PEER REVIEWED

The Neuroscience of Care: A Polyvagal Informed Approach for Child and Youth Care Practitioners

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Abstract

Child and Youth Care (CYC) practitioners have intuitively and theoretically aspired to create a field of practice that embodies a felt sense of safety within relationships. At the same time, we are aware that our aspirations have yet to be realized in many of the care settings we work in. In this paper, the authors present possibilities for a polyvagal-informed practice that is grounded in neuroscience. With knowledge of some basic principles of neuroscience, CYC practitioners can further advance key tenets of CYC practice. Of particular importance are the opportunities that neuroscience provides to enhance needs-based relational practice and relational safety. Beginning with a brief explanation of polyvagal theory (PVT), followed by a discussion of our field's history and possibilities for a more justice-oriented future, this paper aims to briefly introduce a few of the universal aspects of human connection that neuroscience has to offer. CYC practitioners can apply this knowledge as a lens by which to continue the many creative interventions already established in their repertoire of relational approaches to care.

Key Words

relational safety; needs based CYC practice; polyvagal theory; neuroscience

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Introduction

To relate to another person, to be able to learn, to be creative, to engage wholeheartedly with all aspects of one's present reality requires feeling safe. Child and Youth Care (CYC) practitioners have intuitively and theoretically aspired to create a field of practice that embodies a felt sense of safety within relationships (Garfat, 2016). At the same time, we are aware that our aspirations have yet to be realized in many of the care settings we work in[1]. As CYC practitioners invested in the ongoing development of relational practice, we have been reassured to witness the ways in which the field of neuroscience has deepened our understanding of human needs and validated our intuitions about the importance of safety in relationships (e.g., Levine, 1997; Perry & Szalavitz, 2007; Porges & Dana, 2018; van der Kolk, 2014). The possibilities of neuroscience to enhance child and youth care interventions and support young people are profound. Yet, this is an area not yet widely discussed in CYC literature.

Our aim with this paper is to share our enthusiasm for a particular approach to CYC practice using the neuroscientific theory known as Polyvagal Theory (PVT). We hope that this paper will fill a gap in our knowledge of relational practice and spark new conversations about how to foster greater social engagement with young people. PVT has not only transformed our practice, but it has also enriched our own lives, and thus the lives of our clients. PVT provides practitioners with a way to deepen our knowledge of universal shared human experiences and reactions to cues of safety and threat in our environments. A polyvagal-informed approach is a relational approach, but one that moves beyond the confines of traditional behaviourist and compliance-based approaches to care. PVT offers a paradigm shift towards a deeper relationality wherein personal agency, anti-oppression, and self-actualization can be realized.

[1] For evidence and discussions on the harm some young people endure within education and care settings here in the authors' home province of Ontario, Canada see: (Provincial Advocate for Children and Youth [PACY], 2016; Snow, 2017; Vachon, 2022).

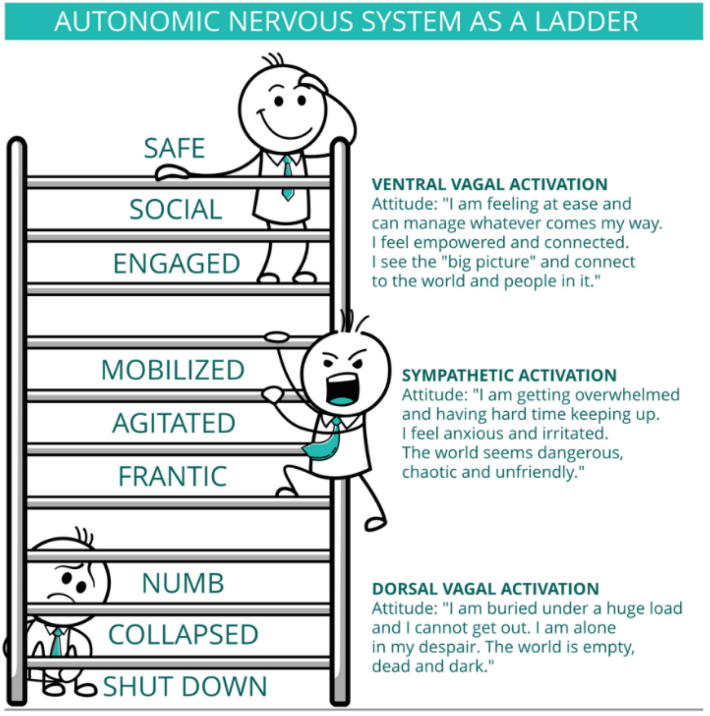
What is Polyvagal Theory?

