



iLS INTEGRATED  
LISTENING SYSTEMS

# The Safe and Sound Protocol

*A practical application of Polyvagal Theory*

December 1, 2021

Help your clients **connect** with themselves,  
others & the world from a foundation  
of physiological safety



Polyvagal Theory asserts that the ***nervous system*** is the foundation of wellness

One must be founded on ***safety*** for progress to be made

The ***chronic defense*** of your client's nervous system may be keeping them ***stuck***

# You can't think your way into safety



Executive  
Functions

Relationships, Communication,  
& Emotional Processing

Physiological & Psychological Safety

**Neuroception** is the nervous system's unconscious perception of whether something is safe, dangerous or life-threatening

Safety begins from the bottom up

1

In a *state of defense*, the Autonomic Nervous System is biased to detecting & interpreting cues as dangerous

2

This bias leads to learned *disuse of the Social Engagement System*, perpetuating the interpretation of cues as dangerous



Physiological  
Feedback Loop  
of Defense

3

Interpreting cues as dangerous *limits the ability to connect*, leading to greater state of defense

## *The Safe and Sound Protocol*

interrupts and redirects this  
physiological feedback loop

with cues of safety



*Safety* cues help shift the nervous system

*Out* of chronic defense and *into* social engagement

Increasing connection and, in turn, helping other therapies become more *accessible and effective*

# The Safe and Sound Protocol: A Practical Application of the Polyvagal Theory

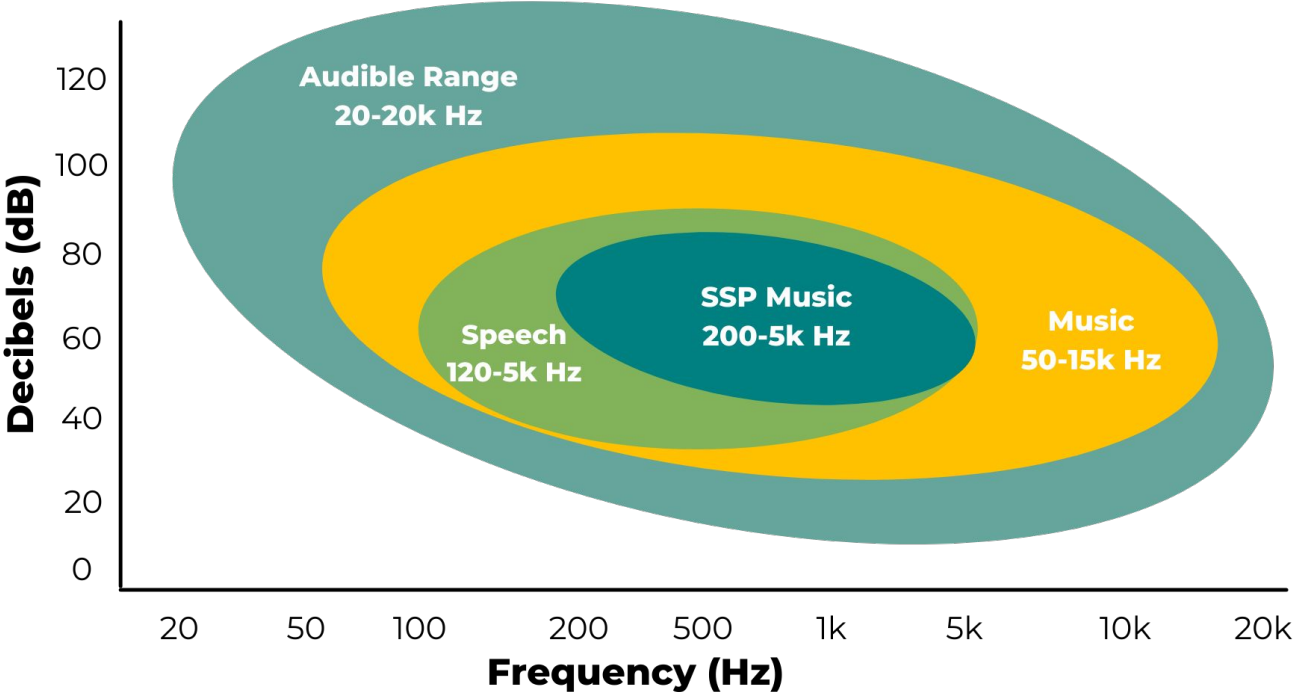
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Developed by Dr. Stephen Porges, the *SSP interrupts the physiological feedback loop of defense* by stimulating the neural networks associated with listening—using algorithmically filtered music focused on the frequency range of the human voice.

