

Polyvagal Hybrid States and Complex Posttraumatic Stress Disorder

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Polyvagal Theory and Psychotherapy

Polyvagal Theory was developed by Dr Stephen Porges PhD in 1994 as a method of understanding the relationship between individual heart rate variability and the Autonomic Nervous System. In recent years, the field of psychotherapy has had great interest in Polyvagal Theory as Polyvagal Theory has been able to provide neurophysiological explanations for several of the experiences described by individuals who have experienced trauma. This is particularly true with individuals who have a history of repeated abuse or repeated traumatic incidences causing Complex Posttraumatic Disorder. This interest has led to numerous psychotherapeutic exercises assisting people with self-regulation, relational management, and an articulation of the subjective experiences of danger and safety. One of those exercises is recognizing and activating Polyvagal hybrid states.

Polyvagal Theory and the Perception of Safety and Danger

Polyvagal Theory assumes, of course, that there are both dangerous and safe situations, but that people will have emotional, physical, cognitive, and relational hardship if their perception of those safe or dangerous situations is inaccurate. It is important that people approach relationships and daily tasks with an accurate assessment of both the safety and the danger involved in those settings. In some cases, people who have a history of abuse, neglect or trauma will misread situations and inaccurately see a situation either as more dangerous than it is or safer than it is. Exaggerating danger might be shown by being easily offended, having difficulty accepting criticism or having irrational fears like phobias, generalized anxiety, or panic. Also, people might misread situations as being safer than what they are. This happens when people stay in abusive relationships, voluntarily frequent threatening environments, or allow verbal, physical or emotional boundary violations.

The Three States of the Autonomic Nervous System

Polyvagal Theory argues that people are regularly moving through three different autonomic states throughout their daily lives. This movement is caused by reactions to life events and the attempt to survive emotionally or physically, to restore oneself, or connect with others. These three states are the ventral vagal state (safe and social), the sympathetic state (mobilized for fight or flight) and the dorsal vagal state (immobilized and collapsed). Each state is managed by a specific set of nerves and each state serves a specific set of biological and social needs.

1. Ventral Vagal State – The ventral vagal state is a physical, emotional, and cognitive experience facilitated by a set of nerves in the upper part of the body connecting the brain to the heart, neck, face, mouth, eyes and ears. The ventral vagal state, also known as the “safe and social state”, is responsible for detecting, accepting, evaluating, and reciprocating states of social safety. Also, it regulates the other two defensive autonomic states listed below. Being in a safe situation and then actively looking for and seeing safety will activate the ventral vagal state. The activation of the ventral vagal state facilitates self-regulation and eliminates unnecessary defensive thoughts, feelings and behaviors. In a relational sense, people in the ventral vagal state feel safe which leads to a sense of connection, trust, comfort, restoration and happiness. It is best that individuals solve relational problem(s) in the ventral vagal state. If they do not, they will switch involuntarily to the sympathetic state and attempt to solve their problem(s).

2. The Sympathetic State – The sympathetic state is a physical, emotional, and cognitive experience facilitated by a set of nerves coming from the center of the spine and connecting to various organs. This set of nerves alerts and activates people when they detect danger and prepares the body to act. The sympathetic state, also known as “mobilized for fight or flight state”, moves through various levels of intensity measured by both the level of fear experienced and the related amount of physical and mental energy that is given to deal with the event. When someone is in this state, they are pulled out of the ventral vagal state, lose the benefits of feeling safe and begin to disconnect from people. Relationally it is a state of conflict and fear. Clinically the sympathetic state parallels anxiety, anger, posttraumatic stress, relational discord, obsessions and cognitive distortions leading to self-questioning. Physical symptoms include headaches, high blood pressure, heart disease and joint pain. If the problem or event is not solved in the sympathetic state, the person will then involuntarily activate the next state which is the dorsal vagal state.

3. The Dorsal Vagal State – The dorsal vagal state is a physical, emotional and cognitive experience facilitated by a set of nerves that extend from the Vagus Nerve to the organs located below the diaphragm. When the dorsal vagal state, also known as “the immobilized and collapsed state”, is activated an individual will shut down. Often this will follow the overwhelm of energy and fear caused by the sympathetic state. This overwhelm can be physical, emotional, or cognitive. The body will grow cold, weak, slow and lacking in energy. Socially the individual feels disconnected from others. Clinically this state triggers symptoms of depression, dissociation, performance anxiety, paranoia and cognitive distortions leading to challenged self-concept. Physical symptoms consist of low blood pressure, immune system disorders, stomach problems, obesity, fibromyalgia and irritable bowel syndrome.