Stephen Porges (2007) first introduced the polyvagal theory (PVT) as a theoretical perspective in 1995 as a way to explain autonomic psychophysiological functions of human behaviour**.** When he later published the theory in his book The *Polyvagal Theory: Neurophysiological Foundations Of Emotions Attachment Communication Self-Regulation* (Porges, 2011), therapists worldwide began to adapt the theory into their practices supporting clients who experienced trauma, depression, anxiety and a myriad of other mental health challenges (Porges, 2017). To offer a brief explanation, PVT focuses on the function of the body's vagus nerve. The vagal nerve is the 10th cranial nerve. As the longest and most complex of our cranial nerves, it wanders throughout the body from the base of the skull to the abdomen. It transmits sensory information from both the exterior world and the interior world of our bodies. It regulates our nervous systems at all times to ensure that we are safe and able to exercise our biological imperative towards connection with others.

Visually, PVT can be represented as a hierarchical system, much like a ladder (see Olgakabel, 2019, for the image adapted from *The Polyvagal Theory in Therapy by Deb Dana*)[2]. Each state represented on the ladder results from the vagus nerve's assessment of our environmental and relational safety. If our ability to stay socially engaged (top of the ladder/ventral vagal state) is compromised, then the survival potential of our flight or fight state is activated (middle of the ladder/sympathetic pathway). However, if our

[2] Image Description: A ladder labelled as The Autonomic Nervous System as a Ladder is drawn with three human stick figures positioned on the bottom (collapsed), middle (aggressive stance), and top (happy/calm). The bottom is labelled: numb, collapsed, shut down. The caption reads: dorsal vagal activation. Attitude: "I am buried under a huge load and I cannot get out. I am alone in my despair. The world is empty, dead, and dark." The middle is labelled: mobilized, agitated, frantic. The caption reads: sympathetic activation. Attitude: "I am getting overwhelmed and having a hard time keeping up. I feel anxious and irritated. The world seems dangerous, chaotic, and unfriendly." The top is labelled: safe, social, engaged. The caption reads: ventral vagal activation. Attitude: "I am feeling at ease and can manage whatever comes my way. I feel empowered and connected. I see the big picture and connect to the world and the people in it."

autonomic nervous system (ANS) assesses the sympathetic pathway as inefficient in the face of the potential threat, then the freeze and/or collapse system is activated (bottom of the ladder/dorsal vagal). Our pathway back to social engagement (top of the ladder) requires a reversal back through the system.



Adapted from *The Polyvagal Theory in Therapy* by Deb Dana

PVT illuminates how as both a species, and as individuals, we can map our nervous systems. A mapped nervous system highlights conditions in which our ancient defensive system is activated by "triggers" and our most recently evolved state of social engagement can be anchored with "glimmers" (Dana, 2018, p. 66). Porges (2017)

explains this further through the process of what he calls *neuroception* by which the nervous system is at all times engaged in a process of scanning and assessing for safety and danger completely outside of our conscious awareness. Our neuroceptive capacities are constantly in service of our needs for safety and alert us to cues of danger within the internal climate of our body, the external world outside our body, and the inter-relational realm within our relationships. In the absence of any "felt sense" of danger (see Levine, 2019), we reside in the most recently advanced part of the nervous system's social engagement or ventral vagal state. In this state we experience the 'sweet spot' of life where we are most relational, calm, creative, and able to learn and thrive. When a cue of danger is neurocepted, then our defensive system is automatically engaged into states of defense that Porges argues originated within our evolutionary ancestry[3]. The dorsal vagal state is the most ancient state and is marked by the physiology of freeze, collapse and shut down. When life-threat is perceived, the ANS protects the system through the process of shutting down systems in the body and mind (Dana, 2018; Porges, 2017).

Mapping our own idiosyncratic systems makes conscious the stimuli that activate our ANS states of defense (commonly referred to as triggers). This enables us to investigate ways to engage in practices that prepare and protect ourselves from potential triggers, or to engage in a therapeutic process to neutralize those triggers.

Why is Polyvagal-Informed CYC Practice Important?

Our History of Behaviourism

Since the inception of the field of Child and Youth Care, the relational approach has been a source of much pride and professional definition. Articulating the practice of relational work has been an evolving process as our ethics and understanding of young people's challenges have developed over time. In one early work, Trieschman, Whittaker,

[3] See (Porges, 2021, section IV) for Porges' response to some critiques of his evolutionary ancestry theories.

and Brendtro (2002)[4] defined relational practice using "the life milieu" model, which evolved from within the traditional "children's management field" developed by August Aichorn, Bruno Bettelheim, and Fritz Redl (p. vi). In the book's seminal chapter, *Establishing Relationship Beachheads*, Brendtro (2002) explained that the adult therapeutic relationship could be used as a tool to outsmart and "out-manipulate" a misguided child within the "framework of socially acceptable behavior" (p. 89). The goal of relational practice was clear: to mold young people's behaviour using tactical behaviour management techniques.

