



It's Okay to Be Different: Understanding Autism-Like Behaviors and Personalized Learning Through a Neuro-Relational Lens

Dr. Pavithra Lakshminarasimhan

Consultant Psychologist and Behaviour Intervention Specialist, Bangalore, India
Member in Association of Professional Psychologists

Abstract- Children often display behaviors that differ from typical developmental expectations, including echolalia, limited eye contact, repetitive movements, and self-soothing behaviors, which may resemble autism. These behaviors reflect unique ways of processing, regulating, and engaging with the environment, rather than deficits. This paper integrates Neuro-Relational Theory, Intersubjectivity Theory, Developmental Social Pragmatics, and the Ecological Attunement Model (EAM)—proposed by Dr. Pavithra Lakshminarasimhan—to provide a comprehensive framework for understanding these behaviors. Through detailed case illustrations of two children, Tom and John, this paper demonstrates how personalized learning support—tailored across the four progressive levels of EAM—can enhance social, emotional, and academic outcomes. The discussion presents a structured synthesis of theoretical frameworks and outcomes through standardized comparative tables to guide clinical and educational implementation.

Keywords- Autism, Echolalia, Neuro-Relational Theory, Ecological Attunement Model, Personalized Learning, Early Social Interaction, Developmental Outcomes

I. Introduction

The greatest gift you can give a child is connection." — Daniel J. Siegel
Children with autism-like presentations often challenge conventional expectations of social, emotional, and academic behaviors. They may repeat words (echolalia), avoid eye contact, engage in repetitive movements, or struggle with peer interactions. While these behaviors are often labelled as deficits, contemporary research highlights that they are adaptive responses to sensory, emotional, and relational needs.

A neuro-relational approach emphasizes understanding behaviors as expressions of brain development and relational experiences, rather than targets for correction. Early attachment patterns, emotional attunement, and caregiver responsiveness all shape neural pathways and influence how children process information, regulate emotions, and engage socially (Schoore, 2001).

Personalized learning support builds on this foundation by tailoring interventions to the individual child's processing style, strengths, and sensory needs, allowing educators and clinicians to support learning while respecting neurodiversity. This paper proposes a holistic model that integrates theory, evidence, and practical strategies to support children like Tom and John.



II. Theoretical Framework

1. Neuro-Relational Theory (Schoore, 2001)

Neuro-Relational Theory emphasizes the interconnection between early attachment, affect regulation, and neural development. The right hemisphere of the brain, responsible for emotion regulation, social perception, and relational awareness, develops optimally in responsive and attuned environments. Inconsistent caregiving or lack of relational attunement can result in behaviors such as echolalia, sensory avoidance, or restricted communication as self-regulatory strategies.

- **Application to Tom:** Tom, a 7-year-old child, demonstrates echolalia and limited eye contact despite strong reading and writing skills. Neuro-relational theory interprets these behaviors as adaptive mechanisms for social engagement and emotional regulation. Echolalia allows Tom to process language and interact socially, while limited eye contact helps regulate overstimulation. Educators can support Tom through visual cues, extra processing time, and structured interaction, emphasizing connection over correction.

2. Intersubjectivity Theory (Trevvarthen, 1979)

Intersubjectivity Theory posits that infants are biologically inclined to share attention, emotion, and intention. Early relational engagement, such as eye contact, mirroring, and turn-taking, lays the foundation for social cognition and pragmatic communication. Disruptions in these interactions may result in difficulty initiating or sustaining social engagement, which can manifest as withdrawal, limited eye contact, or repetitive self-soothing behaviors.

- **Application to John:** John, a 6-year-old child, frequently makes buzzing sounds and tears paper, avoiding peer interactions. According to intersubjectivity theory, these behaviors reflect challenges in relational engagement and co-regulation, rather than intentional misbehavior. Providing predictable routines, non-verbal engagement strategies, and safe sensory outlets helps John build trust, emotional regulation, and readiness for social learning.

3. Developmental Social Pragmatics

Developmental Social Pragmatics recognizes that echolalia, repetitive movements, and sensory behaviors are meaningful communication strategies, particularly for children with limited expressive language. These behaviors convey intention, engagement, and self-regulation, rather than mere symptoms. Educators and clinicians are encouraged to interpret behavior contextually, considering environmental triggers, relational dynamics, and the child's cognitive processing style.

- **Application to Both Cases:**
- Tom's echolalia serves as a bridge for communication while processing information.
- John's buzzing sounds function as self-soothing behavior in response to sensory overload.
- By acknowledging these behaviors as adaptive communication, intervention strategies can be strength-based, supportive, and individualized.



4. The Ecological Attunement Model (EAM)

Proposed by Dr. Pavithra Lakshminarasimhan, the Ecological Attunement Model (EAM) provides a human-centered, non-medicalized framework that views a child's regulation and expression as an ongoing dynamic between their internal processing capacity and external environment. Rather than forcing the child to conform to fixed environmental demands, EAM moves through four progressive levels of attunement to build safety, connection, and autonomy:

- **Level 1:** Make the Space Fit (Environmental Safety) — Adapts physical and sensory surroundings (lighting, noise levels, spatial layout) to eliminate environmental stress and align with sensory thresholds.
- **Level 2:** Trust & Calm Together (Relational Safety) — Establishes emotional co-regulation through predictable, warm, and low-pressure presence to build relational safety.
- **Level 3:** Play to Strengths (Cognitive Growth) — Capitalizes on intrinsic strengths, hyper-fixations, and unique processing styles to drive interest-led learning experiences.
- **Level 4:** Own Your Voice (Self-Advocacy) — Empowers the child to identify, express, and communicate boundaries, preferences, and sensory needs for long-term autonomy.

