

**Restoring the Body's Rhythm:
Polyvagal Theory and the Healing Potential of Yoga for Trauma**

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This project would not have been without all that I have embodied to lead me here, both in joy and pain, yet always in growth and gratitude

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Abstract

Trauma is increasingly understood as embodied and neurophysiological in nature, characterized by impaired autonomic and emotional regulation, a reduced sense of safety and connection, and physiological and body-based impairments. This capstone examines the integration of polyvagal theory (PVT) and yoga as frameworks for understanding and supporting embodied trauma healing. This project is guided by two questions: How does PVT deepen therapeutic understandings of yoga as an embodied intervention for trauma healing? And how might an integrative framework support autonomic regulation, a sense of safety, and embodied healing in trauma affected individuals? Through critical review and synthesis of relevant literature, this capstone suggests that both PVT and yoga are strong frameworks for understanding and supporting trauma recovery from both a neurophysiological and embodied lens. There is a significant convergence between PVT and yoga; both frameworks share a trauma-informed emphasis on regulation, safety, and embodied awareness. While yoga literature describes the healing capabilities of experiential body-based practices, it lacks articulation of neurophysiological mechanisms. PVT provides a framework for understanding the neurophysiology of trauma and offers an interpretive lens for embodied trauma healing, yet this theory only very recently encompassed applied interventions. Building on these understandings, this capstone presents a restorative, polyvagal and trauma informed yoga practice as an applied contribution. This integrative approach positions yoga within an applicable neurophysiological framework that grounds its therapeutic potential and clinical relevance in trauma recovery.

Keywords: Polyvagal theory, trauma, trauma-informed yoga, and embodied healing

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Chapter 1: Overview of the Topic

Across the counselling psychology field there is a growing understanding that trauma is not only a psychological experience, but a fundamentally embodied one. To position this project, it is important to begin with the recognition that trauma affects the body and mind, shaping the lived experiences of survivors at physiological, emotional, and relational levels. In recent years, recognition has been growing that trauma is not only held as memory and thought, but is also deeply held within the body and the nervous system (Bennet & Starnino, 2022; Cook-Cottone et al., 2017; Haeyen, 2024; Macy et al., 2018; Ong-Gaffney et al., 2023; Rhodes, 2015; Van der Kolk et al., 2014; West et al., 2017). For many trauma survivors, these physiological imprints become the background of their lived experiences, shaping how they sense themselves and the world.

Trauma survivors often live with a dysregulated nervous system that impacts their ability to feel safe, to connect with others, and to access emotional resilience (Cook Cottone et al., 2017; Haeyen, 2024; Ong-Gaffney et al., 2023; Porges, 2025; Rhodes, 2015; Van der Kolk et al., 2014). These insights suggest that embodied trauma requires embodied therapeutic healing. While there is an increased understanding of embodied trauma, talk-therapy approaches have not always met the need. This gap highlights the potential for therapeutic models and interventions such as polyvagal theory (PVT) and yoga to intentionally engage the body and support the nervous system to reclaim safety, regulation, and connection.

Traditional talk therapies have been the dominant modality in many clinical approaches. While these top-down interventions may provide valuable insight, they may also fall short in

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terms of addressing the embodied symptoms of trauma (Cook-Cottone et al., 2017; Loizzo, 2018; Sullivan et al., 2018; West et al., 2017). Research consistently shows that traumatic stress alters interoception, autonomic functioning, and bodily awareness in ways that require more than verbal processing to repair (Cook-Cottone et al., 2017; Fugate et al., 2024; Haeyen, 2024; Ong-Gaffney et al., 2023; Price & Hooven, 2018; Rhodes, 2015; Sullivan et al., 2018; Van der Kolk et al., 2014). While talk therapy provides a valuable foundation, these approaches may be insufficient on their own to address the embodied imprints of trauma. What is needed are therapeutic approaches that engage the mind and body, and that explicitly support the restoration of embodied safety, providing nervous system support and enhancing interoceptive awareness.

Awareness of somatic or body-oriented therapies has grown in recent years, with yoga emerging as an accessible therapeutic practice that supports nervous system regulation, mind-body awareness, and reconnection to the body. Despite its growing use in clinical settings, yoga is still not often regarded as a therapeutically grounded intervention, creating a gap in understanding why and how yoga is effective for trauma healing. The literature highlights this limitation, noting that yoga-based interventions lack theoretical grounding or rationale (Cook-Cottone et al., 2017; Ong-Gaffney et al., 2023), creating uncertainty about how to apply them in the context of trauma treatment. This raises an important need: if yoga is being used to support trauma survivors, it requires a connection to a theoretical foundation that helps to explain its mechanisms of action and that guides safe and effective application.

PVT offers a language and neurophysiological map that explains why body-based practices can be so valuable in trauma healing. PVT maintains an important mind-body link and explains how the autonomic nervous system (ANS) cycles through states of connection (*ventral vagal*), mobilization or fight or flight (*sympathetic*), and shutdown (*dorsal vagal*), while

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scanning for cues of safety and danger (Haeyen, 2024; Porges, 2025). Many trauma related issues such as chronic hyperarousal, emotional numbing, and difficulties connecting to others, can be understood as the body's adaptation into anchored autonomic patterns rooted in trauma (Ong-Gaffney et al., 2023; Porges, 2025; Van der Kolk et al., 2014). Polyvagal theory not only reinforces the value of embodied healing but also responds to the pressing need for theoretically grounded and trauma informed models that guide the safe and effective use of embodied practices like yoga.

This capstone recognizes trauma's neurophysiological and embodied impacts and examines the intersection of PVT and yoga with a goal of contributing to a deeper therapeutic understanding of how this integrative approach can support trauma healing. There remains a notable gap in models that integrate neuroscience, embodiment, and mind-body therapeutic practices. PVT offers a coherent map for physiological regulation while yoga provides valuable and experiential pathways for reconnecting with the body. This capstone sits at the intersection of these two approaches, addressing the need for theoretically grounded, embodied, and trauma informed practices that support trauma survivors in reclaiming a felt sense of safety, nervous system regulation, and embodiment.

Purpose Statement

This capstone explores how PVT contributes to a deeper understanding of yoga practice as a therapeutic tool in embodied trauma healing. The primary goal of is to examine how yoga practices, when informed by PVT's neurophysiological model, can support autonomic regulation, a felt sense of safety, and embodied healing in individuals experiencing the effects of trauma. By illuminating the body's role in trauma healing, this work aims to deepen therapeutic understanding of embodied approaches within the field of counselling psychology. PVT is rooted

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in the neurobiology of safety and connection and explains how traumatic stress disrupts autonomic balance, limiting a person's ability to access regulated states (the ventral vagal state) necessary for healing (Porges, 2025). Yoga practices that emphasize interoceptive awareness, breath, and mindful movement, may facilitate nervous system regulation as well as reconnection to the body, internal cues, and a felt sense of safety.

This research is guided by two central questions: How might the application of polyvagal theory (PVT) contribute to a deeper therapeutic understanding of yoga as an embodied intervention for trauma healing? And, in what ways do yoga practices, informed by polyvagal theory, support a felt sense of safety, autonomic nervous system regulation, and embodied healing in trauma affected individuals? These questions integrate current neuroscience with long-lived, embodied practices, highlighting how bottom-up embodied approaches can complement or work in tandem with top-down psychological treatments. Through this merging of yoga and PVT, this work articulates how yoga can be effective for trauma healing at a physiological level.

This research was chosen due to both my professional interest and direction and my personal alignment with holistic, mind-body approaches to healing. As an upcoming counselling professional and long-time yoga practitioner, I am naturally guided toward the question of how practitioners can better understand the therapeutic mechanisms through which embodied interventions like yoga may support healing. Further, my background in trauma-informed yoga and Hakomi therapy has deepened my appreciation for integrative modalities that engage the mind, body, and nervous system. Through PVT, I found a suggested framework for the use of yoga-based interventions like interoceptive awareness, intentional breath, and mindful movement practices to restore autonomic functioning. In choosing this topic, I also recognize expanding recognition of embodied healing practices within trauma treatment. The emerging literature

demonstrates that embodied interventions, such as yoga, help individuals reconnect with bodily sensations, process trauma, and enhance emotional resilience, particularly when traditional talk therapies fall short (Ong-Gaffney, 2023; Van der Kolk, 2014). Yoga, when adapted as trauma informed and polyvagal informed, may offer a promising modality for integrative, embodied trauma work.

This research has an intended audience of counselling professionals, somatic based therapists, yoga therapists and practitioners, and mental health professionals who are observant or engaged in mind-body approaches to trauma healing. This research may also be of value to clients who have experienced the effects of trauma and are seeking supplements or alternatives to traditional talk therapy, and to researchers who are examining the growing interest in mind-body approaches to trauma healing. Overall, this project aims to contribute to therapeutic practices that prioritize safety, regulation, embodiment, and empowerment as core dimensions of healing for individuals who have experienced trauma.

Theoretical/Conceptual Framework

Polyvagal Theory (PVT)

This capstone is grounded in PVT and supported by a growing body of research examining the role of yoga in regulating the autonomic nervous system (ANS) during embodied trauma recovery. PVT, developed by Stephen Porges (2022, 2025), presents a neurophysiological framework that may contribute to understanding how the nervous system responds to threat and safety. It outlines a hierarchical model of three autonomic states—ventral vagal (associated with safety and connection, sympathetic (mobilization or commonly known as fight or flight), and dorsal vagal (shut down)—each influencing how we engage with ourselves and the world (Haeyen, 2024; Porges, 2025). Recent literature emphasizes that traumatic stress

can impede access to ventral vagal regulation, causing individuals to remain attached to a defensive autonomic pattern that restricts emotional stability and social engagement (Haeyen, 2024; Loizzo, 2018; Porges, 2025). This framing informs the first research question by offering a neurophysiological explanation for why trauma-related symptoms persist and why interventions that engage the nervous system may be healing.