Over time our field has shifted from using relationship in CYC practice as "some simple tool" for behaviour change, to understanding the therapeutic value of "being in relationship" with young people (Garfat, 2008, p. 7). Yet, we are still often forced to practice relational work within the context of rigid behaviour change models (Anglin, 2002; Brockett & Anderson-Nathe, 2016; Niang, 2019), and normative Eurocentric developmental behaviour theories (Igbu & Baccus, 2018; Pacini-Ketchabaw, 2011; Skott-Myhre, 2004). Our very foundation has been built on theories of behaviour change rooted in the concept of appropriate normative behaviours. It is said that the professional field of child and youth care began with Jean Marc Gaspard Itard in 1801 in France (Gilmour-Barrett & Pratt, 1977). Itard's advent of the "Imperious Law of Necessity" – a behavioural experiment that matched 'preference' with 'ability' for the purpose of teaching social skills to a young non-speaking boy who had lived alone in the wilderness – created the foundation for what is now known as operant conditioning (Linneman, 2001, p. 105). Operant conditioning is now the basis for the points, level, and reward systems used in many group home and special education classrooms. A primary focus of Itard's work was the therapeutic relationship he established with the boy from the woods. According to Linneman (2001), Itard rejected the popular opinion of his professor, Philippe Pinel[5], that the boy from the wild was fit only for a life in an institution. Itard felt that the boy "had a

[4] *The Other 23 Hours: Child-Care Work with Emotionally Disturbed Children in a Therapeutic Milieu* was originally published in 1969

[5] Philippe Pinel is the psychiatrist famed for the moral and humane treatment of mental illness.

simple deficiency of contact with the world" that if addressed through the establishment of a therapeutic relationship, could support the boy to integrate successfully into society (p. 103). Thus, the influential work of human connection and relationships took hold in human service fields that adhered to the dominant societal values of teaching appropriate social skills and behaviour. In Canada (and many other parts of the world), CYC practitioners have used a therapeutic relationship approach to support "disadvantaged and troubled youth" who have struggled with socially acceptable behaviour from the mid-1800s onward (Gilmour-Barrett & Pratt, 1977, para. 1).

It is further true that much of what our Western societies deem as socially acceptable behaviour has developed within a colonial construct born from Victorian moral values focused on discipline for the benefit of modern capitalist gains (Skott-Myhre, 2004). Therefore, relational practice has endured for centuries within systems that value compliance over personal autonomy, resilience, and emotional well-being (Brockett & Anderson-Nathe, 2016; Fox, 1994; Skott-Myhre, 2004). Despite the obvious problems with this approach, it is important to recognize that compliance-based models of care cannot be abolished without something to take its place. Tiffany Hammond (2021), a Black autistic mother of a racialized autistic child explained that as harmful as compliance-based behaviour change models may be, young people marginalized by racist and ableist ideologies rely on their compliance skills in order to survive in a society "… that is compliant based and hellbent on maintaining a hierarchy of bodies it deems worthy and unworthy" (para. 39). This is particularly true for Black, racialized, and Indigenous youth who are disproportionately subjected to police brutality. In lieu of more justice-oriented solutions to care, the survival of many young people depends on the delivery of behaviour change programs run by compassionate CYC practitioners who first and foremost respond intuitively, if not explicitly, to the inner emotional pain causing a young person's troublesome behaviour (Anglin, 2002). Within the constraints of our oppressive systems, the field of CYC has aimed to help practitioners understand that genuine caring relationships with young people matter. We hold hope that advancements in the practical applications of neuroscience can provide one avenue toward the more justice oriented CYC practice that many in our field have long understood to be possible.

Neuroscience and Justice-oriented Approaches to Care

We believe that the field of CYC can advance relational care with intuitive body-based knowledge emerging from the foundations of neuroscience. Neuroscience approaches, such as those informed by PVT, support young people to recognize and respond to cues of danger that are omnipresent in our normative power-driven society. Such approaches make it possible for young people to survive, and even thrive, because knowledge of our nervous systems helps us become aware of our felt sense abilities to respond instinctively to the threats of oppression (Menakem, 2020). The application of this knowledge is something new that behavioural approaches to care have not been able to offer. A quick scan of the literature reporting on school to prison pipelines, rates of recidivism, or physical restraints and violence involving young people, reveals how our traditional forms of behaviour management (e.g., rewards, consequences, goal setting, etc.) continue to fail young people. As Audre Lorde (1983) put it, "the master's tools will never dismantle the master's house" (p. 25). Neuroscience provides us with an opportunity to liberate ourselves from "colonial youth work" (Skott-Myhre, 2004, para. 9).

