

iLS INTEGRATED LISTENING SYSTEMS



In recent years, researchers and clinicians have supported advances in understanding the effects of trauma on both mind and body that have greatly expanded our range of clinical tools and opened new possibilities for dramatically improved outcomes and deeper healing.

One of these tools is Dr Stephen W. Porges' [Safe and Sound Protocol](#) (SSP) a five-day intervention designed to improve social communication by regulating physiological state and enhancing our ability to process human speech.

"Based on Dr. Porges' Polyvagal Theory, the program is derived from nearly four decades of research on the relationship between the autonomic nervous system and social-emotional processes. It is designed to reduce stress and auditory sensitivity while enhancing social engagement and resilience. It stimulates nervous system regulation by exercising and systematically challenging the auditory system with specifically processed music to retune the nervous system (regulating state) to introduce a sense of safety and the ability to socially engage" (Associate Manual Safe & Sound Protocol, 2017, page 1).

Initially, the program was called the Sound Sensitivity Program and was recommended as a tool for clinicians working with clients having auditory sensitivities (hypersensitivity), social/communication difficulties and/or problems with regulating behavioral state (inattention, behavioral dysregulation).

With case studies and research in hand, Porges changed the name when he realized the autonomic system impact beyond auditory sensitivity—he saw SSP's impact on anxiety, trauma and social communication. When done in the right context, SSP can enable trauma survivors to socially engage in and benefit from psychotherapy (experiencing attunement, co-regulation, etc.)

A clinical view

Imagine a client comes to you with a trauma story. You notice a lack of prosody, poor eye contact, blunted facial expressivity, dysfunctional behavioral state regulations (perhaps said client is hypervigilant, anxious, distracted, able, impulsive). You can most likely assume compromised autonomic nervous system and vagal regulation. Said client cannot support cues of safety and social communication—they were turned off during threat and danger.

If their autonomic nervous system is “on”, clients will view their world as dangerous, they will determine that situations/people are unsafe, perhaps sense “life threat”. This may not be merely a state of flight or fight, especially if talking about chronic abuse, molestation, or otherwise bullied bodies. Our bodies react, may sense a state of “I don’t want to be here” and shut down. Some people pass out, some defecate. Their body adjusts and while it doesn’t disappear physically, it dissociates. Life threat is a profound powerful experience. Trauma is not necessarily limited to an “event” but rather is better viewed as an individualized response to a situation (one time or ongoing). Trauma survivors typically are not choosing to collapse, their nervous system made an evaluation of life threat and reacted—this is not voluntary, not conscious, not learned.

When working with said client, many therapists know this is not the time to power through the experience, you cannot operantly condition pain, suffering, and so on. If clients are in an autonomic state that supports fight/flight/freeze/collapse, their system cannot support listening, auditory processing, or social engagement. When treating deep-rooted trauma, shame, and attachment wounds, it's crucial to go beyond the limits of just talk therapy. SSP is an effective portal of treatment for adult trauma survivors. It has can potentially support a shift in one’s perception of the world from dangerous and filled with disturbances to a sense of safety, openness, and a fuller connection with others.

But why music?

For clarity, I’m quoting directly from the Associate Manual Safe & Sound Protocol, copyrighted by Stephen Porges, 2017

“An overlap exists in acoustic features of speech and music. Not all speech provides signals of safety. Speech as well as music can signal danger and life threat. Our nervous system universally detects high frequency shrill cries as alerts for danger and this is mimicked in music. In addition, our nervous system detects monotonic low frequencies as sounds of threat. A segment of the frequencies of human speech defined as the band of perceptual advantage is capable of triggering bodily states of safety when modulated to mimic the prosodic features of a mother’s calming voice.”

SSP is “theoretically driven by scientific evidence relating the regulation of the middle ear muscles to: (1) dampen background sounds and improve perception of human speech; (2) *be involved with* “neuroanatomical and neurophysiological circuits controlling facial expressions, vocal intonations and gestures”; (3) *be associated with* “neural circuits regulating behavioral state.”

“The middle ear muscles actively dampen low frequency background sounds and facilitate the ability to hear and to understand human speech. When the middle ear muscles do not contract appropriately, individuals tend to have sound sensitivities and difficulties in understanding speech in noisy environments. This apparent problem has an adaptive advantage and functionally

Continue on page 88

“The SSP, informed by the Polyvagal Theory, was developed to use a complex program of acoustic stimulation to exercise and systematically challenge the neural regulation of the middle ear muscles.”