PVT informed research also highlights how trauma can distort *neuroception*, the body's unconscious system for detecting safety and threat, leading the ANS to default to protection rather than connection (Haeyen, 2024; Porges, 2025). This theory naturally facilitates a pathway for how trauma healing can occur through body-based or bottom-up interventions. Embodied approaches emphasize movement, breath, and interoceptive awareness to support regulation and healing (Cook-Cottone et al., 2017; Haeyen, 2024; Rhodes, 2015). Sullivan et al. (2018) outlines a yoga therapy framework that reinforces this finding by identifying interoceptive awareness and breath practices as supporting regulation from a polyvagal, neurophysiological informed approach. Haeyen (2024) offers that PVT's significant focus on the mind-body connection serves as an interpretive model for the mechanisms of healing she imposes toward psychomotor therapies. While earlier research on PVT predominantly emphasized its explanatory function, Porges (2025) discussed interventions that included breath and movement practices among other applied interventions. PVT may provide the conceptual grounding needed to examine *how* and *why* yoga contributes as a mind-body intervention for trauma healing.

Yoga

Yoga offers a meaningful pathway for embodied healing that aligns with polyvagal principles. While many authors have made a link in their research between PVT and yoga (Bennet & Starnino, 2022; Nguyen-Feng et al., 2019; Ong et al., 2019; Sullivan et al., 2018),

Ong-Gaffney et al. (2023) explicitly link PVT with yoga, noting that yoga interventions enhance self-regulation, safety, and reconnection with the body for interpersonal trauma survivors. In addition, Bennet and Starnino's (2022) phenomenological findings show that yoga promotes trust, regulation, and a renewed sense of inner safety. These findings are particularly relevant to the second research question which asks how yoga practices may support a felt sense of safety, autonomic regulation, and embodied healing when understood through a polyvagal lens.

Yoga is trauma-informed in that it prioritizes safety, choice and interoceptive awareness by adapting teaching language, breath, and body movements to support nervous system stabilization. Yoga aligns well with polyvagal theory which frames trauma healing as a process of re-establishing physiological safety and ANS balance (Haeyen, 2024). Sullivan (2018) discusses yoga as a practice that engages and trains neural pathways. Further, yoga offers experiential, body-based practices that may cultivate safety, ANS regulation, and reconnection to the body, among many other benefits. Understood together, PVT and yoga practices are potential pathways to embodied safety and regulation.

Why This Framework?

Integrating polyvagal theory and yoga may provide a meaningful theoretical lens for counselling psychology. This framework is relevant and timely considering the growing recognition within trauma research that healing from trauma cannot always be accessed through talk-therapy. Loizzo (2018) notes that trauma often pulls the experience away from parts of the brain responsible for internal reflection and verbal processing, explaining why talking about trauma may not be accessible or healing. As a result, many clinicians are leaning into somatic pathways that support embodied healing. Rhodes (2015) describes yoga as a safe self-driven path to embodiment for trauma survivors compared to modalities that focus on reducing cognitive

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symptoms. This finding is further evidenced by Ong-Gaffney et al. (2023) who describe yoga as a bottom-up pathway that supports the processing of trauma through movement, sensory awareness, and regulation rather than solely relying on cognitive insights. Haeyen (2024) further emphasizes that beginning trauma processing at the level of thought can be ineffective when the nervous system is overwhelmed. These perspectives highlight the possible value of polyvagal-informed and somatic-based practices like yoga in trauma healing as these approaches meet the nervous system where it is, offering pathways to safety, regulation and embodied healing.

Despite growing research, there remains a lack of conceptual frameworks that connect neuroscience and embodied therapies. While yoga and other body-based modalities are increasingly being used in clinical settings, the field lacks consistent theoretical and methodological models to guide trauma informed application and describe *why* and *how* yoga is effective in trauma healing. This capstone responds to that gap by applying PVT principles as a framework for understanding yoga-based mechanisms of healing, integrating neuroscience, embodiment, and therapeutic practice.

Throughout the remainder of this capstone project, PVT serves as a guiding theoretical framework in analyzing how trauma informed yoga practices support nervous system regulation and embodied healing. The discussion explores how yoga-based practices like breath, movement, and interoception influence ANS functioning and contribute to an embodied sense of internal safety and emotional resilience. By bringing together empirical findings and theoretical perspectives, this project contributes to a deeper understanding of embodied healing practices within counselling psychology. The integrated framework is used to organize and analyze findings throughout the project, linking theory to practice in a way that is accessible, trauma-informed, and holistic.

Methodology

I engaged in a structured process of finding, selecting, and analyzing literature to explore how polyvagal theory and yoga practices can inform trauma treatment in counselling psychology. The goal of this methodology section is to make clear what I did and how I did it so the approach is transparent, understandable, and academically appropriate.

Literature Search and Selection

I began by identifying key areas of focus (and search terms) for my topic: polyvagal theory, trauma, trauma-informed yoga, and embodied healing. I used these terms to search academic databases such as PsycInfo, EBSCO, Pubmed, ScienceDirect and Google Scholar. I combined search terms using additional key words such as polyvagal theory, trauma informed yoga, somatic therapy, embodied therapy, nervous system healing, trauma, and PTSD.

From these searches, I selected peer reviewed journal articles, theoretical papers, and qualitative and quantitative studies that were directly relevant to my research questions. I prioritized sources within the last 10 years and included earlier foundational or highly cited works that were meaningful to developing my project. This amounted to approximately thirty research papers that initially informed my research; I eventually narrowed in on the twenty-four sources used.

Inclusion Criteria

The articles included in this discussion met the following inclusion criteria:

- Theoretical basis of polyvagal theory
- Polyvagal theory, autonomic nervous system, and trauma
- Examined the mind-body benefits of yoga
- Examined yoga in the context of trauma

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- Offered theoretical, conceptual, and clinical insight relevant to polyvagal theory, yoga, and embodied trauma treatment
- Clear evidence of PVT and yoga mechanisms that are relevant to the research questions posed in this capstone
- Supported the assumptions of my research questions
- Challenged the assumptions of my research questions

Exclusion Criteria

The articles not included in this discussion were excluded for the following reasons:

- Studies older than 10 years (unless considered foundational)
- Reference to yoga and somatic practices from a wellness perspective that lacked clinical consideration
- Sources that lacked scientific grounding
- Sources that lacked theoretical/methodological grounding
- Alternative medicine-based articles without psychological or neurobiological relevance
- Studies that lacked an embodied component

The rationale for these inclusion and exclusion criteria was to ensure the literature cited in this discussion reflected current research into trauma and nervous system science, as well as current somatic-based interventions, providing a high degree of relevance to the field of counselling psychology.

Organizing and Analyzing the Literature

Once I sifted through and gathered core articles, I organized them according to their focus (PVT, yoga and trauma, embodied healing in trauma, and polyvagal and yoga). I then created notes for each article that focused on the paper's overall importance to my research questions, purpose, method, key findings, and limitations.

I refined the organization of the information into themes to synthesize the relevant information for the sake of literature review. I started with four main themes:

- Trauma as an embodied phenomenon
- PVT as a framework for understanding trauma
- Yoga as an embodied and trauma informed intervention
- Integrating yoga with PVT

These themes helped to guide the structure of the first chapter and the literature review. Further subthemes were developed as a result of synthesizing the literature. The subthemes engaged a deeper focus and synthesized findings in a more organized and responsive way. I included gaps, limitations, and critiques in notes related to each subtheme. These subthemes included:

- Trauma as an embodied phenomenon
 - Trauma, the ANS and embodied dysregulation
- PVT as a framework for understanding trauma
 - Core principles of PVT related to trauma
 - PVT as an interpretive lens for embodied healing
- Yoga as an embodied and trauma informed intervention
 - Mechanisms of yoga in trauma recovery

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- Trauma-informed specific mechanisms
- Cultural considerations
- Integrating yoga with PVT
 - Convergences between yoga and PVT
 - Why an integrated framework is needed

Writing style, Proofreading, Editing

My writing style aimed to balance academic clarity while maintaining my own embodied voice and perspective, reflecting both the research literature and my emerging clinical orientation. I intended to embrace my positionality and reflexivity throughout the project, ensuring that it was well represented.

To support the reliability and quality of this project I undertook several layers of editing which included:

- Multiple rounds of self-editing to ensure clarity, flow, and organization
- Refining language ensuring it reflected both a scholarly tone and my own voice
- Refining language to ensure my positionality and reflexivity flowed clearly throughout the project
- Spellchecking and grammar review
- Revisiting citations to ensure they matched the content appropriately and were formatted correctly

This capstone project was read by my advisor who suggested edits and revisions for each of the three chapters. Edits and revisions were then made to each chapter. A second reader was then engaged to provide additional feedback. Finally, an APA editor was employed to assist with editing the entire project.

Contribution to the Field

This capstone is grounded in my commitment to embodied, holistic, client-centered care for clients in counselling psychology. The project offers a distinct contribution by bringing PVT and trauma-informed yoga into an integrated conceptual framework that may offer a clearer neurophysiological rationale for why and how yoga can support trauma healing. As I commence my career in the field of counselling psychology and delve into the literature, I am increasingly aware of the limitations of trauma treatment when relying upon top-down methods or cognitive modalities. Although there is expanding engagement in integrating embodied methods into trauma treatment, the clinical validity for these approaches are still limited in research. This capstone addresses that gap by integrating yoga-based interventions with PVT and exploring their combined potential in nervous system regulation and trauma recovery.

While embodied therapies are gaining momentum, the specific mechanisms by which mind-body interventions like yoga support healing are still underexplored in counselling psychology literature (Gard et al., 2014; Macy et al., 2018; Nejadghaderi et al., 2024). A critical gap is the lack of a neurophysiological-informed understanding of how embodied practices like yoga might specifically work to influence trauma healing. PVT lends an important framework that may help bridge this gap, offering language and insight into how the autonomic nervous system responds to trauma in terms of threat and safety, and how healing trauma can occur through pathways of embodied regulation and connection (Porges, 2025).

While yoga has long been recognized for its health and wellness benefits (Bennet & Starnino, 2022; Gard et al., 2014; Macy et al., 2018), research continues to note the need for clear theoretical and methodological models to guide trauma informed yoga interventions (Cook-Cottone et al., 2017; Nejadghaderi et al., 2024; Sullivan et al., 2018). Yoga practices have gained

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increasing recognition in therapeutic contexts (Nejadghaderi et al., 2024; Ong-Gaffney et al., 2023), but there is not clarity as to *why* and *how* yoga is effective, particularly from a nervous system perspective. Yoga interventions that emphasize mindful movement and interoceptive awareness help trauma survivors reconnect with the body, experience a felt sense of safety within the body, and cultivate emotional regulation (Cook-Cottone et al., 2017; Ong-Gaffney et al., 2023; Rhodes, 2015). Few studies integrate these outcomes with a polyvagal-informed understanding of how autonomic states, safety, and co-regulation shift. This reveals a significant gap for researchers and practitioners attempting to answer the questions of *why* and *how* yoga interventions work in terms of neurophysiology. This capstone contributes to the evolving discussion on therapeutic uses of embodied interventions like trauma-informed yoga, offering a theoretical framework that supports the inclusion of yoga in trauma-focused counselling.