Through this mechanism, the *SSP alters the way sounds are interpreted*, ushering the nervous system out of a Sympathetic or Dorsal state and into a **Ventral Vagal** state.

# Frequencies of the SSP



# Evidence for the Safe and Sound Protocol

# Clinical Trial Evidence for the Safe and Sound Protocol (SSP)

## Background

### Features of the Social Engagement System commonly impaired in ASD:

- Eye contact
- facial expression/gestures
- vocal prosody
- Sensory processing differences

### Difficulty with state regulation and auditory processing is observed in other conditions:

- fragile X syndrome
- attention deficit disorder (ADD)
- post-traumatic stress disorder (PTSD)
- anxiety disorders

What is the common neural mechanism?

### Respiratory Sinus Arrhythmia (RSA)

#### HIGH resting RSA

- Adaptive autonomic response
- **Parasympathetic activation (vagal brake)**

#### LOW resting RSA

- Maladaptive autonomic response
- **Sympathetic activation**

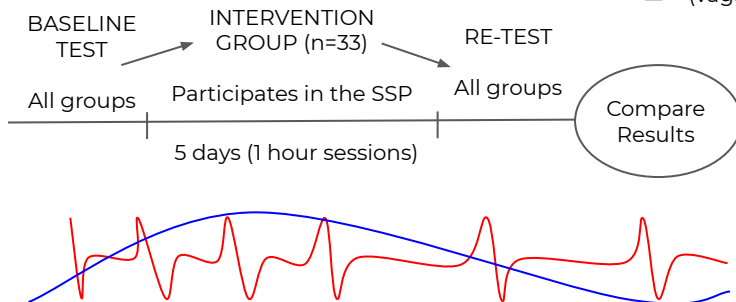
## Methods

### Participants

- **Intervention group (n=33)** children with ASD ages 6 - 21 (8 female)
- **Control group (n=49)** children ages 6 - 21 (9 female)

### Assessments

- **SCAN test** — receptive language; Ability to decipher human voice from background sounds  
Dichotic listening (both ears)
- **Heart Period and RSA** — Measure of autonomic state using Electrocardiogram (ECG)



## Results

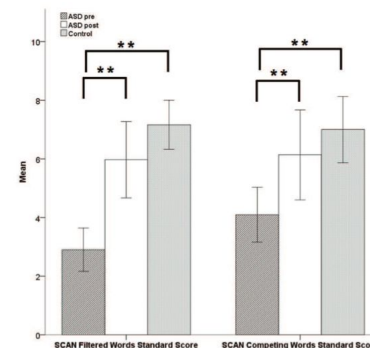
### SCAN test

- Significant improvements in the ASD intervention group, pre-post
- ASD intervention group post intervention: scores not longer different from the control group

### Heart Rate and RSA

Resting RSA **lower at baseline** in the ASD Group  
Resting RSA **increased** in the ASD group after the SSP

Adaptive autonomic response:  
Parasympathetic/SES (vagal brake engaged)



# Clinical Trial Evidence for the Safe and Sound Protocol (SSP)

## Background

The Listening Project Protocol (LPP) =  
**Safe and Sound Protocol (SSP)**

- Designed to reduce auditory hypersensitivities by applying computer altered vocal music (i.e., filtered music) to exaggerate the features of human prosody
- Metaphorical “treadmill” to exercise the middle ear muscles and promote social engagement system/parasympathetic nervous system activity