While it is true that polyvagal theory was formulated through a White, male perspective (i.e., Stephen Porges), knowledge of our nervous systems did not derive from within a White colonial context. Neuroscience has emerged from the most ancient wisdoms of our planet. Knowledge of our neuroceptive abilities has long been a universal way of relating to one another and to the world around us. For example, Indigenous ways of knowing understand how the inter-connective healing between one's own body, mind, and spirit is integral to "inter-species connection, and the wholeness of our existence" (Clarke & Yellow Bird, 2021, p. 6). Hunter-gatherer societies have long understood the balance and harmony that results from an attunement to the functions of our own and other species' nervous system states – fight/flight/freeze, stillness, focus, rest, calm, and joy all work together for holistic wellness, connection, and survival.

Scholars in the fields of justice oriented social work and psychotherapy have begun to explore the possibilities of neuroscience in the collective healing from colonization and White supremacy. For example, Clarke & Yellow Bird (2021) have coined the term

"neurodecolonization" to articulate one aspect of this work, which they describe as a mindful awareness of one's neural potential for a deeply healing form of decolonization:

> ... mindful decolonization practices can enable a person and a community to purify, restructure, and decolonize the mind to overcome and transform colonial trauma, distractions, symbols, language, and systemic racism, sexism, ableism, and homophobia (p. 145).

In other words, the goal of neurodecolonization is to utilize mindfulness-based activities to soothe activated nervous system responses in the face of structural oppression. Mindfulness has the potential to increase the capacity for healthy resilience by training the brain to challenge damaging feelings, thoughts, and actions (e.g., self-criticism, destructive rage, etc.) that arise from exposure to historical trauma and oppression (Yellow Bird, 2012).

Similarly, Resmaa Menakem's (2017) articulation of "White body supremacy" explains the traumatic impact of racism stored in the nervous systems of both Black and White bodies. Menakem, a healer and anti-racism educator, uses neuroscience to support practitioners, police officers, and victims of violence in the use of mindful neural exercises to anchor their traumatized bodies into ventral vagal states of human connection. This is an approach with great potential to end the cycle of death and violence against Black bodies.

Understanding that oppression can overwhelm one's nervous system beyond the ability to control our reactions creates empathy, understanding, and safety in our relationships with one another (Menakem, 2017). When utilizing PVT and neuroscience in our work, it is important we do so from a lens that acknowledges the power and privileges afforded to some people in our society over others. This privilege includes White practitioner privilege, non-disabled practitioner privilege, heterocisnormative privilege, among many others. It is imperative we understand that for some young people, the threat of physical danger is still very much a part of their everyday existence. When young

people are systemically subjugated within our societies, the potential for their nervous systems to be triggered into fight/flight/flee or shut down states is heightened. Systems of power commonly employ 'power over' techniques that enforce rules, expectations, laws, and social mores. The paradigm shift that is possible with PVT is to experience and cocreate relationships that are 'power with' – this is the power that comes with deep awareness of, and dialogue about, the totality of one's individuality and their connection (or lack thereof) to the community. This shift guides us toward a fuller understanding of the 'problem' behaviours that CYC practitioners have been able to view through a strength-based lens of resilience (Brockett & Anderson-Nathe, 2016). An awareness of the unifying functions of our nervous systems assists us to work with, as opposed to against, the young people in our care.

Possibilities and Parallels: A Polyvagal-Informed CYC Practice

We have briefly introduced the potentials of a polyvagal-informed CYC practice to liberate young people from the more rigid compliance-based approaches to care. It is equally important to note that much of the knowledge we have about the practical applications of neuroscience within relational work has emerged outside of our traditional canon of CYC literature. Commonly, only those CYC practitioners who have studied trauma become familiar with a small sample of this literature. Some examples CYC practitioners may be familiar with include Howard Bath's (2021) application of neuroscience to the relational healing of trauma; Howard Bath and John Seita's (2018) discussion of trauma and the brain as they relate to pillars of safety, connection, and coping; Bruce Perry and Maia Szalavitz's (2007) discoveries of loving connection that nurtures the healing power of the brain; or Bessel van der Kolk's (2014) work on attending to trauma that is stored in the body. We feel strongly that a neuroscience approach does not have to be limited to work with trauma alone. Knowledge of our nervous systems is a life skill that can benefit all young people we support, and all practitioners who work with young people. That said, we acknowledge the newness of this information and the careful considerations raised by thoughtful CYC scholars who have cautioned against the applications of neuroscience in CYC without a strong foundation in

firmly established approaches to relational care (Newbury, 2016). For this reason, we do not offer any particular tips or tools specific to a polyvagal-informed CYC approach. Rather, our aim is to briefly introduce a few of the universal aspects of human connection that neuroscience has to offer. CYC practitioners can apply this knowledge as a lens by which to continue the many creative interventions already established in their repertoire of relational approaches to care. For practitioners looking for program and activity ideas, we direct your attention to the introductory resource list we have provided at the end of this article.