Additionally, this project offers practical implications for those working with individuals affected by trauma, especially those who are disconnected from their body or chronically dysregulated. Mental health professionals are increasingly encountering clients with complex trauma histories, yet many practitioners may be underprepared to integrate somatic practices like yoga into their interventions, especially in ways that are trauma sensitive and grounded in theory. This discussion may support clinicians by offering a bridge between polyvagal-informed neuroscience and yoga interventions.

Lastly, this research aligns with non-pathologizing approaches that honor the body's role in healing. It contributes the research on trauma informed systems of care that include the body in healing. When thoughtfully integrated, polyvagal theory and yoga offer a powerful framework to support this shift.

Reflexivity and Positionality Statement

As a self-aware woman soon approaching 50 years of age, emerging in the clinical counselling profession, I bring to this research a natural extension of what I embody, both personally and professionally. This includes a lifelong curiosity about the intersection of mind-body healing and a decades-long personal practice of embodied physical and emotional resilience, presence and healing. I have personal experiences as a long-time yoga practitioner, and my training in trauma informed yoga and Hakomi have reinforced my belief that psychotherapeutic healing, particularly in trauma, is not just cognitive but embodied and relational.

This topic emerged from my desire to bridge two meaningful and influential domains: growing scientific understanding of the nervous system through the lens of PVT and the transformative embodied experiences I have lived and encountered through yoga. My orientation toward mind-body healing is a lived experience, not only a theoretical one. Through decades of personal and professional yoga practice, training in trauma informed yoga, and current engagement with Hakomi, I have experienced and witnessed the influence of embodiment in personal and clinical realms. These experiences have cultivated a deep appreciation for embodied approaches that favor interoception, breath, and mindful movement as gateways to regulation and relational safety. This research stems from that personal alignment, but also from a desire to bring clarity and rigor to how these practices may be applied in the field of clinical counselling psychology.

Academically, I position myself within a constructivist and transformative paradigm. I believe that knowledge is co-created, shaped by context and meaning making, and that trauma healing can be found in reclaiming agency of the body. My counselling values center around

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loving presence, compassion, safety, and collaboration as well as the Hakomi principles of mindfulness, organicity, non-violence, mind-body holism and unity, all of which emphatically resonate with yoga philosophy. PVTs mapping of autonomic states offers clinical language to describe what I have sensed intuitively through practice: our nervous systems seek safety and connection, and healing happens when safety is restored.

I am aware of the cultural and social complexities that underlie this work. As a white, middle class, cisgender woman in Canada my position allows me access to therapeutic and wellness practices, practices that have roots in cultures outside of my own. I recognize that the adaptation of yoga's ancient practices into western wellness and therapeutic spaces holds ethical and cultural concerns. I strive to approach this work with reverence for yoga's cultural, historical, and spiritual depth while exploring its evolving role in contemporary embodied therapy. I also hold awareness of the inequities that exist in accessing healing, particularly of trauma. My hope is that this research can contribute to a more compassionate, body-aware, and socially attuned and inclusive practice that affirms the diverse ways in which people experience and heal from trauma.

This research is a reflection of the concerns, hopes, and commitment I carry as a new counselling professional. I believe that many individuals impacted by trauma are seeking healing that may not be reached through words alone. I have experienced and witnessed in myself and others how healing practices that engage the body can create space for healing where talk therapy may fall short. My goal is to contribute to a deeper, research informed understanding of how yoga, when applied through the lens of PVT, may support a felt sense of safety, regulation, and healing for those living with the effects of trauma. I hold an ongoing commitment to

reflexivity; including checking in with my own assumptions, listening intently to the research literature, and allowing new insights to emerge.

Definition of Terms

Autonomic Nervous System (ANS): The ANS is the body's neural-based physiological system responsible for regulating states of arousal, rest, protection, and connection. It shifts automatically in response to cues of safety or threat, shaping psychological and behavioral processes (Porges, 2025; Sullivan et al., 2018).

Embodiment: Embodiment refers to the capacity to fully sense, experience, and inhabit the body with awareness. In trauma healing embodiment involves reconnecting with internal cues through interoception, restoring a felt sense of safety, and reclaiming presence within the body (Rhodes, 2015)

Neurobiology: Neurobiology refers to the study of how the brain and the nervous system shape emotional, cognitive, and physiological functioning. In trauma work, neurobiology helps explain how responses of threat become encoded in neural circuits, especially when chronic stress anchors the system in defensive autonomic patterns, and why healing requires restoring the regulatory pathways (Haeyen, 2024; Loizzo, 2018; Sullivan et al., 2018).

Post Traumatic Stress Disorder (PTSD): PTSD is a trauma-related condition that might involve intrusive memories, avoidance, hyperarousal, emotional dysregulation, and significant psychological and physiological impairment. Current neurobiological research shows that PTSD reflects disrupted autonomic states, dysregulated physiology, disruptions in vagal tone and difficulty shifting out of fight, flight or shut down responses (Porges, 2025).

Trauma-Informed Yoga: Trauma-informed yoga adapts traditional yoga practices to prioritize safety and choice for trauma survivors. It emphasizes interoception, slow pacing,

mindful movement, and practices that support nervous system stabilization (Cook Cottone et al., 2017; Ong-Gaffney et al., 2023)

Outline of Capstone Chapters

The chapters that follow build upon the foundation of Chapter One, deepening the exploration of trauma as an embodied experience and extending toward the valuable potential for therapeutic integration of PVT and yoga. Chapter Two presents a thematic review of the literature, weaving together research on PVT, embodied trauma, autonomic dysregulation and yoga, including trauma-informed yoga (TIY) as part of trauma healing. The review of the literature synthesizes shared findings, differences and ongoing needs, gaps, and limitations, as well as highlights what is known specifically about trauma treatment involving PVT and yoga and what remains unclear. This chapter examines how trauma affects physiological regulation from a PVT lens, how yoga can support embodied recovery, and offers a bottom-up entry point into understanding the nervous system. Attention is given to gaps in the existing research, particularly the limited theoretical framework for yoga as a potential healing modality, and how these gaps necessitate a more integrated mind-body approach to trauma healing.

Chapter Three moves to discussion and application, returning to the research questions with analysis, reflection, and clinical relevance. This section clarifies what was learned through the literature review and considers what these insights mean for integrated trauma counselling. It specifically examines how PVT and yoga may work together to support regulation, safety and embodied healing for trauma survivors, and where these approaches may require further considerations like theoretical clarity, and applied practice considerations.

Chapter Three also outlines an applied PVT-informed yoga practice framework, including specific practices aimed toward autonomic regulation and safe embodiment, as well as

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therapeutic considerations. It outlines practice-based strategies for integrating yoga into counselling in ways that are grounded, ethical, trauma and PVT informed.

This capstone concludes by reflecting on my personal learning and professional growth through the research process. This includes revisiting my positionality, acknowledging where understanding has shifted or deepened, and identifying where questions remain. Ultimately the intent of the work beyond my professional growth, is to contribute to the ongoing evolution of integrated trauma treatment by supporting approaches that honor the inclusion of mind-body practices, the intelligence of the nervous system, and the possibility of embodied healing, safety and connection as core elements of recovery.

Chapter Two: Literature Review

This literature review examines the research that informs and supports the central questions of this capstone: How might PVT deepen therapeutic understanding of yoga as an embodied intervention for trauma healing? And, in what ways might trauma-informed yoga practices support a felt sense of safety, ANS regulation, and embodied healing? This chapter synthesizes current literature across three interconnected areas: trauma as an embodied and neurophysiological experience; PVT as a framework for understanding ANS processes in trauma healing; and yoga as an embodied, trauma informed practice aimed at supporting nervous system regulation. The review is organized thematically, beginning with examining literature that conceptualizes trauma as an embodied phenomenon. The chapter then turns to PVT, highlighting its relevance in understanding and healing trauma through regulation pathways. Following this, the literature on yoga and trauma informed yoga (TIY) is reviewed, examining the mechanisms of yoga and the ways in which it supports embodied healing. Gaps in the research are also identified. The chapter concludes by synthesizing the intersection of PVT and yoga as well as identifying the clear need for an integrated framework. This paves the way for Chapter Three which outlines an applied PVT-informed yoga framework.

Trauma as an Embodied Phenomenon

Across the research there is growing consensus that trauma is not solely a psychological experience, but a fundamentally embodied and neurophysiological one. Rather than residing only in memory or narrative, traumatic stress is increasingly understood as how the nervous system and body are shaped by toward threat, safety, and survival. The literature reviewed reflects a significant shift towards understanding trauma as a lived, embodied experience that alters autonomic regulation, an individual's felt sense of safety, and their connection to the body.

While this embodied framing of trauma is now widely acknowledged, the literature reveals important tensions and gaps in how this knowledge translates into therapeutic practice. Much of the research establishes that trauma *is* embodied yet offers less clarity on *how* embodied dysregulation can be shifted within treatment. This theme therefore synthesizes research that conceptualizes trauma as an embodied phenomenon while examining the gaps and limits of existing models and interventions.

Trauma, the Autonomic Nervous System, and Embodied Dysregulation

Many researchers describe traumatic stress reorganizing how the nervous system and physiology detect, respond to, and recover from threat with lasting effects on bodily awareness, autonomic regulation, and patterns of behavior. (Haeyen, 2024; Porges, 2025; Sullivan et al., 2018; Van der Kolk et al., 2014). Rather than being stored as memory, trauma becomes embedded in the ANS's physiological patterns and is experienced as an ongoing state of protection and survival rather than a past event that has ended. This shared framing notes a significant shift toward an understanding of and care for trauma as a condition of disrupted ANS and embodied dysregulation.

Trauma alters the organization of brain-body systems responsible for regulation and awareness of safety within the body. Loizzo's (2018) inquiry into contemplative practices in trauma recovery provides a theoretical explanation for why trauma can be resistant to insight treatment alone. Loizzo (2018) proposes that trauma shifts neural processes away from regions involved in awareness and regulation towards systems concerned with threat detection and survival.

