

Welcome

Transforming Anxiety with Sensory-Motor Tools

Presented by
Christine Durfee, LPC-S and Sonia Story

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Christine Durfee, LPC-S and Sonia Story



Christine received her Master's Degree at Corban University, and is currently a doctoral candidate at Walden University. She holds certifications as a Trauma Family Therapist, Low Energy Neurofeedback practitioner, and Rhythmic Movement Therapist.



Sonia is the developer of the Brain and Sensory Foundations, First Level course which is approved for 19 credit hours for mental health therapists via NBCC. Sonia is enrolled in a Master's Program in Movement Science at the University of Idaho.

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Article Contents

JOURNAL ARTICLE

Post-lockdown depression and anxiety in the USA during the COVID-19 pandemic

FREE

Jagdish Khubchandani ✉, Sushil Sharma, Fern J Webb,
Michael J Wiblishauser, Sharon L Bowman

Journal of Public Health, Volume 43, Issue 2, June 2021, Pages 246–253,
<https://doi.org/10.1093/pubmed/fdaa250>

Published: 11 January 2021 **Article history** ▼

“Our study results indicate that the rate of serious mental health issues such as depression and anxiety have more than doubled in the USA during the pandemic (i.e. compared to the rates before the pandemic in the year 2019)”

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Overview

- What do we know about anxiety?
- What are neurodevelopmental movements?
- Why do they matter for anxiety disorders?
- What is the sensory-anxiety connection?
- Sensory-motor tools for transforming anxiety
 - Experience of Harald Blomberg, MD, psychiatrist

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Anxiety disorders and CNS function

- ⊙ Anxiety disorders are the most common mental health disorder
- ⊙ They are associated with disturbance of: mood, sleep, concentration, social, or occupational functioning
- ⊙ CNS/physiological activity associated with anxiety
 - Feeling keyed up, on edge
 - Irritability
 - Muscle tension
 - Easily fatigued
 - Elevated stress hormones

Adwas, A. A., Jbireal, J. M., & Azab, A. E. (2019). Anxiety: Insights into signs, symptoms, etiology, pathophysiology, and treatment. *East African Scholars Journal of Medical Sciences*, 2(10), 580-591.

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Common Treatments for Anxiety

- ⊙ CBT
 - Exposure Therapy
 - Psychoeducation
 - Somatic Management Training
 - Cognitive Restructuring
 - Relapse Prevention
- ⊙ Medication
 - Prescription medications
 - Natural medications

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Standard cognitive behavioral interventions were noted as less effective for children with severe anxiety, trauma, and neglect (Prather and Golden, 2009).

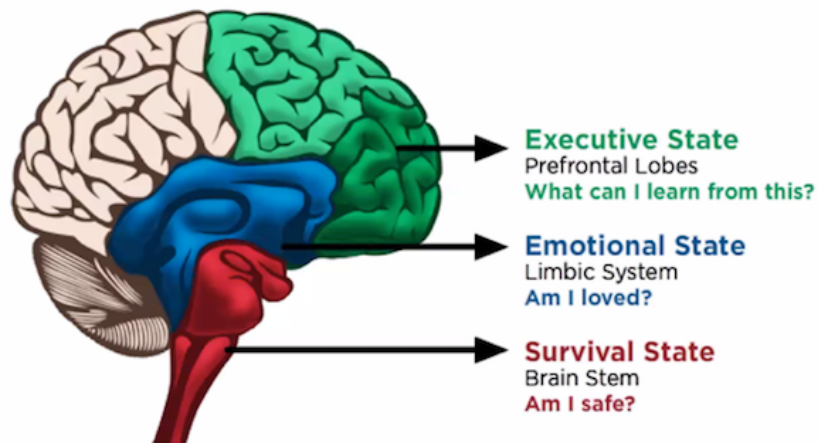
Prather, W., & Golden, J. A. (2009). A behavioral perspective of childhood trauma and attachment issues: Toward alternative treatment approaches for children with a history of abuse. *International Journal of Behavioral Consultation and Therapy*, 5(1), 56.

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Primal Brain and Neurological Safety

“For most children with developmental trauma, their neurology is impaired at the level of the primitive brain. Yet most therapeutic interventions target higher brain regions (limbic and cortical).”

Teri Gelgood, LMFT



<https://nebraskadeved.org/2019/11/03/trauma-informed-teaching/>

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We can transform anxiety disorders by
using the principles of healthy development
and neuroplasticity.

