2014, 313–30.
- Kung, Jennifer. “Sex Trafficking: an Exploration of Clinician Perspectives of the Type and Efficacy of Treatment Interventions.” *Masters Thesis, Smith College, Northampton, MA.*, 2014.
- Levenson, Jill. “Incorporating Trauma-Informed Care into Evidence-Based Sex Offender Treatment.” *Journal of Sexual Aggression* 20, no. 1 (2014): 9–22. <https://doi.org/10.1080/13552600.2013.861523>.

-
- Lilly, Mark, and Jaime Hedlund. "Healing Childhood Sexual Abuse with Yoga." *International Journal of Yoga Therapy* 20, no. 1 (2010): 120–30. <https://doi.org/10.17761/ijyt.20.1.87617587116h0h63>.
- Maslow, A. H. "A Theory of Human Motivation." *Psychological Review* 50, no. 4 (1943): 370–96. <https://doi.org/10.1037/h0054346>.
- Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen. Rep. *Slachtoffermonitor Mensenhandel 2013-2017*. . Den Haag: Nationaal Rapporteur., 2018.
- Nguyen-Feng, Viann N., Hilary Hodgdon, David Emerson, Rowan Silverberg, and Cari Jo Clark. "Moderators of Treatment Efficacy in a Randomized Controlled Trial of Trauma-Sensitive Yoga as an Adjunctive Treatment for Posttraumatic Stress Disorder." *Psychological Trauma: Theory, Research, Practice, and Policy* 12, no. 8 (2020): 836–46. <https://doi.org/10.1037/tra0000963>.
- Rhodes, Alison M. "Yoga for Traumatic Stress: A Three Paper Dissertation." Boston College, 2014. <https://doi.org/http://hdl.handle.net/2345/bc-ir:104088>.
- Rhodes, Alison, Joseph Spinazzola, and Bessel van der Kolk. "Yoga for Adult Women with Chronic PTSD: A Long-Term Follow-up Study." *The Journal of Alternative and Complementary Medicine* 22, no. 3 (2016): 189–96. <https://doi.org/10.1089/acm.2014.0407>.
- Shepard Fields, Abbie. "The Impact of Therapeutic Yoga on Adult Female Survivors of Child Sex Abuse in Nicaragua: Exploring the Mind-Body Relationship in a Culturally Embedded Healing Process," March 2019.
- Sherin, Jonathan E., and Charles B. Nemeroff. "Post-Traumatic Stress Disorder: The Neurobiological Impact of Psychological Trauma." *Dialogues in Clinical Neuroscience* 13, no. 3 (2011): 263–78. <https://doi.org/10.31887/dcns.2011.13.2/jsherin>.
- Van der Kolk, Bassel. *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma*. New York, NY: Viking Press, 2014.
- West, Jennifer Inge. "Moving to Heal." *Boston College*, 2011.[Doctoral Thesis] <https://doi.org/http://hdl.handle.net/2345/2460>.
- Zimmerman, Cathy, Mazedra Hossain, Kate Yun, Brenda Roche, Linda Morison, and Charlotte Watts. "Stolen Smiles: A Summary Report on the Physical and Psychological Health Consequences of Women and Adolescents Trafficked in Europe.," 2006.

Biography

Stefania Herrera Guzman is a clinical and counseling psychologist with a private practice based in The Netherlands. She currently works with TheBridge2Hope Foundation as their Marketing and Communications Manager and implementing special trauma-informed interventions for participants. For more information about her work contact:

Stefania.herreraguzman@gmail.com

Note: This chapter is a summarized version of the Master Thesis for Webster Leiden campus-Webster University USA.

Dr. Sheetal Shah is the Academic Director at Webster Leiden Campus-Webster University USA. As an educator and change maker- she is a psychologist with a global orientation. She specializes in the field of counseling for chronic illnesses and trauma; her research interests are focused in the field of modern-day slavery and human trafficking. In 2012 she founded The Bijlmer Project, a research project investigating the needs of victims of human trafficking and

now volunteers with the intervention phase of the project called the Bridge2Hope. The Bridge2Hope is a research and intervention project (www.thebridge2hope.org) that addresses the psychosocial and vocational needs of sexually trafficked women and men in the European Union.



Image 1. This picture displays one of the yoga lessons at the community center Bontekraai in Amsterdam Southeast.