PVT informed research provides a foundational framework for understanding the neurophysiological impacts of trauma by proposing that traumatic stress arranges the ANS into

defensive autonomic states that limit access to safety, connection, and regulation. Haeyen (2024) builds on this by highlighting the role of impaired neuroception, noting that trauma alters ANS regulation to the point that dysregulation becomes the predominant manner of function even when there is no threat.

Van der Kolk et al's (2014) randomized controlled trial for women with chronic PTSD offers empirical support for the role of yoga in trauma recovery, demonstrating reduced PTSD symptoms and improvements in regulation and interoceptive awareness. While improvements were observed, direct measures were not included. This points to a broader gap in the literature in terms of recognizing embodied dysregulation and explaining *how* therapeutic interventions shift physiology and autonomic functioning. Sullivan et al. (2018) points specifically to restoring ANS regulation through yoga practices with a polyvagal informed lens, however, their work is conceptual in nature and does not provide physiological data.

Several of the studies examined overlap in describing symptoms of trauma as not just psychological responses but reflecting a nervous system that is stuck organized around threat and survival rather than safety and connection (Haeyen, 2024; Loizzo, 2018; Porges, 2025; Van der Kolk et al., 2014). Qualitative and phenomenological research reinforces this embodied understanding of trauma. Rhodes (2015) documents complex trauma as associated with impaired interoceptive awareness, dissociation from the body, and a lack of feeling safe in the body. Participants describe hyper and hypo arousal (Rhodes, 2015), reflecting dysregulation of autonomic states. Bennet & Starnino (2022) similarly report that trauma affected participants in yoga practice describe bodily disconnection and dysregulation.

Despite the fact that that trauma is widely recognized as neurophysiological and embodied, few studies directly measure the physiological traits of trauma and how therapeutic

interventions might influence autonomic change. There remains limited integration between neurobiological theory, body experience, and therapeutic models. This gap is directly relevant to the research questions guiding this capstone. If trauma is fundamentally a condition of disrupted autonomic regulation and disembodiment, then interventions must engage the nervous system and the body in ways that restore safety and connection. What remains underdeveloped is a clear, theoretically grounded explanation of how embodied practices accomplish this shift.

Polyvagal Theory as a Framework for Understanding Trauma

As trauma literature increasingly conceptualizes trauma as an embodied and neurophysiological condition, there is a need for theoretical frameworks capable of explaining autonomic dysregulation and grounding interventions in science-backed theory. PVT, developed by Stephen Porges, has emerged as a possible neurophysiological model informing somatic and trauma-informed practices. PVT envisions trauma through the functioning of the ANS, highlighting how physiological states shape perception, emotional regulation, and relational capacity.

Across the literature, PVT is increasingly used to explain trauma-related dysregulation, pointing to physiological-based interventions that may support healing. The research draws on PVT to articulate how trauma impedes access to physiological safety and how healing involves regulating the ANS. At the same time, the literature reflects questions regarding empirical validity and methodological limitations. PVT is both a framework for understanding embodied trauma and a ground for considering yoga as an embodied intervention.

Core Principles of Polyvagal Theory Related to Trauma

PVT conceptualizes trauma as stemming from persistent autonomic nervous system dysregulation (Porges, 2025). At the core of PVT, the ANS is organized through hierarchal states

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that shape survival, connection, and regulation. Porges (2022, 2025) depicts three autonomic pathways: the ventral vagal system that is involved with safety and connection; the sympathetic system associated with mobilization and defense; and the dorsal vagal system associated with immobilization and shutdown. Sullivan et al. (2018) and Loizzo (2018) both describe trauma as a disruption of the nervous system's capacity to move naturally through states of mobilization, rest, safety and connection. Trauma disrupts this hierarchy when individuals become anchored in defensive or immobilized autonomic states with little or no access to a regulated state of connection (Porges, 2025). Underlying this state is weakened neuroception, meaning the nervous system's innate ability to evaluate threat and safety is compromised and the vagal nerve is unable to return to states of connection (Porges, 2025). Sullivan et al. (2018) agree that PVT provides a way of understanding how the nervous system responds to cues of safety and danger and organizes autonomic regulation and response. Trauma emerges in the body with symptoms like hyperarousal, dissociation, and emotional numbing, patterned physiological responses that require physiological treatments rather than purely psychological symptoms that require cognitive insight (Porges, 2025).

Haeyen (2024) studied PVT in creative arts and psychomotor therapies in trauma, and meaningfully contributes to research into trauma recovery from a polyvagal perspective. Haeyen (2024) frames PVT as an accessible framework for understanding trauma, building on Porges' foundation of trauma recovery from a PVT lens (easing the capacity for movement between autonomic states). The restoration of autonomic flexibility from adapted defensive states renews access to states of connection and emotional regulation (Haeyen, 2024).

Trauma recovery from a polyvagal perspective involves both bottom-up and top-down processes (Loizzo, 2018, Porges, 2025; Sullivan et al, 2018). Porges (2025) describes bottom-up

regulation, including physiological awareness of autonomic states as the initial step to meaningful trauma healing, followed by cognitive processes. In contrast, Loizzo (2018) and Sullivan (2018) explicitly address embodied and cognitive processes, connecting neurophysiology and mind-body practices. Importantly, Loizzo (2018) notes that trauma inhibits access to some higher-level brain functions like cognitive processing and insight. Despite agreement that trauma is fundamentally neurophysiological and embodied, important gaps exist in how this translates into clear clinical models. There is noticeable tension between recognition and *how* to apply this understanding in the treatment of trauma. Trauma is understood as embodied autonomically, yet there is an ongoing struggle to explain *how* therapeutic interventions shift autonomic regulation. These gaps set the stage for examining how PVT as an interpretive framework might inform a therapeutic approach.

Polyvagal Theory as an Interpretive Lens for Embodied Healing

PVT holds value as a framework for understanding why embodied interventions may be particularly effective for trauma healing. PVT offers a neurophysiological map of how an individual's autonomic state organizes perception, emotional regulation, behavioral responses and their capacity for connection, particularly under threat or having experienced trauma (Haeyen, 2024; Porges, 2022, 2025). From this perspective, healing is a matter of restoring access to autonomic states that support safety, regulation, and social connection (Haeyen, 2024; Loizzo, 2018; Porges, 2022, 2025).

While PVT could offer a compelling neurophysiological explanation for trauma-related dysregulation, it has traditionally been regarded as a conceptual and interpretive framework for studying physiological safety, rather than as a clinical method (Porges, 2022). Building on this foundation, Porges (2025) emphasizes a shift in PVT from a conceptual to an applied theory with

explicit interventions such as sound and vocal practices, breathing techniques, vagal nerve stimulation, and co-regulating aimed to support autonomic regulation and flexibility. Haeyen (2024) also emphasizes that PVT points to a physiological and body-based approach to healing trauma. She presents a compelling case for PVT as a significant way to understand mind-body healing, utilizing many of the same practices as Porges (2025): breath, mobilization, and co-regulation. Loizzo (2018), and Sullivan (2018) also present a case for PVT as an interpretive framework emphasizing mind-body therapies in trauma recovery. Loizzo (2018) presents PVT as a lens for trauma healing, arguing it is significant because it frames the neurobiology of trauma with an autonomic regulation emphasis. Sullivan (2018) also agrees with PVT's neurophysiological framing of self-regulation and resilience.

The authors examined acknowledge conceptual and methodological limitations in polyvagal informed research. Haeyen (2024) contributes meaningfully to the argument for PVT as a lens for embodied healing, yet also contributes to critiques and presents limitations, emphasizing PVT as an interpretive or theoretical model. Haeyen (2024) critically analyzes PVT, noting the common critiques of other authors who claim that the role of the vagal nerve is overstated, that the intricacy of PVT makes it difficult to understand (aligning with the general accusation that PVT is unconvincing as a theory). Porges (2025) responds explicitly to common critiques of the figurative language that has been adopted in translating neurophysiological theory to popular use in clinical and wellness capacities. The concern is in compromising scientific virtue through applying metaphor to complex scientific concepts. Porges (2025) responds, stating that rephrasing can be required to make the theory clinically accessible, at the same time cautioning that it must remain anchored in demonstrable science. Grossman et al. (2026) acknowledge that PVT has grown in popularity and offers a critique of PVT as

misleading from a neurophysiological and scientific lens as well as from the assumptions made regarding the mind-body connection. Though not specified, it is suggested by Grossman et al. (2026) that other models exist to more appropriately frame mind-body practices. Grossman et al. (2026) note that Porges repeatedly cites and references his own articles that have been previously published. While these critiques speak to the limitations of PVT, Haeyen (2024) continues to note the advantage of PVT in providing metaphorical language that might contribute as a framework and as an explanation.

Porges (2022) noted that while autonomic states were not directly neurologically measured, inference was made based on physiological symptoms. Later, Porges (2025) explicitly addresses critiques of PVT by including intervention, method, and physiological measurements. Poli et al. (2021) conducted a systematic review of PVT informed embodied practices, contributing to the research employing physiological measurements and no self-report measures. Poli et al. (2021) derived information specific to increased vagal tone, parasympathetic activity, and reduced PTSD symptoms. Conversely, while Sullivan et al. (2018) propose that polyvagal informed yoga may encourage autonomic regulation, their work is also mainly conceptual and underscores the need for integrative frameworks bridging neurophysiology with embodied practice in measurable ways.

The literature positions PVT as a connecting framework that may help to explain the embodied nature of trauma, while revealing the need for scientifically grounded models of experiential practices that promote autonomic regulation. What remains underdeveloped is a clear bridge between PVT and therapeutic embodied interventions. This gap provides the foundation for examining yoga as an embodied modality; PVT contributes to understanding yoga as a clinically grounded therapeutic intervention.

Yoga as an Embodied and Trauma Informed Intervention

Building on the discussion of trauma as an embodied and neurophysiological condition and PVT as a framework for understanding autonomic regulation, the literature increasingly positions yoga as a practice capable of engaging trauma in the body and the nervous system. Across the research, mind-body practices are conceptualized as therapeutic, integrating breath, mind-body connection, and interoceptive awareness. These elements are linked to improved regulation and bodily reconnection. Trauma is thus addressed through bottom-up pathways that directly influence physiological state, bodily awareness, and felt safety.