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What are neurodevelopmental movements?

Crucial for maturity of the brain, body, and sensory systems



Innate movements of womb and infancy

- ☉ Infant reflexes—primitive and postural.
Involuntary movements in response to a sensory stimulus
- ☉ Developmental movements
- ☉ Innate rhythmic movements—sucking, crawling, kicking, and many others.



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Posture • Core strength • Balance • Muscle development • Sensory development
Focus • Speech • Social-emotional skills • Impulse control • Leaning • Calm and stillness
They are all inter-related and all depend on infant movements (Blomberg, 2007)

Without innate movements, full development cannot take place—poor focus, sensory discomfort, inability to be still, and anxiety are common.



*Photos from Kathleen Porter, author of *Healthy Posture for Babies and Children*
www.kathleenporter.com

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Are deficits in early motor skills connected to anxiety?

Gross motor performance in infancy and early childhood was predictive of the levels of anxious and depressive symptomatology for children between the ages of 6 to 12 years (Piek et al., 2010).



Human Movement Science
Volume 29, Issue 5, October 2010, Pages 777-786



Do motor skills in infancy and early childhood predict anxious and depressive symptomatology at school age?

Jan P. Piek  , Nicholas C. Barrett, Leigh M. Smith, Daniela Rigoli, Natalie Gasson

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Sensory processing disorders are linked with anxiety



Sensory processing disorders (SPD) impact how individuals respond to daily events and often co-occur with other challenges such as emotional dysregulation and anxiety (McMahon et al., 2019), and social impairments (Thye et al., 2018).

McMahon, K., Anand, D., Morris-Jones, M., & Rosenthal, M. Z. (2019). A path from childhood sensory processing disorder to anxiety disorders: The mediating role of emotion dysregulation and adult sensory processing disorder symptoms. *Frontiers in Integrative Neuroscience*, 22.

Thye, M. D., Bednarz, H. M., Herringshaw, A. J., Sartin, E. B., & Kana, R. K. (2018). The impact of atypical sensory processing on social impairments in autism spectrum disorder. *Developmental Cognitive Neuroscience*, 29, 151-167.

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Sensory Over-Responsivity Causally Linked to Anxiety

- ☉ SOR occurs in individuals who “experience sensations more intensely or for a longer duration than is normal, often resulting in ‘fight or flight’ behaviors” (Lane & Reynolds, 2019, p. 2).
- ☉ Using behavioral surveys and neurophysiological markers, Lane and Reynolds (2019) found a relationship between SOR and anxiety in children (both typical and with ADHD).
- ☉ **Their study indicated that SOR could be one cause of anxiety in children (Lane & Reynolds, 2019).**

Lane, S. J., & Reynolds, S. (2019). Sensory over-responsivity as an added dimension in ADHD. *Frontiers in Integrative Neuroscience*, 13, (40)

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Common challenges when innate infant movements are hindered in development, or reactivated with trauma

- ⊙ Anxiety—Fight or flight states
- ⊙ ADD/ADHD
- ⊙ Sensory Processing Disorders
- ⊙ Poor Balance
- ⊙ Muscle aches and tension, fatigue, headaches
- ⊙ Learning delays
- ⊙ Poor core strength & posture
- ⊙ Sleep issues

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Infant Rhythmic Movements Excellent first movements to help with anxiety



- ⊙ All healthy babies do a large variety of innate rhythmic movements in early infancy
- ⊙ Calm and mature the brain, body, and sensory systems
- ⊙ Key for developing resilience & sensory integration
- ⊙ Key for healing trauma

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Rhythmic Movements for Calming and Brainstem Regulation— Excellent for healing trauma and anxiety



Bruce D. Perry, MD

The only way to move from high anxiety states, to calmer more cognitive states, is **rhythm**—*patterned, repetitive, rhythmic somatosensory activity.*

Photo and paraphrase of interview excerpts with Bruce D. Perry, MD from <https://attachmentdisorderhealing.com/developmental-trauma-3/> Accessed, 10-18-2018 (Emphasis Added)

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Dr. Blomberg's Experiences

"I introduced the rhythmic movement training of Kerstin Linde at my clinic both for neurotic and psychotic patients with excellent results. We even saw amazing recovery in some cases of protracted schizophrenia."



