



How effective is Polyvagal Theory on the long-term reduction of PTSD symptoms in adolescents?



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ABSTRACT

This longitudinal study is focused on using the Polyvagal theory and identifying its efficiency in reducing PTSD symptoms in adolescents between the ages of 13-18. Launching into early adulthood with a dysregulated nervous system presents challenges for the client both physiologically and psychologically. While talk-therapy is effective in helping a client psychologically process the trauma, it often does not address the clients physiological state of the stored trauma. Without intervention to the clients physiological system, symptoms of the PTSD can persist and increase risk for psychological and physical comorbidities as well as increase the likelihood of intergenerational trauma within relational and family systems. In this study we seek to address the clients physiological stored trauma using the Polyvagal Theory. We seek to measure how effective polyvagal theory is in re-patterning a clients dysregulated nervous system long-term. We also seek to identify how efficient polyvagal theory is in reducing PTSD symptoms in adolescent clients.

INTRODUCTION

- According to the National Institute of Mental Health, based on diagnostic interview data from National Comorbidity Survey Adolescent Supplement, the lifetime prevalence of PTSD among U.S. adolescents aged 13-18.4, an estimated 5.0% of adolescents had PTSD, and an estimated 1.5% had severe impairment.
- Patients with PTSD experience abnormal oscillations in autonomic states supporting either fight and flight behaviors or withdrawal, immobilization, and dissociation without an intervening "calm" state that would provide opportunities for positive social interactions (Williamson et.al. 2015).
- Fundamentally clients come to treatment suffering from a compromised ability to regulate their autonomic responses (Dana, 2020).
- The autonomic nervous system shapes the way you experience your life, beliefs, behaviors and body responses are embedded in the autonomic hierarchy. Physiology and psychology are interconnected. State and story work together in a persistent and, if not interrupted, enduring loop (Dana, 2020).
- The perpetuation of these maladaptive autonomic responses may contribute to the development of comorbid mental health issues such as depression, loneliness, and hostility that further modify the nature of cardiovascular behavior in the context of internal and external stressors (Williamson et. al. 2015). Without somatic intervention to the autonomic nervous system, the prevalence for comorbidities to develop increase, leading to lower quality of life, relationships and physical and psychological wellbeing.

PRIMARY AIM AND HYPOTHESES

- ❑ RQ1: Will the adolescent participants PTSD symptoms decrease if the clients autonomic nervous system states are targeted and treated with Polyvagal Theory?
- ❑ RQ2: Will the adolescent participants being treated with Polyvagal Theory maintain reduced and less-frequent autonomic dysregulation long term compared to their initial baseline symptom presentation.
- ❑ H1: Adolescents without Polyvagal interventions are more likely to maintain baseline intensity and frequency of physical symptoms of PTSD post treatment.
- ❑ H2: Clients with PTSD diagnosis treated with Polyvagal Theory will experience a reduction of their PTSD symptoms and no longer meet criteria for PTSD.

METHODS

Participants

- ❑ This study will include 100 adolescents ages 13-18. The participants will participate in follow up reporting over a period of 5 years. Participants will be recruited throughout various community mental health agencies and adolescents will be screened to identify if they meet DSM-5 criteria for PTSD. 50 of the participants will receive non-Polyvagal theory-somatic focused treatment. 50 participants will receive Polyvagal theory emphasized focused treatment.

Procedures

- ❑ Experiment group will receive 52 weeks (~1 year) of weekly, individual therapy with a Polyvagal Theory emphasis focusing on somatic and physiological interventions. Control group will receive 52-weeks (~year) of weekly, individual therapy with a non Polyvagal Theory treatment emphasis.
- ❑ Following their year-long therapy, participants will engage in an annual post-therapy reporting over a 5 year period identifying frequency, intensity and overall experience of PTSD symptoms.

MEASURES

PTSD Coping Skills Management

- ❑ Over a 5-year period participants coping skills and symptom management will be measured using the Level of Trauma Coping Self Efficacy (CSE-T, TSES) tool
- ❑ The Trauma Coping Self-Efficacy Scale (CSE-T; Benight et al., 2015) assesses coping self-efficacy (CSE) within a traumatic stress context, a key self-evaluative variable referring to the perceived capability for managing the internal and external posttraumatic recovery demands (Benight & Bandura, 2004)
- ❑ For each of the 9 items (e.g., "Get my life back to normal," "Not be critical of myself about what happened," "Get help from others about what happened"), participants are asked to rate their capability to handle the posttraumatic demand on a 7-point Likert-type scale.