The practice of yoga is conceptualized, implemented, and evaluated in various ways within trauma research. Empirical and qualitative studies consistently report improvements in regulation, felt safety, and embodiment, yet questions remain regarding *how* these changes occur, *what* mechanisms are inciting these changes, and *why* yoga appears to support trauma recovery at an embodied level so effectively. These questions are central to the research questions guiding this capstone focused on understanding yoga's role as a therapeutic intervention that may support autonomic regulation and embodied healing. The physiological and embodied mechanisms of yoga support trauma recovery, trauma informed principles and therapeutic outcomes; gaps and limitations in yoga-based trauma research point to the need for theoretical integration.

Mechanisms of Yoga in Trauma Recovery

Yoga practices have the potential to support autonomic regulation, a felt sense of safety, and embodied healing in individuals affected by trauma. Across the literature gathered on neuroscience, somatic psychology, and trauma research, yoga is increasingly conceptualized as an intentional embodied practice that engages mind-body-nervous systems through breath, movement and interoceptive awareness. Yoga is increasingly presented as a body-based

intervention that addresses the physiological and embodied effects of trauma. Ong-Gaffney et al. (2023) contribute to this discussion meaningfully by describing yoga as an approach that integrates neurophysiological processes and supports safety whilst countering the dysregulation and rigid patterning that accompanies trauma. Yoga offers helpful practices such as movement, breath and awareness, regulation, connection, and coping strategies (Ong-Gaffney et al., 2023).

Several authors identify breath, movement, and interoceptive awareness as central mechanisms. Van der Kolk et al. (2014) propose that cultivating awareness and tolerance of bodily sensations promotes affect regulation. They further state the possibility of altering ANS functioning through breath, suggesting that yoga postures alongside interoceptive awareness may help individuals endure physical sensations that might trigger emotional activation (Van der Kolk et al., 2014). Neurophysiological literature aligns with framing yoga mechanisms as agents in trauma recovery. Schmalzl et al. (2015) report that paced breathing affects the ventral vagal nerve through parasympathetic nervous system activation. Similarly, Poli et al (2021) report increased parasympathetic activation and breathing coordination in embodied contemplative practices. Cook-Cottone et al. (2017) further describe breath as a means of modulating nervous system states in trauma responses. They add that yoga may support regulation through neural integration of emotional attention and control over stress responses. They suggest that yoga may offer a mindful anchor to safety, distracting from feelings of bodily overwhelm (Cook-Cottone et al., 2017).

Qualitative research deepens the contribution. Rhodes (2015) conducted a phenomenological study conceptualizing yoga as a way to reclaim embodied peace and connection to the body. Yoga practices become mechanisms of change for trauma responses. Participants describe improved body-mind-emotion agency and control and the ability to move

away from the constraints of trauma (Rhodes, 2015). Rhodes (2015) identifies some of the main mechanisms of yoga in trauma healing, citing interoceptive awareness as a healing mechanism of yoga. West et al. (2017) stress the importance of emphasizing interoceptive awareness in connection with the body and mindfulness. They promote using trauma sensitive yoga as a first step in a multiple step approach to PTSD treatment, showing that interoception and movement increase emotional regulation and a felt sense of safety and agency in the body (West et al. 2017).

Ong-Gaffney et al. (2023) further strengthen qualitative understandings of yoga mechanisms in trauma healing. They offer findings that suggest movement is a healing factor in trauma; presence in the body supports overall composure and regulation (Ong-Gaffney et al., 2023). Ong-Gaffney et al. (2023) suggest that when yoga is practiced in groups (in community), this provides additional support and a sense of safety. Notably, Ong-Gaffney (2023) contribute to the conversation about yoga as a psychotherapy support aiming to reconnect individuals to their own internal cues and bodies. While some studies document measurable shifts in nervous system activity (Poli et al., 2021; Schmalzl et al., 2015), much of the existing evidence is qualitative, describing experiential changes rather than specific measurable mechanisms. Embodied findings are strong, and there is a need for an integrative neurophysiological framework to clarify how specific yoga mechanisms operate within healing on an ANS level.

Trauma Informed Yoga Specific Mechanisms:

Trauma-sensitive yoga (TSY) models provide a well-articulated framework for grounding yoga as a clinically meaningful intervention for trauma. TSY is described as a body-based approach that emphasizes a felt sense of safety, choice, predictability, and mindful awareness (Nguyen-Feng et al., 2017; Ong et al., 2019; Zaccari, 2022). Across TSY studies,

many consistent elements of delivery are noted. Practitioners use non-directive and invitational language and prioritize participant choice making, supporting agency and safety for trauma affected individuals (Nguyen-Feng et al., 2017; Ong et al., 2019; West et al., 2017). These studies all describe TSY from an experiential perspective.

Nguyen-Feng et al (2017) offer a unique perspective (from the practitioner's lens) on client healing through TSY in the context of group therapy for women trauma survivors. In this study, the authors emphasize the value of choice, invitation, and relational elements that contribute overall to the practitioner creating and providing safety (Nguyen-Feng et al., 2017). TSY and PVT both stress the relational element of safety, and Nguyen-Feng et al. (2017) describe the influence of the vagal nerve on regulation, safety, and connection.

Many TSY studies do not provide physiological mechanisms of change but offer valuable experiential insights. Bennet and Starnino (2022) describe participant experiences of breath and body connection influencing embodied outcomes such as grounding, awareness, and emotional regulation. While many TSY studies do not link to theoretical or neurophysiological mechanisms, Ong et al's. (2019) conducted a qualitative study emphasizing experiential perspectives, framing TSY as a body-based approach informed by neuroscience and PVT concepts. TSY conceptualizes trauma impacting physiological, psychological, and relational aspects. Participants report increased agency, regulation, and relaxation rather than specific physiological improvements (Ong et al., 2019).

While TSY frameworks depict *what* a trauma-based yoga practice includes and outline important participant experiences, there remain limitations in terms of proving how these embodied practices influence autonomic regulation and measurable outcomes. Most of the studies rely on qualitative findings, self-report and practitioner-report measures or symptom

outcomes, with hardly any directly measuring physiological change. This gap accentuates the value of further examining yoga, including TSY frameworks, through a PVT lens to strengthen theoretical connections and determine clinical relevance.

Cultural Considerations of Yoga

Yoga is a traditional and cultural practice that needs to be considered and adapted within Western ideology and clinical practice. While acknowledgment of yoga as a therapeutic intervention in trauma treatment is growing (Bennet & Starnino, 2022; Cook-Cottone et al., 2017; Nguyen et al., 2019; Ong et al., 2019; Ong-Gaffney et al., 2023), what must also be acknowledged is yoga as an ancient spiritual philosophy (Bennet & Starnino, 2022) with Eastern cultural roots. Since arriving in the West, yoga has been adapted and readapted in vast ways to serve its application in the West, including as a potential therapeutic intervention. When basic aspects of yoga (movement/asana, breath/pranayama and awareness) are utilized therapeutically in trauma treatment, it is important to distinguish the practice of yoga in the present day from an ancient philosophy embodied by those practicing in the East. Yoga may be a helpful therapeutic tool in trauma treatment, honoring the integral mind-body connection that yoga makes.

It is equally important to consider the delivery of yoga (an ancient culturally based philosophy) in therapeutic contexts. Mental health clinicians may not be certified yoga practitioners, yet could deliver adapted versions of yoga practices therapeutically. Though doing so may be clinically beneficial, this approach raises the question of how to honor the philosophy of yoga handed down and taught through lineages with philosophical roots and original teachings. Yoga practices may be used out of originally intended contexts if adapted specifically to fit into trauma-informed treatment. Practitioners may also adapt to use more Western-based language in delivery as a means of accessibility, ease, or dependent on context. As a certified

yoga instructor with training authentic to yoga's ancient roots and culture, I personally strive to find a balance of how to adapt yoga practices to fit with Western trauma-informed therapeutic treatments while honoring and caring for traditional knowledge.

Integrating Yoga with Polyvagal Theory for Trauma Healing

As the literature increasingly recognizes trauma as an embodied and neurophysiological condition, there is a growing need for clinical frameworks that can link theory with practice. Yoga is a practice that may support regulation, safety, and embodied awareness and PVT offers a neurophysiological explanation for how autonomic states organize experience, affect, and relational capacity. What remains less pronounced in the literature is an integrated understanding of how yoga and PVT may inform one another in trauma treatment. Polyvagal theory provides a possible map and clinical understanding for how and why trauma constrains autonomic functioning (Porges, 2022); yoga offers experiential practices that may directly engage autonomic pathways (Haeyen, 2024; Poli et al., 2021; Sullivan et al., 2018). Understood together, yoga and PVT (in an integrative framework) offer a theoretically grounded and neurophysiological informed approach to trauma recovery.

Convergences Between Yoga and Polyvagal Theory

Across the research literature, yoga and PVT converge in their shared understanding that trauma healing involves restoring physiological regulation and a felt sense of safety. PVT provides a neurophysiological framework for understanding how autonomic states shape perception, regulation, and capacity for connection, emphasizing that trauma impedes the nervous system's ability to regulate in states of safety and connection; individuals subject to trauma may remain anchored in defensive patterns (Haeyen, 2024; Porges, 2022, 2025). The yoga literature frames trauma recovery as a physiological process involving breath, mind-body

connection, and interoceptive awareness-based practices that form pathways to nervous system regulation (Poli et al., 2021; Schmalzl et al., 2015; Sullivan et al., 2018). After experiencing trauma, individuals may struggle with physiological regulation as embodied safety has been disrupted.

Many authors explicitly linking PVT with yoga-based interventions emphasize yoga practices as a way to engage autonomic regulation and a felt sense of safety. Ong-Gaffney et al. (2023) bridge PVT and trauma-informed yoga, suggesting that movement, breathwork, and interoceptive awareness can engage physiological regulation and a felt sense of safety. Bennet and Starnino (2022) go on to describe PVT as a framework that represents mind-body integration. Yoga practices and PVT engage both top-down and bottom-up processes that have the potential to support trauma recovery (Bennet & Starnino, 2022).

Sullivan et al. (2018) explicitly bridges yoga and PVT, suggesting that yoga-based polyvagal-informed practices may support physiological and autonomic regulation. Haeyen's (2024) polyvagal-informed analysis of embodied therapies further strengthens this link by emphasizing neuroception and embodied safety as central mechanisms of trauma recovery. Poli et al. (2021) takes a polyvagal perspective and Schmalzl et al. (2015) offers a neurophysiological perspective, both suggesting that yoga and embodied practices support autonomic regulation by working across interconnected neurophysiological systems. Porges (2025) supports this convergence, advocating for the addition of polyvagal-based embodied interventions like breathwork and movement to restore regulation and safety. While a growing convergence of yoga philosophy and PVT offers a plausible foundation for understanding embodied trauma healing, a persistent gap is also revealed: there is an absence of an integrated framework that clearly articulates how yoga-based interventions can be applied in clinical care.