### Guiding principles

1. The role of the neural network associated with listening in extracting the frequencies of human voice from background noise
2. Evolution of the brainstem influence neural regulation of the striated muscles of the face, head, and middle ear muscles (Polyvagal Theory)

## Methods

### Design

Two sequential randomized controlled trials with parallel control groups

### Participants (N=146)

Children with ASD or who met criteria on subscales of the ADR-I/DSM-IV

### Conditions

- Supportive play,
- 45-minutes, 5 consecutive days
- Parents blind to the intervention
- Circumaural headphones

### Trial I

Filtered Music (n=36)

Headphones only (n=28)

### Trial II

Filtered music (n=50)

Unfiltered music (n=32)

### Assessments

#### Structured Behavioral Questionnaire

Parents report changes on hearing sensitivity, affect, eye contact, behavioral organization, emotional control, spontaneous speech, receptive speech, listening, spontaneity, relatedness

#### Play-based assessment (video-taped)

Social interaction coding scale (SICS)

## Results

### Play-based assessment (video-taped)

Participants with improvement on hearing sensitivity following the intervention (n = 14) also demonstrated increase in sharing behaviors

### Structured Behavioral Questionnaire

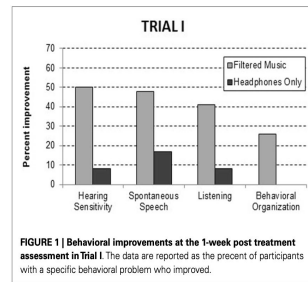


FIGURE 1 | Behavioral improvements at the 1-week post treatment assessment in Trial I. The data are reported as the percent of participants with a specific behavioral problem who improved.

**Trial I:** Significant improvements in **hearing sensitivity, spontaneous speech, listening, and behavioral organization**

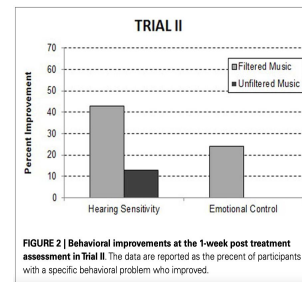


FIGURE 2 | Behavioral improvements at the 1-week post treatment assessment in Trial II. The data are reported as the percent of participants with a specific behavioral problem who improved.

**Trial II:** Significant improvements in **hearing sensitivity and emotional control**

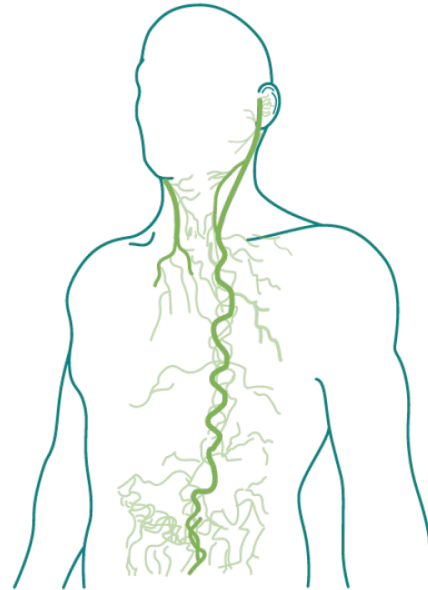
# How does the evidence translate?

Physiological state influences how we feel, think, and behave.

The SSP is a bottom-up therapy influencing several cranial nerves and the autonomic nervous system (ANS) through the auditory portal.

The ANS mediates many physiological and neurological functions:

Digestion, respiration, endocrine, musculoskeletal, neurochemical, cortical and more.



# How does the evidence translate?

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Autism Spectrum Disorder (ASD) was initially identified to test the SSP because dysfunction in the **Social Engagement System** is well represented in features of ASD.

- Eye contact
- Facial expression and gestures
- Vocal prosody
- Sensory processing differences (auditory sensitivity)
- Low HRV / poor state regulation

**These features are observed in many other other conditions:**

- Attention-deficit/hyperactivity disorder (ADD; ADHD)
- Post-traumatic stress disorder (PTSD)
- Schizophrenia
- Generalized Anxiety Disorder (GAD)
- Major Depressive Disorder (MDD)
- And others...