Self-regulation interventions

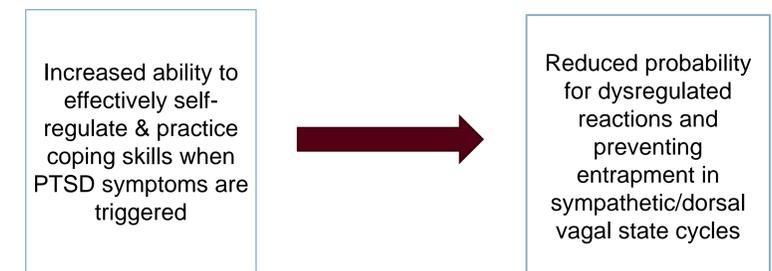
- ❑ Use Regulation of Emotion Systems Survey (RESS) to measure ability to self-regulate using PVT interventions
- ❑ The purpose of this self-reported survey is to assess the range of emotion regulation strategies an individual employs and the degree to which they rely on them when confronted with negative emotions.

Long-term Symptom Decrease

- ❑ Over a 5- year period participants will utilize a self-reporting inventory/questionnaire, The Trauma Recovery Measure (Smith-Marek et al., 2018) to measure participants' attitudes toward their trauma recovery process, as well as their perceptions of their current stage of recovery. Participants will receive a hard and digital copy of this inventory every year to self-report their recovery experience.

RESULTS

- ❑ Using the CSE-T, TSES tool we will capture information about participants capacity to cope within a traumatic stress context post. Measuring the efficiency of the PVT techniques and interventions. We anticipate that participants will be able to cope with the traumatic stress using PVT techniques, awareness and attunement.
- ❑ Using the RESS survey, participants will demonstrate their ability to self-regulate over a 5-year period of time. Demonstrating healthy patterns of physiological regulation, reducing probability of an increased risk for physical and psychological comorbidities.
- ❑ The Trauma Recovery Measure is a self-reporting tool that participants will measure their perceptions of recovery,. We anticipate that participants will be able to demonstrate improvement in their trauma recovery.



Discussion

Social Implications

- ❑ PTSD may be understood as a deficit in autonomic adaptation that is often expressed as an incongruity between physiological state and environmental demands (Williamson et al., 2013)
- ❑ In a study observing the application of PVT in treating veterans of war with PTSD, they propose that PTSD is associated with a pathological resetting of the autonomic nervous system that is manifest as an autonomic disposition to optimize defense reactions to danger and life threat (Williamson et al., 2018).

Clinical Implications

- ❑ Remaining with a defensive autonomic disposition may support either mobilization (i.e., lower respiratory sinus arrhythmia, increased blood pressure, heightened cardiovascular reactivity to perceived-threat stimuli, and elongated recovery to baseline) or immobilization (i.e., blunted cardiovascular responses to emotional stimuli and a generalized profile of avoidance and apathy), or a fluctuation between these defensive strategies. These chronic defense responses appear to be related to deterioration in health as characterized by early morbidity and mortality, most commonly via cardiovascular disease. Further, a cascade of psychological and physiological responses influences these health outcomes such that poorer quality social interactions contribute to the deterioration of social support networks. This compounds the situation, functioning as a negative feedback loop, aggravating the chronic stress response and further impairing the ability of the person to recover (Williamson et al., 2018)

Future Research

- ❑ Interventions that focus on supporting physiological states, thus providing a neural platform for spontaneous social engagement behaviors by optimizing autonomic regulation and functionally dampening defensive mobilization and immobilization strategies, should have the highest impact. As is the case with interventions focused on improving health trajectories with aging, the earlier the treatment, the greater the eventual effect is likely to be. Assessing which defensive strategy is dominant may be key to the selection of effective interventions (Williamson et al., 2018)
- ❑ We hope that the mental health field will emphasize psycho-somatic interventions in treating PTSD as a primary intervention before applying talk-therapy theories. Polyvagal theory is an example of a somatic intervention that addresses the core of PTSD and can alleviate the challenges and health risks associated with living in a constant fight-flight/dorsal vagal shut down dysregulatory state.