Why an Integrated Framework is Needed

Despite growing recognition that yoga and PVT both address trauma at the nervous system level, the literature points to a lack of an integrative framework that articulates how these approaches could be linked in a therapeutically grounded way. Across the research, authors clearly describe overlapping regulatory processes, yet the connections are often implied rather than specifically attached to theory. In yoga research, multiple authors note that yoga-based interventions are commonly evaluated based on outcomes rather than mechanisms (Macy et al., 2018; Ong-Gaffney et al., 2023; Poli et al., 2021; Schmalzl et al., 2015; Sullivan et al., 2018). Nguyen-Feng et al. (2017), Ong et al. (2019) and Bennet and Starnino (2022) provide qualitative and mixed methods results, showing that trauma-informed yoga supports nervous system regulation; yet, results are largely self-report or narrative based rather than measured against physiological indicators. While this data is meaningful, it leaves a gap between experiential outcomes and neurophysiological explanation.

Schmalzl et al. (2015) argue that while yoga appears to influence autonomic and emotional regulation, lacking are theoretical models that explain *how* these effects occur across neurophysiological systems. Similarly, Poli et al. (2021) emphasize that although improvements in trauma systems are reported, methodology is limited without direct measurement paired with specific mechanisms related to autonomic regulation. At the same time PVT has not been without critique and poses limitations as an applied practice in the research. Porges (2022) introduced PVT as a descriptive neurophysiological framework rather than a treatment model. Only very recently, Porges (2025) provided research related to interventions, many of which converge with yoga practices. Haeyen (2024) extends this critique by noting that while PVT offers valuable insight for understanding trauma related dysregulation, it requires embodied

interventions to be therapeutically applicable. Without interventions that put PVT into action, the theory remains explanatory rather than transformative.

Sullivan et al. (2018) propose that yoga-based practices may put polyvagal practices into action. Yet even their work remains largely conceptual and calls for further research and clearer frameworks. This highlights an overarching issue: yoga research often lacks explicit neurophysiological grounding while polyvagal literature has traditionally lacked concrete, intervention-based pathways. Across the research, opportunities for further research are evident. Yoga is widely recognized as an embodied practice that supports regulation, yet it is not situated within a clear theoretical and clinically relevant framework. PVT offers a valuable map for autonomic states and felt safety in relation to trauma, but is in its infancy in terms of articulating how these states could be engaged experientially in therapy.

Future research could intentionally integrate yoga-based interventions with PVT as a guiding framework, rather than using polyvagal concepts as explanatory language and yoga as adjunctive therapy without a meaningful framework that specifically guides its mechanisms. This gap directly informs the applied focus of Chapter Three, which proposes a polyvagal-informed approach to yoga-based trauma interventions. By translating PVT into therapeutically meaningful embodied practices, this framework offers clinicians and yoga practitioners a theoretically grounded and trauma responsive way to support nervous system regulation, felt safety, and embodied healing. This constitutes a plausible model that connects neuroscience, embodiment, and therapeutic application, positioning yoga as a meaningful polyvagal informed intervention within trauma care.

Throughout the literature reviewed, a clear and consistent picture emerges: trauma is not solely a psychological or cognitive disorder, but a fundamentally embodied and

neurophysiological experience that alters autonomic regulation and felt safety. Researchers converge in demonstrating that traumatic stress reorganizes nervous system functioning in ways that insight alone cannot heal. While traditional talk-therapies offer valuable insight, the literature highlights their limitations in addressing the embodied effects of trauma. This has led to a growing emphasis on embodied approaches, like yoga, that engage the nervous system directly. PVT offers a potential conceptual framework for understanding trauma as a disruption of autonomic regulation and a felt sense of safety. At the same time, yoga has emerged as a widely used embodied practice that may support regulation and reconnection with the body. Though yoga research consistently reports improvements in autonomic and emotional regulation, bodily safety and agency, significant gaps in the literature remain. Yoga-based interventions are, for the most part, not theoretically grounded, particularly in a way that connects specific healing mechanisms to nervous system regulation. PVT is abundant conceptually and theoretically, yet is still emerging in the research in terms of how autonomic states can be engaged experientially. As a result, the field lacks integrative frameworks that clearly articulate how embodied practices such as yoga apply neurophysiological principles of regulation and safety in trauma healing.

This literature review highlights the need for theoretically grounded and integrative models that bridge neuroscience, embodiment, and therapeutic application. This gap provides the foundation for Chapter Three which revisits the research questions posed and discusses application of key learnings that emerged from the literature. Chapter Three further proposes an applied polyvagal and trauma-informed yoga practice as a therapeutic resource. This applied section outlines how yoga practices may be intentionally guided by PVT to support autonomic regulation and embodied safety in trauma affected individuals. The chapter concludes with

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reflections on my personal learning and my on-going commitment to embodied, trauma-responsive practice in counselling psychology.

Chapter Three: Discussion and Applied Practice

This capstone explores how PVT might contribute to a deeper therapeutic understanding of yoga as an embodied intervention for trauma healing, examining the ways in which yoga practices (informed by PVT) may support a felt sense of safety, ANS regulation, and embodied healing in individuals affected by trauma. The literature reviewed offers strong support for this connection. Throughout the literature, trauma is understood as an embodied condition rather than only a cognitive one. Trauma disrupts autonomic regulation and embodied safety, often leaving survivors anchored in nervous system states of hyperarousal, defensiveness, and disconnection to the body, unable to access states of safety and connection. PVT emerges as a plausible framework for understanding how trauma reshapes the nervous system around safety and threat, and why regulation and connection must be restored at a physiological level. This challenges the notion that talk-based therapy alone is sufficient, and emphasizes the need for interventions that engage the nervous system and the body as well. Here, yoga emerges as an embodied practice that supports regulation and reconnection with the body for individuals living with trauma.

A key finding from the literature is that yoga may support trauma recovery. Studies consistently describe yoga as engaging breath, movement, and interoceptive awareness with improvements reported in regulation, bodily awareness, and felt safety. When examined through a polyvagal lens, these outcomes align closely with processes associated with increased autonomic regulation, neuroception, and access to states of safety and connection. For this reason PVT might offer a meaningful framework for interpreting why yoga may be effective as a trauma intervention, providing language and understanding for neurophysiological processes that are often described experientially.

There are important gaps in the literature that shaped the direction of this project. While yoga is increasingly recognized as therapeutic and is being incorporated into trauma treatment, it is not consistently grounded in theory that articulates its neurophysiological mechanisms and outcomes. While many studies point to positive outcomes of yoga in therapeutic trauma treatment, they rarely clearly articulate the specific mechanisms of change. PVT literature offers significant conceptual understanding of the embodied effects of trauma without specifying how to engage these concepts experientially. The integration of PVT and yoga therefore emerges as meaningful pairing, offering a bridge between neurophysiology and experiential, embodied practices.

From a research perspective, studies that explicitly integrate PVT and yoga within a unified framework are lacking. This absence of research limits access to a deeper therapeutic understanding of how PVT might inform understanding of yoga as an embodied intervention in trauma healing. Constraints were discovered in terms of research focused on understanding how polyvagal informed yoga practices support specific dimensions of trauma healing. Much of the existing yoga research relies on self-report measures or is inferred rather than measured, leaving gaps in terms of understanding the physiological mechanisms. Though there may be experiential evidence of how yoga practices support embodied dimensions of trauma healing, it is rare to find evidence that connects the specific mechanisms of yoga with a polyvagal-informed lens in a clear way.

Practical constraints further complicate the integration of yoga practices into therapeutic realms. Many therapists are not trained in yoga or embodied practices, and professional education does not always include training in somatic and nervous system-based approaches. Access to specialized TIY training can be a limitation as many programs require a 200hr yoga

teacher training certification prior to an additional 300hr trauma-informed program. As well as time limitations, there are cost limitations for practitioners, as well as possible limitations within their own bodies that prevent access to this specific type of training. The space available for yoga interventions in a therapeutic setting is also typically limited as most therapeutic spaces are not designed for such interventions. When practitioners are just entering the field, they are typically limited by space constraints of a supporting office. Practitioners who specifically use experiential and yoga-based techniques will likely seek a setting that supports their practice when their finances and experience can support this. Additionally, yoga is not yet widely recognized as a valid clinical modality within professional education and clinical practice, despite growing evidence of its clinical value, particularly in trauma treatment.

The literature underscores hope for future therapeutic direction through future research into embodied trauma treatment. Yoga is increasingly valued, widely researched, and significantly aligned with current understandings of nervous system regulation, yet it remains under-theorized and under-used in clinical counselling settings. PVT offers the theoretical framework for grounding yoga practices in a therapeutic and clinical way. The following section proposes applied trauma-informed yoga practices that merge these two meaningful domains of trauma healing, responding to the gaps identified in the research and offering a polyvagal informed approach to yoga as a therapeutic resource in trauma healing.

Applied Practice

This section proposes a polyvagal-informed yoga session as an embodied intervention for trauma healing. This practice is grounded in the polyvagal theory that trauma disrupts autonomic regulation and neuroception, and supports moving out of persistent physiological patterns of survival toward safety, connection, and regulation. This approach engages the parasympathetic

and ventral vagal pathways toward regulation. While PVT offers a neurophysiological lens, yoga provides an experiential pathway through interoceptive awareness, breath and mindful movement that can engage the regulatory pathways. This applied framework is not only inspired by the literature and the lack of existing integrative frameworks, but also by my own well-established experiential engagement with yoga. With over twenty years of personal yoga practice, a decade of experience as a yoga instructor, specialized training in TIY and polyvagal-informed approaches to trauma that include yoga interventions, this model draws on both professional and embodied knowledge. In addition, as a developing clinician I have been in therapeutic practice for over a year integrating embodied interventions alongside PVT. Dr. Arielle Schwartz's book, *Applied Polyvagal Theory in Yoga* (2024) has been particularly influential in terms of conceptualizing this integration as she explicitly bridges PVT and yoga practices.