The following sections describe some of the parallels we have noted between relational CYC practice as we have come to know it, and a polyvagal-informed relational approach not yet articulated widely in our field. We believe that bridging these approaches more effectively could be one way of moving toward the more justice-oriented approaches of care we have been aiming for. To understand the differences in these perspectives more fully, we discuss the ways in which polyvagal theory (PVT) compares to two important CYC tenets of relational practice: 1) needs-based relational practice and 2) relational safety.

Needs Based Relational Practice

> *"Most of us think of ourselves as thinking creatures that feel, but we are actually feeling creatures that think."* – Jill Bolte Taylor

While it is true that we have come some way since the more traditional view of CYC focused solely on the behaviour management of young people, we still have a way to go. Only recently has relational practice defined itself in more justice-oriented ways that respect the autonomy of young people. For example, we have made a significant shift in perspective from a focus on *optimal development* to *developmental needs*, which can make a world of difference for young people in our care (CYC-Net, 2017). A focus on the optimal development of young people is derived from behaviourism, which leads to one-size-fits-all approaches that assume there is a normative level of development achievable

by all young people by a certain age and stage (Delahooke, 2019a). In contrast, polyvagal-informed relational care focuses on the developmental needs of young people based on each person's unique neurological and physiological differences (Delahooke, 2019a; Porges, 2007). The former approach results in the creation of goals based on a predetermined norm defined by others, while the latter supports the collaborative development of individualized goals that make sense for each young person's developmental needs regardless of chronological age.

Developmental theories, as understood through a CYC relational perspective, have highlighted the importance of understanding the needs of young people. Several of these theories have adhered to the common idea that all behaviours serve a purpose, and that purpose is to meet an unmet need (Garfat *et al*., 2018). Advancements in our knowledge of the nervous system helps us to understand behaviours at a deeper level beyond the previously held notions that all behaviours occur (either subconsciously or consciously) to fill an unmet need (Freeman, 2013; Glasser, 1998). For example, a PVT lens understands that many of the most challenging behaviours expressed by young people are not driven by choice. Rather, they are "bottom up" or "body up" behaviours (Delahooke, 2019a, p. 29) that are autonomic and instinctual evolutionary threat responses (fight or flight) to an activation of the ANS. When we view behaviour through a PVT lens, we understand that not all behaviour serves a purpose in the ways we have traditionally been trained to understand behaviour. Contrary to what has commonly held to be true, we do not "choose *everything* we do" (Glasser, 1998, p. 8). Young people in child and youth care settings do not always develop purposeful habits of harmful behaviour in order to meet their needs (Freeman, 2013). Nor do they often choose to become physically aggressive, throw tantrums, or throw things across a room. Many aggressive or challenging behaviours are the *unintentional and autonomic result* of threat that is detected by the evolutionary function of a nervous system in a state of survival (Dana, 2018; Porges, 2017). Meltdowns, tantrums, and a loss of control are caused by an overwhelmed nervous system that can no longer cope with the external triggers activating the sympathetic ANS pathway. When moments of overwhelm occur, whether that is within the relational realm, environmental context, or state of over-stimulation, a young person's defensive system

engages the sympathetic and/or dorsal vagal state. Their prefrontal cortex, also known as the thinking brain (the part of the brain that makes conscious choice and decision-making possible) becomes autonomically inaccessible (Siegel & Bryson, 2012).

At the same time, we know that not all challenging behaviours are autonomic or unintentional. Theories such as Glasser's (1998) choice theory hold aspects of truth in that some behavioural reactions to stressors *are* driven by choice. A PVT-informed relational approach recognizes these as top-down behaviours that derive from the thinking prefrontal cortex region of the brain (Delahooke, 2019a). As young people grow, so does their developmental ability to meet their needs through prefrontal neural processes. All young people are unique in their developmental ability to manage their stressors and self-regulate, and there is no standardized age or stage for the mastery of self-control or emotional regulation; this capacity is unique to each young person's neurology and personal experiences (Delahooke, 2019a).

Understanding the critical difference between bottom up and top-down behaviours is key in determining the right kind of therapeutic approach. Too often, all behavioural reactions to stress are treated as choice-driven top-down behaviours resulting in rewards, consequences, or goal setting strategies that fail to meet the needs of the young person in distress (Delahooke, 2019b). Bottom-up behaviours "…require understanding, compassion and actively helping an individual feel safe, based on that individual's unique neurology" (Delahooke, 2019b, para. 13). A polyvagal-informed relational CYC approach requires an accurate assessment of a young person's social-emotional development and an ability to read a young person's "cues in the moment" (Delahooke, 2019a, p. 28). Responsive and experienced CYC practitioners have intuitively tuned into these moments throughout the history of our practice (Anglin, 2002; Brockett & Anderson-Nathe, 2016).