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Help for Severe Behavior—Child in Fight-or-Flight Calms with SRM

OT is amazed at changes in 6 weeks

I had one of my patients begin doing the rhythmic movements [from the Online Brain and Sensory Foundations course] 6 weeks ago. This child is 8 years old and attends a special school for emotionally and behaviorally challenged children that can't attend regular public education. When he gets frustrated at school, it typically results in a major melt down with hitting, throwing desks and chairs, and yelling. He has had 4-5 adults holding him down on the floor at times. **This boy has not had hardly any behavior or emotional outbursts like I described since he has started doing the rhythmic movements at home or at school.**

He has already made **great gains with balance, coordination, sensory processing, impulse control, and frustration tolerance** and it has only been 6 weeks. **Amazing!!**



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Steps to Applying Neurodevelopmental Movements in Mental Health Therapy

Step	Learning Tasks
Step 1	Gain knowledge, evidence basis, and rationale
Step 2	Get training, Brain and Sensory Foundations® program
Step 3	Practice the neurodevelopmental movements for yourself
Step 4	Apply the neurodevelopmental movements with clients

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Rhythmic Movement, Leg Kicking in supine



More training and practice is required before doing movements with clients

Client is supine with head on the floor or resting on a pillow.

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Fast-acting calming strategy: Brain Tune-Up

PACE—from Brain Gym® (Positive, Active, Clear, Energetic)



Water



Brain Buttons



Cross Crawl



Hook-Ups

When there is emotional upset, go directly to Hook-Ups, first position.

Illustrations © Morgan Humphreys Davis, PT Mind and Motion
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Tips for Facilitating Hook ups



- ⦿ If balance is poor and unsteady, do Hook ups sitting in a chair or supine (individual lies face up, on the back)
- ⦿ If there is difficulty getting into or maintaining the position—for example a young child, or an elderly individual with arthritis—then simply cross arms over the chest

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Brain Tune up (PACE) for Anxiety Reduction

Doctoral Thesis Report, Jan Irving, PhD

- First- year nursing students
- Purpose of study—determine the effect of the PACE (Brain Tune up) process on self-reported anxiety and on performance
- Five Week baseline data established high levels of anxiety and some students were failing the weekly skill tests.
- Oregon State University, Corvallis, OR

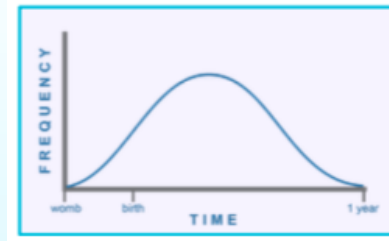
Group	Decrease in Self-Reported Anxiety	Increase in Performance
With PACE	69.5% Reduction in self-reported anxiety	18.7% Increase in performance on skills tests
No intervention	No consistent behavior change	Higher failure rate

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Life Cycle of a Primitive Reflex

- ⦿ Primitive infant reflexes are designed to
 - Emerge
 - Repeat until integrated (jobs are complete)
 - Become dormant—inhibited by higher brain centers



Innate infant reflexes have long been used in infant assessment for determining the health or dysfunction of the central nervous system (CNS) Fiorentino, 1973 .



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Soft Neurological Signs—glitches in the CNS



- ⦿ The presence of primitive reflexes past the first year of life is considered abnormal and is a soft neurological sign (Behrman et al., 2000).
- ⦿ “The finding of two or more persistent soft signs correlates significantly with neurologic dysfunction, including attention deficit disorder, learning disorders, and cerebral palsy.” (Behrman et al., 2000, p. 1800).

Behrman, R. E., Kliegman, R. M., & Jenson, H. B. (2000). *Nelson textbook of pediatrics* (16th Ed.). WB Saunders.

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Retained Primitive Reflexes Linked to Mental Health Challenges



Journal Information
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The role of neurological-developmental delay in childhood psychopathology.