It is an “exercise model that uses computer altered acoustic stimulation to modulate the frequency band passed to the participant.”

amplifies the ability to hear very low frequency sounds, which through the evolutionary history of mammals has been associated with danger and predators. Thus, if middle ear muscles do not appropriately contract, low frequency sounds (below the level of human speech) will be perceived as loud, even when others whose middle ear muscles contract, can barely hear them. Psychological states of fear adaptively shift the function of the middle ear muscles to promote states of hypervigilance in anticipation of a predator, while compromising the ability to process the meaning of human speech. Thus, under stressful conditions, we have difficulty in listening to the specific words of others but focus on low frequency sounds that may accompany an intruder or a potential threat. When in an 'unsafe' environment, i.e., walking in a strange and potentially dangerous neighborhood, listening shifts from our companion's stories to the low frequency sounds of footsteps and traffic."

"Very low frequency sounds are difficult to ignore (i.e. actively filter), mask human speech, elicit emotional responses (i.e., defensive and survival related), and drive specific physiological systems that interfere with calm, attentive, prosocial behaviors and even the ingestion and digestion of food. Tensing the middle ear muscles provides an effective filter to dampen the low frequency sounds that characterize background noises in our environment."

"As a function of evolution, humans and other mammals have a 'new' vagal pathway that links the regulation of bodily state to the control of the muscles of the face and head including the middle ear muscles. These pathways regulating body state, facial gesture, listening and vocal communication function collectively as a social engagement system. Because it is an integrated system, interventions influencing one component of this system may impact on the other."

Training for use with a trauma focus

Professionals must complete a comprehensive online training program with Dr. Porges and Dr Keri Heilman (video tapes so you can learn at your own pace). It includes a recap of the polyvagal theory and social engagement, administering the protocol and integrating it into clinical practice. The program includes client and

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practitioner manuals, the SSP device with music preloaded (you can order sound tracks for adults as well as for children) and the correct headset. Therapists can also attend live (online) question and answer sessions.

A core component is learning to be sensitive/aware of the client's physiological state. For SSP to be effective it is necessary to maintain the client's nervous system in a state of safety. When clients feel safe, calm, relaxed, their nervous system will be receptive to new acoustic stimuli within the frequency band of human communication, which maximizes the effectiveness. Therapists watch for shifts because they overlap with reactions, i.e., a calm state may historically mean vulnerability, immobilizing and calming down have become coupled with past defenses triggering agitation, the desire to run. When sensations arise that lead to past cues, it's important to empower the client to regulate—co-regulation is necessary as well.

Therapists empower their clients by letting them know that when they sense discomfort (physical and or emotional responses), they can pause the intervention and allow their body to re-stabilize and re-engage. While the original intent of the protocol was one hour a day for five days in a row (still the

spectrum, dealing with ADD or ADHD, auditory dysfunction etc.), the window of intervention is typically shorter for trauma survivors. One hour a day may be too much initially. Less is better, as it enables the client's nervous system to catch up.

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Therapists learn to work at the clients' pace. It is not a fixed protocol, but rather an interactive protocol. Therapists are there to empower clients: to listen and help them become aware of their own body reactions, sensations. Most are numb, have lost contact. Clients learn that physical acoustical sounds may be a trigger but with this process it becomes a trigger without power.

What's it like?

After successfully completing the training course, I received the SSP device. And yes, I have a trauma history (who doesn't), and I have sound sensitivities etc. I was curious if it would "really" work. The manual and training information is clear that the protocol cannot "fix" you, it is one tool to be used in conjunction with other therapeutic interventions and still, being me, I hoped it would effect some changes.

The headset was comfortable, and it blocked out most outside noise. I sat in my favorite chair with my feet on an ottoman (it's a gliding/rocking chair and ottoman) with a comfy throw blanket covering my legs and feet. I had a meditation coloring book and colored pencils beside me (you are not supposed to sing, dance, move etc. you may color or do other things if you feel antsy—and remember that with trauma survivors in a therapy session, you titrate, you stop, pause—there's power in the pause—re-stabilize and re-engage). My curtains were drawn, a fan was on low to also block external noise. I created a warm, cozy, safe container.