Trauma Informed Principles

This applied practice is grounded in trauma informed principles that prioritize safety, invitational language, choice, and agency. The practice environment is a therapeutic element designed to support safety and predictability, and is thoughtfully arranged in a calm and peaceful way. The yoga mats, including a mat for the facilitator, are laid out horizontally so that participants are not positioned vulnerably to the facilitator or forced to make eye contact, reducing threat cues. The lighting is soft, and the music is gentle and without words to promote safety and parasympathetic engagement. Delivery of the practice is equally intentional. The facilitator is regulated and present and uses their own regulated nervous system to co-regulate within the space. Suggestions for practice are offered in a calm, rhythmic, and well-paced voice while practicing alongside participants modelling embodiment and holding relational space

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rather than directing from a position of authority. To emphasize relationship, the facilitator's language involves suggestions, often employing "we" and "our" language. Safety is communicated through words, tone, rhythm, and presence. The language used by the facilitator is invitational and involves phrases such as: "*I invite you to*", "*if it is available for you*", and "*you can choose what feels right for you*". The facilitator provides gentle cues throughout the practice that connect back to grounding, interoception (noticing internal state), body, breath and neuroception (noticing the state of the nervous system). Choice is offered in every step of the practice, encouraging agency and safety within the body. Adaptations are offered for each practice encouraging participants to make decisions for their own bodies.

Practice

Though there are many options for trauma-informed practice, I chose a restorative-based practice as an accessible way to gently introduce and guide foundational practices like grounding, body and breath awareness, interoception, and neuroception. From this gentle perspective, participants might begin to experience a felt sense of their bodies and sensations while having enough containment in restorative postures to safely engage with that felt sense.

Grounding. Sessions begin with a grounding phase designed to support participants to arrive gradually into the therapeutic space and into their own felt sense of their body. Grounding is introduced as an opportunity to orient to the present moment, to surroundings, and to sensations that arise with attention to sensations that feel stable or settling. From a polyvagal perspective, grounding serves as support for nervous system regulation. By emphasizing orienting to cues of safety and a felt sense within the body, autonomic states may be encouraged to shift out of the limiting patterns of trauma and into embodied regulation and presence.

The following grounding invitations are offered in session:

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- Clients are invited to arrive on their mats in a way that feels best for the individual: sitting or lying down.
- Clients are cued to notice what is external to their body in the surrounding therapeutic space: to see what is in the room and to anchor to indications of comfort or safety (objects, colors, lighting, shapes, etc).
- Clients are invited to close their eyes if this is available, and to notice sounds in the room, acquainting with signals of safety and comfort.
- Clients are cued to notice external sensations (the mat, a cozy blanket, the temperature of the room, the movement of air across the body), acquainting with comfort and safety.
- Clients are invited to notice any smells or tastes and indications of safety or comfort.
- Finally, clients are invited to come closer to the body and to notice the body's connection with the mat. Throughout this grounding phase, clients are invited to change position if that feels right, to notice all points of contact with the mat: the seat, back of the head, shoulders, hips, and heels. Through grounding, clients feel the weight of their body connecting to the mat.

Body and Breath Awareness, Interoception, and Neuroception. This element of the practice aims to cultivate a deeper awareness of present moment experience as it relates to a client's body, breath, internal cues, and nervous system. Attention is directed toward noticing sensation instead of judging what is noticed or attempting to change it. The overall aim is to rebuild connection and trust to embodied self and internal cues and to support the client's capacity to remain present with embodied experiences in a non-judgmental way.

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From a polyvagal perspective, practices that focus on body and breath awareness, interoception, and neuroception engage autonomic pathways that are disrupted by trauma, thus supporting a shift toward embodied regulation and safety. This aspect of the practice involves:

- An invitation to come into deeper awareness of the body if that feels available, possibly scanning the body slowly from the toes to top of head or head to toes. During this body scan,, clients are cued to noticing parts of their body and physical sensations without judgement or attachment.
- An invitation to notice breath—simply noticing the natural state of the breath without attempting to change it. Nothing is right or wrong. Clients may be invited to notice where they are breathing in the body, their belly, ribs, chest or nose. Clients may be cued to connect to how they are breathing: fast or slow; deep or shallow. The noticing happens without judgement or an effort to change.
- An invitation to come more deeply into interoceptive awareness, noticing internal sensations or cues that may be more subtle, such as pain, hunger, thirst, and emotion.
- An invitation to come into neuroception, noticing the state of the nervous system as it takes in interoceptive or internal cues and the surrounding space. Clients are cued to notice whether the nervous system detects safety, relaxation, or caution.
- An invitation to connect back to the body, once again feeling all points of contact. Connecting to the mat may involve taking a couple of deep breaths in and out.
- An invitation to come back to awareness of the body, breath, interoception and neuroception throughout practice. Suggestions for how to do this happen throughout the practice.

Mindful Sensing/Vagal Nerve. This practice invites gentle, light touch and bringing awareness to areas of the body that are associated with the vagal nerve pathway. The intention is mindful, gentle, self-touch, connecting to the body and associated sensations while engaging parts of the body that may influence safety, regulation and connection. From a polyvagal perspective, bringing awareness and sensation to areas of the vagal pathway serve to arouse the vagal nerve (Schwartz, 2024). This practice includes:

- A seated position, possibly bringing the palms together and rubbing the hands while noticing sensations. Clients may be invited to cup their hands over their eyes, ears, or on top of their head or shoulders. Clients may also be invited to gently tap the tips of their fingers under the eyes, toward the ears, down the jaw, across the jaw line, down the neck to the collarbones, across the collarbones and back to center, and to gently place both hands over the heart. Clients are then cued to pause and gently place both hands over the belly where the vagus nerve ends.

Breath. The breath practice cultivates awareness of the rhythm of the breath. Both phases of the breath are equal and unforced, supporting internal balance and calm. From a polyvagal perspective, slow and rhythmic breathing practices may support the ventral vagal system (Porges, 2025), increase parasympathetic nervous system activity (Schmalz et al., 2015; Schwartz, 2024; Sullivan et al., 2018), and activate autonomic pathways that contribute to regulation and safety. Schwartz (2024) proposes breath as an efficient way to regain nervous system balance. Key components are:

- Cuing equal ratio breath.
- Inviting clients to inhale for a length of four seconds and exhale for a length of four seconds, cultivating a slow and steady breath pattern. Clients are cued to continue

inhaling and exhaling slowly and steadily. Clients may be invited to lengthen the inhale and exhale to count to five seconds, to increase the count to a comfort level or to allow the breath to remain as it is. The counsellor may end the practice and return to a natural state of breath based on observation.

- Long exhales are encouraged. This practice is introduced as gradually lengthening the exhalation count. The aim is to support the nervous system to settle and to engage the parasympathetic nervous system to access rest. From a polyvagal perspective, Schwartz (2024) describes elongated exhalation as a pathway to ventral vagal regulation that in turn supports parasympathetic regulation.
- More experienced clients may be invited to lengthen the exhale breath to six-eight seconds. Clients may also be cued to purse their lips as if blowing through a straw on the exhale or to sigh out the exhale.

Movement. Key postures to cue in a therapeutic practice are:

- Neck release. This practice is introduced as slow gentle movements and soft stretching of the neck to release tension and stress in the neck and shoulders and to invite ease and mobility. From a polyvagal perspective, this practice is supported by Porges (2022, 2025) who links the physiology of the head, face, and neck with ventral vagal pathways.
- Sitting tall (if possible) and gently rolling shoulders up, back and forward. Clients may be cued to gently shrug their shoulders up and down.
- Gently relaxing the chin to the chest, lengthening through the back of the neck. On an inhale, clients are cued to slowly roll their chin to the right shoulder, and to gently look over the right shoulder. On an exhale, clients are cued to gently roll their neck

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- back to center, to pause, and then to slowly roll the chin to the left shoulder, looking over the left shoulder. This routine is repeated twice on each side
- Inviting clients to inhale and gently guide the right ear toward the right shoulder, bringing the gaze up and the left hand down on the mat beside the left hip. Clients are then invited to reach the right arm up and gently place the right hand on the head, guiding the right elbow back and very subtly guiding the right ear toward the shoulder, breathing slowly and deeply. Options are offered for clients not to place their hand on the head or to return to either of the two previous neck practices.
 - Seated cat cow. This practice is introduced as slow rhythmic movement of the spine coordinated with breath. The aim of this practice is to support rhythm and mobility in the body and to support nervous system regulation. From a polyvagal perspective, Schwartz (2024) describes that gentle and repetitive movement of the spine, coordinated with the breath, supports a shift out of protective patterns and into safety and regulation. For this practice, clients are invited to sit tall, place palms on knees, inhale, guide the heart forward, shoulders back and down, gaze comes up. On an exhale, hands slide forward as the spine curves outwards into a C shape, shoulders come forward, and the gaze comes down toward the lap. Cues are then repeated to inhale up and exhale down, slowly and gently. Clients are offered the option to gently flex the spine with gaze remaining forward. Hand remain on the thighs as the lower back is gently guided in; belly and heart come forward slightly, gaze remains forward belly contracts. This sequence is repeated: inhaling up and exhaling down.
 - Seated twist. This practice is introduced as a slow and controlled rotation of the spine grounded in a seated position, gently mobilizing the spine and bringing awareness to

- the body. From a polyvagal perspective, spinal rotations support nervous system regulation through embodied awareness, safety, and choice. Clients are invited to inhale, gently sweeping both arms straight up over head, palms together, then to exhale twisting from the torso to the left bringing the left hand behind the left hip on the mat and the right hand to the left thigh or knee, inhaling and exhaling. Clients are then cued to inhale arms up over head, to place palms together, then to exhale twisting the torso to the right side, place the right hand behind the body onto the mat. The right hip presses into the mat, and the left hand rests on the right thigh or knee. Clients are invited to inhale, exhale, inhale up to center, and then to repeat three times on each side. An option is offered for clients to bring their arms up into a cactus shape with palms facing forward, to inhale while gently twisting to the left, then to exhale back to center, gently twisting to the right. This sequence is repeated three times on each side.
- Seated forward fold. This practice is a fully supported gentle forward fold with an emphasis on comfort and containment rather than the depth of the stretch. The aim is to come into an inward focus through a grounded, stable, and supported forward fold while softly lengthening into the back muscles and expanding the breath across the back body. From a polyvagal perspective, Schwartz (2024) identifies the forward movement of the upper body as regulating to the nervous system.
 - Clients are invited to access supports (props) as needed for this practice. They are provided with an option to sit on a smaller soft block, blanket or bolster, and to raise the hips for ease of forward bending. Options are offered to place a bolster under the knees during a gentle bend forward, to lengthen the legs long without a bolster, or to

- bend the knees all the way in to the body. Clients can place an additional bolster under the forward folded head for support. Forward folds can be comfortably supported in individual way while breathing deeply, noticing sensations in the body—inner cues to the state of the nervous system. Clients are asked to breathe into the length and expansion created across the back body or to breathe into belly expansion and contraction.
- Child's pose. This practice is introduced as a forward fold resting posture that presents the opportunity for rest and containment while maintaining safety and choice. From a polyvagal perspective, this pose can reflect immobilization or, with the right cues, a felt sense of safety and containment. PVT emphasizes that neuroception is always looking for cues of safety or threat (Porges, 2022). Clients are cued to come forward on to hands and knees and to sit back, bringing seat to heels if available (bolsters and blocks can be used here). Clinicians may offer use of a bolster lengthwise in front of the body for clients to rest forward onto, or ask clients to bring the body forward, arms reaching overhead and palms resting on the mat. Clients are cued to rest and breathe here with the option to bring arms down beside the body. The forehead rests straight down on to the mat or bolster or to one side then the other. As an alternative, clients may be cued to take a seated forward fold, knees straight or bent, resting the head on an upright bolster. Throughout this pose, clients are reminded to breathe deeply into body sensations, to notice the quality of their breath and inner sensations/state of the nervous system while connecting to cues of safety within the body and surroundings.