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Friedlander, S., Pothier, P., Morrison, D., & Herman, L. (1982). The role of neurological-developmental delay in childhood psychopathology. *American Journal of Orthopsychiatry*, 52(1), 102–108. <https://doi.org/10.1111/j.1939-0025.1982.tb02669.x>

Employing a scale with demonstrated reliability, this study compared the relative frequency of primitive reflexes and abnormal postural adjustments among normal, neurologically handicapped, and emotionally disturbed children. Results demonstrated the greater frequency of these developmental signs in the two groups manifesting developmental abnormality, and are interpreted as supporting the presence of developmental delay in childhood psychopathology. (PsycInfo Database Record (c) 2022 APA, all rights reserved)

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Common Challenges Linked with Retained Primitive reflexes



- ⊙ Anxiety
- ⊙ ADHD
- ⊙ Sensory disorders
- ⊙ Learning challenges
- ⊙ Poor Balance, poor posture
- ⊙ Speech & language challenges
- ⊙ Emotional and behavior difficulties
- ⊙ Schizophrenia

These conditions are all associated
with retained primitive reflexes in
research literature.

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FREE resources page

<https://moveplaythrive.com/MentalHealth>

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Moro reflex—Key to a felt sense of safety and calm



- ⦿ Can be stimulated by multiple sensory inputs—arms and legs extend and move outward in a startled pattern, then arms return inward with a clinging motion.
- ⦿ The motion is often accompanied by a gasp and/or a cry
- ⦿ Adrenaline and cortisol are produced during the Moro response
- ⦿ Unintegrated Moro reflex is associated with constant fight-or-flight states and increased sensitivity.

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Fight-or-flight states are linked with retained Moro reflex



- ⦿ Physiological responses of Moro reflex—increased heart rate, increased breathing rate, sweating, secretion of adrenaline and cortisol
- ⦿ Retained Moro = same as CNS states of anxiety
 - Feeling keyed up, on edge
 - Irritability
 - Muscle tension
 - Easily fatigued
 - Elevated stress hormones
- ⦿ Retained (active) Moro reflex could result in inattention, anxiety, hyperactivity, and sensory challenges

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Better balance lowers anxiety, increases self-esteem



Research in Developmental Disabilities

Volume 30, Issue 3, May–June 2009, Pages 486–495



Balance treatment ameliorates anxiety and increases self-esteem in children with comorbid anxiety and balance disorder

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^c Psychobiology Research Unit, Department of Psychology, Tel-Aviv University, Israel

Bart, Orit; Yair Bar-Haim; Einat Weizman; Moran Levin; Avi Sadeh; Matti Mintz

Research in Developmental Disabilities, 30, 486–495, 2009

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PTSD, ADHD, Depression, Anxiety: Astonishing Changes

Submitted by M.S., Physical Therapist



PT Helps Adult Son Overcome Trauma & Depression

"He no longer enters a room like a massive storm cloud. I am so impressed with the results I have been seeing with Matt, especially after all the years I've been searching for avenues to help him with his struggles. I am so thankful for Sonia and this course -- there are no words to express my heartfelt appreciation."

M.S., Mother and Physical Therapist

Before	After
PTSD, ADHD, Anxiety, Depression	Mood is stable
Disorganized—car was a "garbage dump"	Cleans car out daily
Bedroom piled with junk	Keeps room clean and vacuumed
Lost, forgotten or incomplete homework	Homework completed on-time
Forgetful, extremely emotionally disregulated	No longer volatile
Hypersensitive to chewing noises	Can now eat with the family with enjoyment
Frequently sick with headaches	Belly is better, asthma is better, headaches are "thing of the past"
Body rigid with incorrect gait	Body is relaxed with proper gait

Results in approximately 10.5 months—mother and son together using a combination of innate rhythmic movements, plus primitive reflex integration

Highly Anxious 7-Year-Old Separates from Mother, Gains Balance, and Develops Nice Handwriting

Submitted by Anonymous parent



"It's Like Watching a Different Kid"

"In the beginning, my child would not leave my side. Everywhere I went, he went. At night, he would not sleep alone. . . within about 2-3 sessions, he was letting me leave the room at night and sleeping alone. I had to leave the door open, leave the hallway light on, and talk to him from my bedroom, but still that was a huge difference. I was shocked. . . within a month or two, he progressed to being able to play separately in a different room . . ."

Before	After
Would not leave mother's side	Able to play separately in a different room
Would not sleep alone	Allows mother to leave the room at night and sleeps alone
Complained that the bus, cafeteria, and gym were too loud	Not as sensitive to noise
Had a hard time standing on one leg	Improved balance; steadier and not falling over constantly
Fatigued when writing	Hands do not get as tired anymore when writing
Poor penmanship	Teacher says he has nice handwriting!