The first day I felt as if I entered into a daze state, like I was pulled under a cover. I sat

so still my joints ached. I came in and out, as if under a spell. The music sounded strange at times and other times I strained to hear it because it was quiet/silent. At times I heard strange noises in the background of the music that jostled me—a clank of chains, a roar, someone clearing their throat with a low deep sound—they all sounded menacing. I lost my sense of peace, felt my heart race. I opened my eyes and looked around. I saw that I was indeed safe in my chair. I started to rock (ottoman and chair rock in same motion, physiologically soothing). My heart rate slowed, my breathing deepened. When the hour was over, I felt the veil being lifted and I returned to full consciousness. That night, I slept soundly (first time in a long while).

On the second day of the protocol I noticed that while chopping a Duraflame log in half (preparing for my fire), I kept my eyes open. I hit the same spot repetitively. I typically close my eyes when doing things like chopping wood, driving through intersections, etc.

Day three signaled a rather significant change. I tend to avoid eye contact. If I feel safe, and I mean a deep sense of safety, I will look into my friends' and family members' eyes, hold contact. But acquaintances and strangers? Nope. On day three, I was looking into all kinds of strangers' eyes, engaging way more. I felt my facial expressions were more animated and that my voice had a lighter lilt to it. I didn't feel so gosh darn serious, and I wasn't constantly surveying my surroundings.

Day four I felt fatigued. I didn't have my normal get-up-and-go energy. I resisted sitting for the session. I had a hard time not singing in my head, silently want to sing, especially when Sarah McLaughlin songs came on. So many songs on this track that I loved but had not been listening to, memories flooded in with the songs. Was it the songs themselves? When I was done with the protocol I had to go upstairs to my computer and find one of the McLaughlin songs on 'utube' and played it over and over. It was associated with my first miscarriage:

I will remember you, will you remember me?
Don't let your life pass you by
Weep not for the memories . . .

Continued on page 90

Day five I awoke from a dream state and realized I had been dreaming more the past few nights. Full color. I heard the voices of those I was with, felt their presence as if I were truly there with them in my dream. Perhaps lucid dreaming? I was feeling fatigued but read in one of the “frequently asked questions” that this was normal:

“Listening is a neural exercise—it is working the nervous system—middle ear muscles, brain, and the autonomic nervous system—so feeling fatigue is typical.”

In Conclusion

It’s been nine days since I completed the protocol, and I continue to notice shifts in my social engagement patterns. I am hearing a wider range of sounds when I’m outside. I’m registering a much larger assortment of background noises without triggering any response, they are just there. I’m more interactive, talking more, feeling the desire to engage with others more (usually silent and solo). I feel happier in all ways, lighter, safer to reach out and be part of rather than stand back, behind, survey the scene. I typically have a difficult time focusing my attention on one conversation at large gathering (i.e., parties, conferences)—my ears are like radars that automatically pick up all surrounding sounds and conversations. I’m curious about how things will go when I attend my next function.

One Last Note

The manual notes that “aging, illness,

medication, trauma and experience may also compromise the function of the middle ear muscles.”

My 89-year-old dad has been using the protocol for three days as I write this. He has significant hearing loss and had to turn the volume way up. Last night, while listening to a CD from their church affiliate in Africa, Dad excitedly had me come in and listen to the highs and lows, to the wide range of sounds, how the music moved from speaker to speaker and so forth. He shared how it was like the music he heard on the SSP device, how he noticed it moving from ear to ear, how there was lows and so on. He was hearing a much larger range of sound, different frequencies and more. I must admit he has not used it ‘perfectly’ meaning not everyday, not for the full hour. He has missed two days now but wants to continue. We’ll give it a go knowing it is supposed to be used five days consecutively. And then again, with trauma work they do allow titration so perhaps he will experience more changes. Time will tell.

SSP and Somatic Experiencing

As the SSP device continues to evolve, it is now entering the world of therapist training. Somatic Experiencing practitioners are learning how to use the protocol to shift their clients’ physiological state when doing trauma work. The SE work in turn creates a portal more amenable for therapy.

The Polyvagal Theory

By Stephen Porges

The autonomic nervous system in three parts, all working synergistically

Ventral Vagal System:

Is part of the parasympathetic nervous system (social engagement/frontal cortex)

Dorsal Vagal System:

Is part of the parasympathetic nervous system (freeze/immobility/brainstem)

Sympathetic Nervous System:

Is NOT vagal but functions most efficiently when vagal systems are suppressed
(flight/fight, freeze—limbic brain)