# How does the evidence translate?

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The **Safe and Sound Protocol (SSP)** has demonstrated outcomes that can promote symptom reduction and treatment progress for many mental health conditions, included improvements in:

- Hearing sensitivity
- Emotional control
- Autonomic regulation and vagal tone
- Receptive language
- Social behaviors
- Spontaneous speech
- Listening
- Behavioral organization



# Research: In Development

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Adults with trauma in an outpatient, mental health setting



Adolescents with Ehler Danlos Syndrome: GI, joint pain, incontinence



Older adults with Parkinson's Disease: facial affect, vocal prosody



Adults with chronic back pain



Olympic athletes, measuring cortisol, HRV and muscle tension

# Clinical Delivery and Integration



# Clinical Delivery of the SSP

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In-person, remotely, or  
combination of both

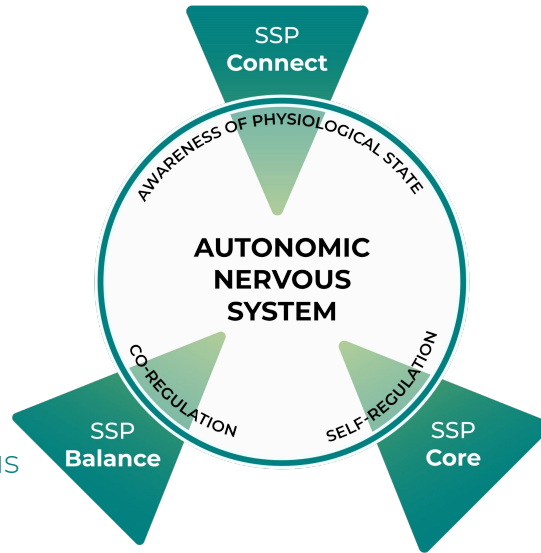


Children, Adolescents,  
Adults, and Families

# The Three Pathways of the SSP: Connect, Core, Balance

## SSP Connect

Gentle introduction to clients on listening to music as a part of therapy.



## SSP Balance

An ongoing daily support of the nervous system that solidifies the gains of the SSP and may act as a state shifter.

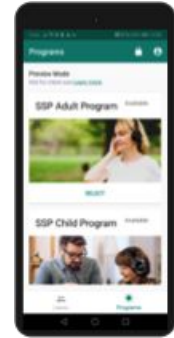
## SSP Core

Auditory intervention designed to open the nervous system and reach a more resilient physiological state.

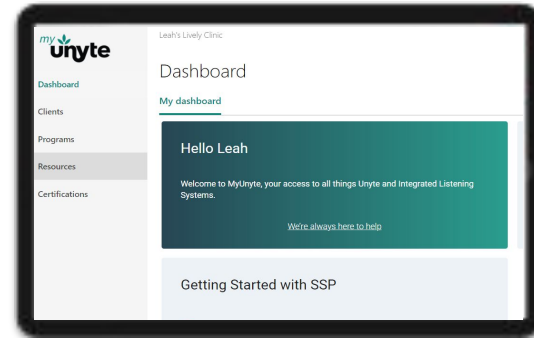
# How is the SSP Delivered?



The client experiences the SSP through over-the-ear headphones in clinic or remotely, connected to the **Unyte-iLs app**