Finally, a polyvagal-informed relational approach does not see behaviours in terms of simple bottom up or top-down binaries. Delahooke (2019) explains that top-down behaviours "can be hijacked at any moment by the lower, survival-based instinctual brain when one experiences threat or danger" (p. 29). In other words, as humans we navigate between instinctual neuroceptive autonomic responses and prefrontal neural cognitive responses. We can also experience a mix of states at the same time. Using a needs-

based PVT lens, we can appreciate a young person's use of their thinking brain (a capacity of the ventral vagal state) while simultaneously in a state of dysregulation – for example, when a young person throws a chair "at the wall *near* a staff person, but deliberately does not throw it *at* a staff person" (Brockett & Anderson-Nathe, 2016, p. 59). Brockett and Anderson-Nathe (2016) define this behaviour as an act of behavioural growth and resilience that communicates an important need for change and safety in a young person's life. PVT allows further appreciation of this behavioural growth along with empathetic paths forward to safer behaviours.

Polyvagal-informed practice helps us to understand that we are not simply "thinking creatures" who purposely choose behaviours based on a particular need. We are first and foremost "feeling creatures" (Taylor, 2006, p. 42) who require instinctual understanding, connection, and co-regulatory safety from those around us.

Relational Safety

"Relationship is the intervention" – Carol Stuart

Relational CYC practice has aimed for a quality of practice that can evolve within the vibrancy of the shared relational space of perspective taking, dialogue, and deep listening. Bath and Seita (2018) contend that the first essential "pillar" of achieving such transformative care with young people is safety. Although relational safety has yet to be widely discussed in our field, we understand that certain mechanisms of our care systems, such as points and level systems (Fox, 1994), and reactive responses to pain-based behaviours (Anglin, 2002), can stifle the creativity and flow of intuitive relational safety; such mechanisms serve only to maintain the status quo of oppression and compliance with dominant structures of power. Niang (2019) further noted a tension between the "incongruity of behaviour change models and the relational approach" (p.43). This incongruity becomes apparent when both young people and practitioners come to the unfortunate conclusion that a good quality of life can only be achieved when one conforms to the expectations of a society that employs 'power over' tactics in service

of the dominant privileged agenda that would otherwise exclude them. PVT illuminates how some behaviour, particularly behaviour that occurs within settings of power dominance and control, can manifest as reactive (from activation of the sympathetic ANS pathway) or inactive (from overwhelm causing a dorsal vagal shut-down state). An understanding of these nervous system responses creates safety within the therapeutic relationship.

Emotional regulation and safety. Seasoned CYC practitioners understand the futility of telling a young person to "just calm down" when in a state of dysregulation. A dysregulation nervous system operates outside the sweet spot of the ventral vagal state, which compromises our capacity to hear, think, and perceive safety in any rational way. The ANS neurocepts cues of danger, thus bringing energy into the system- the heart rate increases, the pace of the breath changes, and signals are sent to the brain to fight, flee, or feign death (Porges, 2017). When this occurs, there is no point in using energy to think in creative, complex ways. The ANS system is mobilizing towards protection by using all energy for self-protection. In this state, there is both a negativity bias and an urgency bias employed. These biases assure that immediate action is taken while hyper-alertness occurs to assess for further risk. It cannot be overstated how essential it is to appreciate the difficulty of perceiving cues of safety, hearing other people, or thinking rationally when in a dysregulated state. In highly activated states, cues of safety may even be perceived as threats due to impaired cognitive functions.

In CYC practice, it is common to set goals of emotional regulation for young people. However, expecting young people to always present with regulated emotions when they have experienced repeated 'power over' tactics from others is not only unrealistic, but serves as yet another 'power over' tactic of oppression and thus, another cue of danger. Clinically, we must continually strive to balance the unique understandings that PVT provides while never privileging self-regulation as an ideal state of being. States of defense and dysregulation of emotions are important pieces of information that tell us a person is not experiencing safety. Through a strength-based lens, these behaviours can also be viewed as signs of and resilience and resistance to power (Brockett & Anderson-Nathe, 2016). At times this may be in respect to the current conditions they find

themselves in needing to be addressed or altered to experience safety. Or, if they assess safety *is* present, but that they are experiencing the effects of a sensitized nervous system, then the goal is to equip young people with techniques and knowledge to down regulate that activation and work towards a greater degree of regulation when it is possible and available to them. Supporting young people to assess the conditions that are creating their own experience of danger, and then utilize this information towards the potential to create safety, is an important goal of polyvagal-informed practice.