The Vagal Brake and The Window of Tolerance

The **vagal brake** is a term created by Stephen Porges PhD to describe the process of stopping physiological reactivity to life events that lead either to the sympathetic or dorsal vagal defensive states. It is important that individuals accurately read the level of both safety and danger in life events in order to not overuse a defensive state position. People who have a history of trauma and nonacute trauma found in PTSD

and Complex PTSD have histories where it was necessary to maintain states of high defense. However, in different life settings, or in adulthood, the level of threat generally is less and the need for a defensive state is less. An unnecessary overactivation of a defense state will create emotional, physical, and cognitive overwhelm and a relational management style that is ineffective. The activation of the vagal brake, at the right time, will ease a defense reaction and leave the individual in a position to self-regulate and return to a ventral vagal state of safety. The development of an accurate vagal brake response can be done by polyvagal exercises described in this article and others and is a central focus in the treatment of Complex PTSD.

The **window of tolerance** is a clinical term used to describe the parameters of one's state of non-defense. It is necessary to recognize one's own window of tolerance since it will determine what are manageable tasks, thoughts, memories, relationships and topics in and out of therapy. Thus, the awareness of one's window of tolerance will assist in self-regulation and with creating the most likely positive results from the use of internal resources and therapeutic suggestions. A goal of treatment is for the client's window of tolerance to increase over time so one can actively problem solve needed topics of change while maintaining a ventral vagal state position. As this relates to the vagal brake, the window of tolerance will expand as one can more quickly use their vagal brake to inhibit defense response, maintain a state of safety and "tolerate" life events. The window of tolerance is expanded by this exercise and other Polyvagal exercises. It also is expanded by other treatment modes notably Schema Therapy and Eye Movement Desensitization and Reprocessing.

Polyvagal Theory and Coregulation

Coregulation is the moment to moment act of managing a relationship to self-regulate. Coregulation is based on attachment theory which argues that the regulation of a child doesn't only come from the "good enough" behavior of the parent, but is a processes by which the child feels calm in reaction to the parent's self-regulation which is in response to the child's initial signs of self-soothing. In relationships, coregulation is the individual act of keeping a relationship safe in an effort of bring oneself to state of regulation. In Polyvagal terms, the individual has an awareness of both their window of tolerance and sensitivity to their vagal brake and will use methods to manage the relationship in order to remain in or return to a ventral vagal state. This often requires the need to defuse the defensive states of sympathetic defense and dorsal vagal defense that occur both in oneself, but also in others. Often individuals with a history of abuse or neglect leading to PTSD or Complex PTSD have a past of strained and conflictual relationships which did not provide examples of problem solving leading to self-regulation and relational management.

The Polyvagal Hybrid States

Polyvagal theory argues that the three states of the autonomic nervous system listed above, the ventral vagal, sympathetic, and dorsal vagal states, are not mutually exclusive nor antagonistic but rather comingle and coexist to create a full spectrum of cognitive, relational, behavioral and emotional experiences. These coactivated states are called "hybrid states". There are two hybrid states which are the combined ventral

vagal and sympathetic state and the combined ventral vagal and dorsal vagal state. The activation of these states facilitates the process of the vagal brake, an expanded window of tolerance and a heightened capacity for coregulation.

The Ventral Vagal and Sympathetic Hybrid State

The coactivation of the ventral vagal and sympathetic states enables the experience of safety combined with mobilization. Because of the safety of the ventral vagal state it allows for mobilization **without** fear. This is an example of the development of the expanded window of tolerance discussed above. Examples of this hybrid state include movement, play, competition quick thinking, creativity and productivity. For utilizing the benefits of this coactivation, consider these points.

1. This hybrid state decreases fear while maintaining mobilization - The clinical benefit of this hybrid state can be best understood by noting that it is a process of using the safe and social engagement system (ventral vagal) to decrease the experience of fear found in the sympathetic state while holding the advantages of physical mobilization.

2. This hybrid state uses the power of play - Play is a useful metaphor for understanding the clinical benefits of this hybrid state. During sympathetic defense, the body is activated to prepare for mobilization to attend to a confrontation. However, when using the ventral vagal state an individual can maintain connection, safety and cooperation while still being mobilized. This maintenance is facilitated by the safe and social engagement system that activates noncombative communication, useful vocal tone, warm facial expression, proper structure, and rules of cooperation. These qualities can be seen in play activities such as sports, competitive activities in all areas, relational teasing, mutual sharing of fun events and group musical performance. Applying this understanding to a broad set of relational tasks will assist an individual in creatively rethinking conflict situations to have less fear and increase the capacity for connection and resolve.