25 YO Law Student—Less Panic, Better Focus and Sleep; Increased Strength and Happiness

Submitted by Emily E Nemeć, OTD, OTR/L



Before	After
Diagnosed with generalized anxiety disorder	- Experiencing improved awareness of escalating anxiety, so she can implement tools to prevent or reduce adverse effects of anxiety/stress - Experiencing overall increased calm and focus - Using her panic attack rescue medication much less frequently - Falling asleep more easily - Friends and classmates have noticed that she seems generally calmer and happier in her day-to-day life
Had trouble building strength and stability in her core and upper body	Enjoys lifting weights and doing mat exercises much more; "individual muscles felt like they were finally turning on"

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Prevalence of retained primitive reflexes in patients with anxiety disorders

View/Open

 ForrestDS_2002redux.pdf (17.87Mb)

Date
2002

Author
Forrest, Diane Sutherland

Metadata
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Anxiety is not only one of the mental health disorders most commonly referred to clinicians, but is also a research interest, producing subsequent modification in treatment approaches. However, there are suggestions in the literature that the effectiveness of some psychological treatments have not been systematically evaluated (Department of Health, 2001), or that treatment studies have employed methods unrepresentative of everyday clinical practice (World Health Organization.2000). Furthermore, from analysis of outcome studies, psychological therapies have been reported as effective for only half of those treated (Fisher & Durham, 1999). These findings suggest that there are individuals with anxiety who fail to respond to available therapies, and that alternative approaches for this group are not well studied.

One biologically-based explanation for variable responses to treatment cites the possibility of anxiety as resulting from failed development of primitive and postural reflexes, necessary for processing sensory information and maintaining gravitational security. This theory is central to the work of the Institute for Neuro-Physiological Psychology (I.N.P.P.), recently applied to research which identified infantile reflexes, and failed transformation to adult responses, in a population of adults with differing sub-types of anxiety (Blythe, 1999).

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An exploration of the relationship between unintegrated primitive reflexes and symptoms of anxiety in children between 10-13 years in the Western Cape Province of South Africa

Carter, Tamara-Lyn

URI: <http://hdl.handle.net/10500/27005>

Date: 2020-02

Type: Dissertation

Abstract:

Anxiety Disorder is one of the most common disorders experienced by children and, if not managed, can extend into adulthood. Research has established a link between unintegrated primitive reflexes (UPR) and Learning Disorders. Learning Disorders are often co-morbid with symptoms of anxiety, however, the relationship between symptoms of anxiety and UPR have not been studied. This study aims to explore the relationship between the UPR and symptoms of anxiety in children between 10 – 13 years of age. No correlation was found between the total primitive reflex score and total symptoms of anxiety score; however, a significant relationship was found between symptoms of anxiety and the Moro, Plantar and Spinal Galant reflex. These UPR play an important role in balance. Research on balance dysfunction indicates a relationship with symptoms of anxiety. Prenatal maternal stress, common childhood illness and comorbidity with ADHD were also found to be factors in symptoms of anxiety in children.

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Experience of Christine Durfee, LPC-S Neuro Family Systems (NFS)



Educating clients and parents in the use of sensory-motor tools can be considered a component of CBT

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Ethical Considerations for Touch



Strategies for Appropriate Touch with Children and Adults

- Demonstrate first
- Ask and receive permission before touching
- Teach parents to use tools with child
- Teach parents and children together

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Benefits for Therapists



1. Energizing and inspiring because it works so well
2. The movements are excellent for Self Care

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Free resources at:

moveplaythrive.com/MentalHealth

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For LPCs in Texas—for other states submit and check for approval

- ⦿ Go to [surveymonkey.com](https://www.surveymonkey.com) link in the chat box
- ⦿ Link to test is given at the end of the survey
- ⦿ Course certificate comes automatically via email from [ClassMarker.com](https://www.classmarker.com)

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Key Points



- ⦿ Retained primitive reflexes often play a role in sensory disorders and anxiety
- ⦿ When balance skills are poor, anxiety is common. Conversely, improving balance in children lowers anxiety, increases self-esteem, improves focus.
- ⦿ Innate neuro-movements appear to transform anxiety disorders by calming and developing the brain and sensory systems

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“Sadly, it is my experience that most of what is currently being offered to mental health clients . . . is not based on what the field of neuroscience is telling us is necessary for healing.”

Teri Gelgood, LMFT in a letter to Sonia Story, https://www.moveplaythrive.com/images/pdf/TeriGelgood_Letter-E.pdf