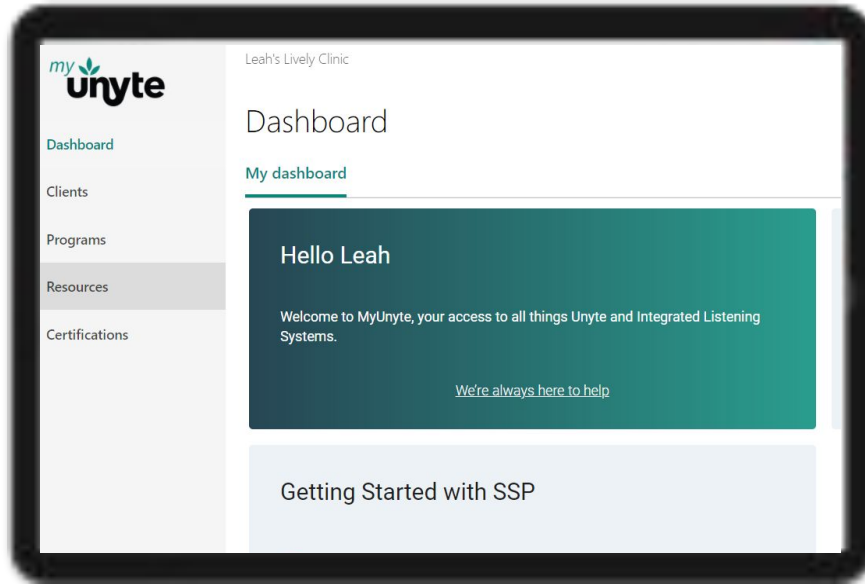


The clinician manages client access and monitors listening on the **MyUnyte Platform**



# MyUnyte Platform

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Client Management & Insights

Psychoeducation Resources

Professional Education

# Asynchronous Training Details

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Comprehensive SSP training covering  
key concepts, theories and  
practical applications

Online and on-demand

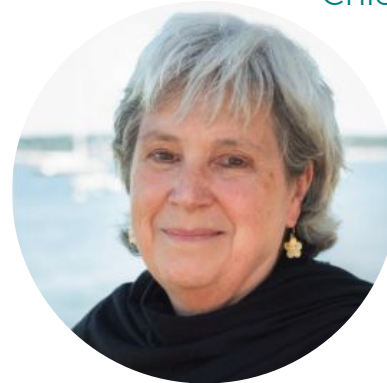
SSP Training — 5 hours  
Remote SSP Facilitation Certificate — 6 hours

Training materials by Dr. Porges,  
Deb Dana, LCSW, expert clinicians and  
members of Clinical Advisory Team

**\$249 one time**







Dr. Stephen Porges  
Chief Scientific Advisor



Deb Dana, LCSW  
Clinical Advisor

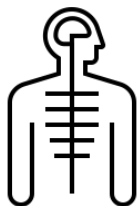
# Our Clients

Clinics	Education	Institutions	Other
<p>Anxiety ADD/ADHD Addiction Autism Eating Disorders Sensory Disorders Pain Management</p> 	<p>Schools/Universities Counselling Centres Relaxation Rooms Research</p> 	<p>Children's Hospitals Specialised Clinics Research Institutes</p> 	<p>Correctional Services Veteran Affairs Corporations Not-for-Profits</p> 

# Appendix

# About Unyte

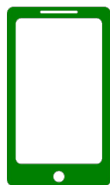
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The nervous system at the centre of human health

Practical auditory applications of Polyvagal Theory

Grounded in 4+ decades of research



Clinical grade, tech-enabled bottom-up solutions

Unified platform for controls and measurement

Developed in collaboration with top scientists



Empowering clinicians to accelerate outcomes

10,000+ providers trained

Hundreds of thousands of lives changed

# Why Does Unyte Exist?

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## Vision

Guide every person to their true self

## Mandate

Guide every person to train their nervous systems to be more aware, regulated and resilient so they can feel safe, happy and healthy and more effectively respond to life's challenges

## Values

How can we help?

Do what matters

Move forward and learn by doing

Be aware, open-minded and responsible

# What Do We Do?

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We create evidence-based nervous system solutions that help clinicians transform the lives of their clients through improved awareness, regulation and resilience



## Our solutions

Regulate the nervous system from the bottom-up, supported by the Polyvagal Theory

Create lasting change at any age, supported by neuroplasticity

# Our Programs

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## Safe & Sound Protocol (SSP)



Auditory intervention designed by Dr. Stephen Porges to promote nervous system regulation and resilience

## Focus System



Multisensory program combining music and movement to promote sensory integration, body organization, attention & cognition

## Interactive Meditation



Immersive guided meditation journeys combined with real-time biofeedback to promote calm and relaxation