3. This hybrid state assists in problem solving - If an individual has a background of abuse, it is possible that their perception of danger is high even in safe environments since defensive states had been a requirement for survival. This perception of danger leads to mobilization with fear and this pattern is often a part of PTSD or Complex PTSD symptomology. The function of this hybrid state allows an individual to decrease defense by utilizing some of the concepts described in play. For example, an individual can approach a conflictual discussion or relationship and apply the stated measures of safety like rules of cooperation, proper structure, useful vocal tone and warm facial expression to decrease fear, increase safety and increase problem solving. Since this process involves two people, the use of "play" facilitates coregulation allowing people with Complex PTSD to use a hybrid template to manage relationships and self-regulate. This process can first be done by imagery. For more information on this see "Combining EMDR and Polyvagal Therapy for Complex Posttraumatic Stress Disorder" by the author.

4. This hybrid state can be practiced alone - Mind body work such as yoga and meditation are excellent methods of practicing this hybrid state when alone. Yoga

and meditation allow for the activation of the body while meditation and mindful breathing anchor the person in safety, connection and calm. Additionally, other activities can activate this hybrid state. For example, activities such as dance, play, artistic expression and writing are methods which initiate the subjective experience of safety combined with mobilization. An advantage of these practices is that they can be done alone and provide a foreshadow to success in relationships.

The Ventral Vagal and Dorsal Vagal Hybrid State

The coactivation of the ventral vagal state and the dorsal vagal state facilitates a state of safe immobilization. Because of the safety of the ventral vagal state it allows for immobilization **without** fear. Rather than initiating the shutdown defense of dorsal vagal activation, safety is introduced through the social engagement system so one can remain connected with another person while being immobilized. This connection is considered a necessary part of intimacy, conception, childbirth, nursing and attachment. For utilizing the benefits of this coactivation, consider these points.

1. This hybrid state decreases fear while maintaining mobilization - The clinical benefit of this hybrid state can be best understood by noting that it is a process of using the safe and social engagement system (ventral vagal) to decrease the experience of fear found in the dorsal vagal state while maintaining its quality of immobilization.

2. This hybrid state creates safe immobilization through play. - The metaphor of play is again helpful in illustrating the benefits of this hybrid state's coactivation. Play consists of a playful manner, rules, cooperation, gentle contact and prosodic vocalizations. This "play method" of connection decreases states of defense. If an individual has a history of abuse, neglect or longstanding exposure to conflict, they likely have patterns of defense from fearful situations. This leads to an activation of a sympathetic fight or flight state and then to a necessary shut down. As one moves into adulthood or less threatening environments, the need to defend and shut down is not needed. However, the autonomic nervous system is tuned to respond in the same way. The metaphor of play can assist one to put together a concept of behavioral methods leading to this hybrid state. The individual can remain connected while immobilized by utilizing a playful manner, gentle contact and soothing vocalizations and thus short circuit the activation of defense. This hybrid activation is an example of expanding one's window of tolerance since one has expanded their "working space" of resolve, restoration and resilience.

3. This hybrid state creates safety through reciprocity - For most all people, immobilization is considered a vulnerable posture and the inhibition of fear in social settings is necessary for restoration, safety and survival. This hybrid state represents these stated qualities and can be activated by the social processes of reciprocity. Reciprocity is best seen as a consistent exchange between two people. Relationally, it is the act of hearing and meeting needs of another across a wide range of human expectations while also stating and receiving those same types of needs. This act of reciprocity creates an atmosphere of trust.

4. This hybrid state fosters physical health – The activation of this hybrid state may have long term benefits on the regulation of body organs by providing a method of

supporting homeostasis. This hybrid activation individually is a process of self-soothing which can be physically beneficial and, within a social context, leads to a process of self-regulation through the management of real or potential threat existing in relationships. Related to Complex PTSD, this coactivation supports the concepts of self-regulation and a decrease in the negative physical impacts of ongoing states of defense, isolation and conflict.

Resources

The Pocket Guide to Polyvagal Theory: The Transformative Power of Feeling Safe by Stephen Porges (2017)

The Polyvagal Theory in Therapy by Deb Dana (2018)

The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment Communication and Self-Regulation by Stephen Porges PhD (2011)

Traumatic Stress: The Effects of Overwhelming Experience on The Mind, Body and Society by Bessel Vander Klok, Alexander Mc Farlane, and Lars Weisaeth (2007)

Yoga Therapy and Polyvagal Theory: The Convergence of Traditional Wisdom and Contemporary Neuroscience for Self-Regulation and Resilience by Sullivan, Erb, Schmalzi, Moonaz, Tylor, and Porges from Frontiers in Human Neuroscience February 2018.

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