Neuroceptive capacities for safety. Most crucial for practitioners to understand when it comes to relational safety is that each body's neuroceptive abilities are instantaneous, automatic, and occur prior to the slower processing of the thinking brain. Deb Dana (2018) describes this as a process by which the "story follows state" (p.6). Once cues of danger are neurocepted by the body, the thinking brain endeavours to make sense of the cues of danger and tells a story about what that threat means. Evaluations of safety are being made by the body constantly, this includes safety within realms of relationships, cognitions, physical context, and bodily integrity. Assuring and negotiating for safety within relationships can never be assumed by verbal or behavioural compliance but must be navigated within and through the communication systems of the body. Once this embodied relational safety is established, practitioners can attend to the cognitive 'storying' process of a given event. First the body, then the story.

Even in moments where we are anchored in our 'sweet spots' of our ventral vagal state, our ANS is utilizing what can be referred to as our "vagal brake", which is the braking system of the vagus nerve that helps to regulate our heart rate to ensure we are most able to benefit from experiences of safety and connection while facing the demands of daily life (Dana, 2018, p. 28). Many people develop the ability and skills to utilize a functional braking system as a direct result of relationships that have been safe, reciprocal, restorative, and in service of our needs. The ability to be vulnerable, spontaneous, emotionally available, and creative, is often a direct result of our relational history. The greater the relational safety that we have experienced, the greater the possibility of using our vagal brake to limit our systems from shifting into a defensive fight/flight posture in situations that are not truly a threat to our survival.

However, the time frame for vagal brake development is not fixed. Nor can we always be predictive of the elements that are necessary for the creation of a good vagal braking system. In our own practice, we have noticed that young people with divergent ANS profiles (e.g., autistic and neurodivergent people) need alternative support for above and beyond safety within relationships. Even in our most safe and intimate relationships, one's neuroceptive capacities are actively perceiving cues of safety or threat. These capacities – capacities which ensure our survival – are often outside conscious awareness. Neuroceptive capabilities are not defined by others or by the ideals of common perception. This means that cues of safety and danger are highly idiosyncratic, and safety in relationships cannot be defined by the CYC practitioner alone. As theorists and clinicians deepen their understanding and integrate PVT theory into their work, the ability to identify and create the conditions necessary for all young people to develop an effective vagal braking system through both relational safety, and their own body-based wisdom, will simultaneously become more understood.

Trauma histories and safety. Further, when supporting young people with histories of trauma, there are other aspects of safety to consider. As a species, our ANS systems may share in many stimuli that are activating to our defensive system (e.g., great heights, loud sudden noises, snakes, etc.). Similarly, our species can share in stimuli that is calming to an activated ANS system (e.g., waves, birdsong, melodic voices, etc.). However, when an individual has been traumatized then even the most calming stimulus can be transformed into a trigger of defense if that stimulus has been associated to the trauma. There is truth in the saying: 'neurons that fire together, wire together'- a person assaulted in a beautiful field of spring flowers and birds will likely not experience such an environment as calming. It may be possible again, but likely not without a conscious efforts uncouple the stimulus and the traumatic event. The sensory stimuli of traumatic experiences are encoded into our ANS in the hopes of creating future protection from future trauma. This encoding can be conscious but often it is unconscious. The younger the person is at the time of the trauma, the more stimuli become encoded.

It is important to highlight that our use of the word trauma here is not meant only for incidents that have been validated or defined as traumatic by dominant societal

structures (e.g., when one experiences war, abuse, or criminal assaults). We utilize the word trauma, as informed by PVT, to express how significant incidents of interpersonal rejection, isolation, betrayal, and emotional deprivation compromise our biological imperative for social engagement and connection. In this understanding of trauma, a person may experience seemingly harmless encounters (e.g., a sideways glance, someone too close to their body, or a request for eye contact) as threats to their personal safety, thus activating an extreme defensive response.

Nervous system mapping for relational safety. Regardless of the conditions a young person in our care has experienced, a polyvagal-informed relational approach understands that all of us share a natural acute awareness of Self and Other made available to us through the process of neuroception. Creating therapeutic relationships requires that practitioners map their own nervous systems (Dana, 2018) such that they are able to benefit from the brilliance of their own neuroception while attending to the experiences of others. We can never fully know another person and the complexities of their nervous systems. But having mapped our own nervous systems allows for the greater possibility in our ability to send others cues of relational safety, while at the same time be available enough that we may notice when we may have activated the nervous system of the other person. Such moments are opportunities for our own professional development and growth as well as corrective experiences in the lives of our clients. This knowledge of our nervous systems adds an important lens to the responsive CYC practitioner's intuitive understanding that meeting a reactive young person with a calm and regulated emotional state increases relational connection and safety (Anglin, 2002).