- Supported bridge. This practice is introduced as a gentle and supported back bend that elevates the spine, pelvis, and belly using a bolster, block, or blankets. The body is supported in a comfortable way for each participant, with options given for height of lift and props used. The aim is to offer a soft opening through the front of the body while maintaining comfort and control. From a polyvagal perspective, this pose further anchors clients to cues of safety as the body gently expands and naturally comes into deeper breath. Clients are invited to notice their body sensations, quality of breath, and any changes to their nervous system, and to adjust the pose as needed or to come out of the pose. This aligns with a polyvagal-informed approach to regulation, agency and embodied safety through supported expansion. Lying on the back, clients are cued to take a couple of deep breaths. They are then asked to slide their feet onto the mat, so knees are pointed up, and to slowly guide their hips up just enough to place a bolster or block under the sacrum. Clients are cued to breathe slowly and deeply into the belly here, while anchoring to felt sense of safety within the body, breath and inner state. Options are offered to length the legs or keep the knees bent, or to use a folded blanket or smaller block for less rise.
- Knees to chest. This practice is described as a counter pose to the soft expansion of supported bridge. The aim is to rest in support and containment while offering gentle abdominal and pelvic awareness with a chosen amount of compression. From a polyvagal perspective, with support and choice, this pose may signal safety to the nervous system. Clients may be invited to tuck a bolster against their sacrum, to hold the knees with hands or to wrap arms around the knees. Options are offered to use a strap to hold the knees or feet closer or to place blocks under the feet to bring the

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- knees in toward the body. Clients may choose to open their knees and to decide the level of support and compression as knees are pressed into the chest. Cues are provided to breathe deeply into compression and to notice body sensations, quality of breath, safety, support and containment. Cues may be offered to lengthen the exhale or to sigh.
- Supported fish. This practice is introduced as a supported back lying position that allows for a soft opening across the chest and heart area. The aim is to induce gentle and passive opening across the upper front of the body while resting into comfort, choice and stability. From a polyvagal perspective, this heart-opening and well supported practice can cue safety for the nervous system and regulation to the vagus nerve. The vagus nerve runs through the neck, heart area and into the stomach, all areas that are gently opened and lengthened in this pose. Clients are invited to place a bolster, rolled up blanket or blocks lengthwise behind the back to support the mid back and the head. An additional block under the bolster may be used to raise the head or support the mid back as clients slowly lie back on to the supports, breathing slowly and deeply into the front of the body. Clients are given the option to open the arms out to the sides in a cactus shape for a deeper opening across the shoulders, or to place their feet on mat and bend their knees. Additional support may be placed under the knees and arms. In this pose, clients are asked to breathing deeply across the chest, shoulders, and heart area, possibly expanding and contracting the belly with deep inhales and long exhales (or sighs). Option to sighs.
 - Counter poses include: knees to chest, legs up the wall, or waterfall. These poses are deeply relaxing and calming to the nervous system and may improve circulation

without effort. From a polyvagal perspective, restorative and supported poses influence the vagal nerve and support nervous system regulation (Schwartz, 2024).

Closing. The therapeutic yoga practice concludes as follows:

- Rest pose. Clients are invited to come into a resting post that may include: laying on the back with a bolster under knees, laying on either side of the body, laying on the belly or in child's pose. During this resting pose, clients are invited to come back into awareness of the body, to scan the body, and to notice physical sensations, the natural state and quality of the breath, and qualities of breath. During resting pose, clients are cued to notice internal sensations and practice neuroception (awareness of the state of the nervous system and a felt sense of safety).
- Bee breath. This practice is introduced as a calming breath that creates a vibration by humming on an exhale. The aim is to calm the nervous system through vibration that stimulates the vagus nerve. From a polyvagal perspective, humming is a way to awaken the vagal nerve and calm the nervous system (Schwartz, 2024). For this breath practice, clients are cued to slowly come to a seated position, to notice the natural state of breath, and then to begin to elongate the exhale, possibly inhaling for a count of 4-5 seconds and exhaling for a count of 6-8 seconds. Clients are cued to begin to hum out on the exhale, to cup hands gently over the ears, throat, or heart space or to place hands facing down in the lap.

Reflections

This capstone gifted me the opportunity to bring together my personal practice, clinical experience, and scholarly study in a way that deepened my understanding of embodied trauma and healing. As previously stated, I have been in personal yoga practice for 20 years and have

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worked as a registered yoga teacher for 10 years. Despite my experience, completing this project showed me that I still have a considerable amount to learn in the yoga realm. It is no surprise to me that yoga is widely researched and seemingly well regarded as a five-thousand-year-old science and therapeutic intervention for trauma.

Early on in my practicum clinical work, I discovered PVT and it immediately resonated with my approach to mind-body holism. Since that time, I have trained and studied the theory to be able to consistently integrate its principles and practices into my clinical work. This included using PVT to frame yoga practices. The learning that emerged on PVT in my research has been invaluable. In the past, PVT research has been daunting as it is heavily based in neuroscience, yet across the literature I discovered it framed from many perspectives that all contributed to accessibility and a deeper appreciation for me. The finding that particularly awed me was the seemingly harmonious integration of yoga with PVT. Though limited research studies exist, the link was made several times in the studies that do exist. Despite this lack of explicit bridging, the connection between yoga and PVT emerged early on in the research for and planning of this capstone project.

During my student practicum and clinical work, I observed the value of both PVT and yoga in supporting trauma healing. This capstone allowed me to step back and analyze these observations through a research lens. Engaging deeply with the literature validates the value of clinical approaches that are meaningful and not yet widely used. The research process also prompted a meaningful shift in my professional orientation. While I have always held the importance of science-supported interventions in clinical work, I also tend to lean into intuitive and organic ways of practice, using embodied wisdom alongside theoretical interventions. This was an ideal project to inspire me to lean equally into scholarship and research depth while

honoring my positionality. Although research is not my intended path in counselling psychology, this project reinforced the importance of ongoing engagement with research to support ethical and informed clinical practice.

Reflexivity and positionality were important throughout this project. Immersing myself in this capstone required embodiment to sustain the cognitive focus required to care for my nervous system. I became distinctly aware of how shifts in my own self-care and yoga practices during periods of intense academic focus led to dysregulation in my physiology and emotions. Caring for my own nervous system with PVT and yoga was an integrated aspect of completing this project.

Prior to this capstone, I held a strong belief that PVT informed yoga had a valuable place in trauma healing. Through this research project that belief has evolved into a confident and deeply grounded knowing that validates my ongoing clinical approach. I see a natural and profoundly aligned integration of embodied practice and neurophysiological theory. This realization fortifies me to continue engaging in research, training, and relevant supervision to support me with embodied trauma healing through PVT and yoga.

From a professional development perspective, this capstone clarified my commitment to ongoing learning in this field and provided me with growing confidence to engage with emerging research in meaningful ways. This project reinforced my intention to practice counselling and treat trauma in ways that support mind-body holism and embodied healing through both theory and safe, supported, experiential practice.

Conclusion

This capstone explored trauma healing through a neurophysiological and embodied lens. The discussion was guided by a question about how PVT might contribute to a deeper

therapeutic understanding of yoga as an embodied intervention. This deepening understanding of trauma healing as an embodied and autonomic process helped me to better understand how yoga practices that are informed by neurophysiology may contribute to ANS healing.

This project positions trauma as a physiological embodied condition impeding ANS regulation, a felt sense of safety, and the capacity for connection. Cognitive-insight approaches are limited along, suggesting the need to develop embodied models of care that address physiological dysregulation. PVT is a neurophysiological framework that supports understanding embodied trauma, and yoga is PVT informed intervention that can support embodied trauma healing.

Chapter Two critically examined the research, positioning trauma as an embodied condition; healing trauma begins in the body. Research on PVT as a framework for understanding trauma was synthesized to examine core principles related to trauma and healing. Yoga emerged as a specific, embodied, and trauma informed intervention. While yoga offers trauma informed practices that engage clients in a felt sense of safety, regulation, and embodied awareness, the mechanisms of change are not accounted for. In contrast, PVT outlines physiological and autonomic based healing pathways, incorporating interventions like breath, movement, and measurable changes to physiological attributes.

Chapter Three responded directly to the research questions posed with a discussion of the synthesized findings, outlining a restorative, polyvagal and trauma informed yoga practice. This applied contribution demonstrates how yoga interventions intentionally structured through a PVT lens might support ANS regulation and a felt sense of safety while displaying the links between PVT and yoga in theory and embodied practice. PVT offers explanation of how and

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why embodied practices activate healing at a neurophysiological level; yoga extends embodied practices that influence physiology and autonomic regulation.

Overall, this capstone shows that integrating PVT with yoga interventions might be a highly compatible and clinically meaningful approach to trauma treatment. The discussion contributes to deeper understanding of the ways yoga can be therapeutically actionable through the lens of PVT. This project contributes to the development of theoretically and therapeutically grounded approaches to embodied trauma recovery.

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