Attuning to our own and the other person's nervous system in these ways potentiates trust and safety. This is 'the work' without which nothing else is possible. To be sure, this reciprocal process of relational safety is not a new concept to our field. Garfat (2008) described the co-created space of safety between Self and Other as "the in-between between us", a space where practitioner and young person intuitively assess their comfort and connection with one another (p. 1). Krueger (2000) used the metaphor of a dance: "Workers bring themselves to the moment, practice, plan (choreograph), listen to the tempos of daily living, improvise, and adjust to and/or change the contexts within

which their interactions occur" (para. 2). The art of being present in the 'in-between' space between Self and Other, and listening to the daily tempos of life, are poignant examples of neuroception in action. Through a PVT lens, this is a reciprocal flow of care and intimate human energy: "The energy of reciprocity is one of sending care back and forth, of shared intimacy, of balance in the relational exchange" (Dana, 2018, p. 124). This intimate space of connection creates the attachment, security, and safety needed for a trusting therapeutic relationship to flourish (Bath, 2021; Dana, 2018; Delahooke, 2019a). The intentional co-creation of a safe therapeutic space provides us with an opportunity to attune to "the ongoing flow of rupture and repair in relationships" (Dana, 2018, p. 124).

In CYC practice, we have intuited that our relationship with young people "is the intervention" (Stuart, 2009, p. 222). Similarly, a polyvagal approach to relational care understands that "cues of safety are the treatment" (Porges & Dana, 2018, p. 61). Ultimately, a polyvagal-informed relational approach understands that the goal is for the young person to feel safe and connected for the purpose of genuine and holistic wellbeing. The goal is not to change the young person's behaviour to meet our own (or the system's) needs. A polyvagal approach supports the young person to respond effectively with their own brain-body wisdom when they do not feel safety and connection. Providing the essential first step of a neurologically informed relationship creates the safe container that can generate the inherent wisdom and innate drive towards health available in us all.

Conclusion

"Our state impacts the world" – Deb Dana

It has been almost twenty years since Gerry Fewster (2004) explained that "good child and youth care isn't brain surgery – it's much more difficult" (para. 1). Indeed, youth workers have understood the complexity of relational work for quite some time. Adding an element of neuroscience to the mix both simplifies and complicates this endearing maxim

of CYC relational practice. Polyvagal-informed CYC practice is a relational life-skills approach that can support young people in recognizing their own bodily and neuroceptive cues of danger. With this skill, not only can young people learn boundary skills and self-advocacy, but they can also learn self-regulation (e.g., engaging their vagal brake before their ANS sends them into a state of flight/fight escalation), an ability to respond safely to situations of threat (e.g., in encounters with police) and finally, the self-advocacy skills to communicate and negotiate for relational safety.

PVT has provided new language and greater clarity for the ways in which our ancestral somatic heritage and legacies may be operating in the co-creation of our current lived realities. What has been long appreciated and known throughout ancient peoples within wisdom traditions and contemplative practices is that the body truly keeps the score (van der Kolk, 2014). These combined knowledges offer the possibility to at once, anchor ourselves in greater social engagement, and to down-regulate out of our societal defensive posture of perceived threat. Fine-tuning our abilities to utilize our vagal brakes affords us a greater capacity to truly hear others, engage more deeply relationally, and reach a greater potential of safety within ourselves and within society as a whole. It may now be possible to achieve the aspirations of generations of CYC practitioners to create more ethical conditions for relational safety. The theoretical solidity of PVT invites clinicians to be curious and co-creative toward the conditions necessary for young people to become anchored in safe and connected states of ventral vagal. Practicing a polyvagal-informed approach is an ongoing neural exercise. It is a way of being in the world that enriches our personal lives as much as our young people's lives. Our state of being has immense impact on the world of others (Dana, 2021).

PVT helps to unify the human experience. No matter what one's challenges or needs are, PVT is an approach for everyone. As one author of this paper has stated elsewhere, one young person's needs are no more special than any other's (Marshall, 2017). A PVT approach works for everyone, regardless of need. Each of us becomes the experts on our own nervous system responses to create a truly empathetic and caring world. Polyvagal-informed relational CYC practice is an approach with one goal: the genuine wellbeing of

each and every human to create a ripple effect of change toward compassion and understanding of the human experience.

Authors' Note

The authors of this paper are two women who speak from a White and heterocisnormative place of privilege. We understand that we may overlook important perspectives in this discussion and welcome feedback from our readers. Without engaged, critical dialogue, our field cannot grow.

Recommended Resources

Books

Dana, D. (2018). *Polyvagal Theory in Therapy: Engaging the Rhythm of Regulation*. WW Norton.

Delahooke, M. (2019). *Beyond Behaviors: Using Brain Science and Compassion to Understand and Solve Children's Behavioral Challenges*. PESI Publishing.

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Websites

Deb Dana: https://www.rhythmofregulation.com/

Lori Desautels Revelations in Education: https://revelationsineducation.com/6813-2/?v=4096ee8eef7d

Mona Delahooke: https://monadelahooke.com/

Ventral Vibes Project: https://awakening.com.au/lms/2021/08/24/ventral-vibes-project/

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