III. Case Illustrations

Case 1: Tom – The Silent Processor

- **Profile:** 7 years old; academically strong in reading and writing; demonstrates echolalia, minimal eye contact, and restricted social communication.
- **Baseline Observations:** Echolalia occurs during social interaction attempts; limited eye contact correlates with high cognitive load; prefers predictable routines.

Case 2: John – The Self-Regulator

- **Profile:** 6 years old; displays buzzing sounds and paper tearing when overwhelmed; demonstrates limited peer engagement.
- **Baseline Observations:** Self-soothing behaviors triggered by high-stimulation settings or transitions; frequent withdrawal; responds well to structured sensory interventions.

Consolidated Case Study Outcomes & Intervention Matrix

Metric / Intervention Domain	Case 1: Tom (The Silent Processor)	Case 2: John (The Self-Regulator)
Child Profile & Strengths	7 years old; advanced skills in reading and writing.	6 years old; highly responsive to tactile and experiential learning.
Baseline Behavioral Observations	• Echolalia present during social initiation attempts. • Avoids eye contact under high cognitive load. • Prefers	• Buzzing sounds & paper tearing when sensory-overwhelmed. • Frequent verbal and social withdrawal from



	predictable, structured academic tasks.	peers. • Displays distress during daily activity transitions.
EAM Level 1 Interventions (<i>Environmental Safety</i>)	Reduced visual clutter and ambient auditory noise in class.	Designed a sensory-calming corner; provided paper dedicated for tearing.
EAM Level 2 Interventions (<i>Relational Safety</i>)	Used low-pressure teacher presence, visual schedules, and extended processing time.	Utilized non-verbal attunement, music, art, and predictable routines for co-regulation.
EAM Level 3 Interventions (<i>Cognitive Growth</i>)	Leveraged literacy skills to construct structured turn-taking board games.	Integrated hands-on, tactile materials directly into core academic tasks.
EAM Level 4 Interventions (<i>Self-Advocacy</i>)	Scaffolded visual break cards and non-verbal signals for processing delays.	Scaffolded non-verbal tools to communicate sensory overload before escalation.
6-Month Clinical Outcomes	• Independent communication initiation. • Enhanced peer social reciprocity. • Improved classroom engagement. • Retains authentic processing style.	• Marked growth in emotional self-regulation. • Sustained task engagement. • Gradual, positive peer interactions. • Smooth, distress-free transitions.

IV. Personalized Learning Support Implementation Model

Phase Step	EAM Level / Target Objective	Operational Focus & Action Items
Step 1	Functional Assessment	Identify environmental triggers, behavioral purposes, and sensory/relational adaptive functions.
Step 2	Level 1: Environmental Safety	Modify ambient lighting, noise, and visual distractions to establish sensory safety.
Step 3	Level 2: Relational Safety	Prioritize connection over correction through co-regulation and low-demand relational presence.
Step 4	Level 3: Cognitive Growth	Design multi-modal, strength-based learning plans centered on the child's natural interests.
Step 5	Level 4: Self-Advocacy	Scaffold visual and non-verbal tools enabling the child to communicate choices and boundaries.
Step 6	Reinforcement & Reflection	Recognize efforts, social reciprocity, and authentic self-expression.

V. Discussion

Children like Tom and John demonstrate that autism-like behaviors are adaptive strategies shaped by neurological development, relational experiences, and



environmental demands. Integrating theoretical frameworks with the Ecological Attunement Model (EAM) systematically transforms behavior management into neurodiversity-affirming care.

Theoretical Synthesis & Practical Framework Alignment

Theoretical Model	Core Premise	Clinical & Educational Application
Neuro-Relational Theory (<i>Schore, 2001</i>)	Brain development and affect regulation rely on attuned early relationships; behaviors are adaptive regulation mechanisms.	Replaces behavior correction with relational connection, visual scaffolds, and low-pressure processing time.
Intersubjectivity Theory (<i>Trevarthen, 1979</i>)	Shared intentionality and turn-taking underpin social cognition; disruptions lead to withdrawal.	Establishes co-regulation using non-verbal mirroring, structured turn-taking, and predictable routines.
Developmental Social Pragmatics	Repetitive actions and echolalia are meaningful communicative acts within context.	Re-interprets repetitive behaviors as functional communication and self-regulation tools.
Ecological Attunement Model (EAM) (<i>Dr. Pavithra Lakshminarasimhan</i>)	Behavior is an outcome of dynamic alignment between internal processing capacity and external environment.	Sequentially builds environmental safety (L1), relational safety (L2), strength-based learning (L3), and self-advocacy (L4).

VI. Conclusion

Children with autism-like behaviors are differently wired, not deficient. A holistic approach integrating Neuro-Relational Theory, Intersubjectivity, Developmental Social Pragmatics, the Ecological Attunement Model (Levels 1–4), and Personalized Learning Support enables professionals to recognize strengths, interpret underlying needs, and foster authentic development.

"Different, not less." — Temple Grandin "Every child is a different kind of flower, and together, make this world a beautiful garden." — Unknown

By connecting, understanding, and personalizing support across all levels of ecological attunement, children like Tom and John can communicate, learn, and thrive in ways that honor their neurodiverse profiles.

References

1. Schore, A. N. (2001). Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal*, 22(1-2), 7-66.



2. Trevarthen, C. (1979). Communication and cooperation in early infancy: A description of primary intersubjectivity. In M. Bullowa (Ed.), *Social Development in Early Infancy* (pp. 187-224). London: Academic Press.
3. Tronick, E. (2007). *The Neurobehavioral and Social-Emotional Development of Infants and Children*. New York: Norton.
4. Shore, S. (2010). *Understanding Autism: From Theory to Practice*. Cambridge: Academic Press.
5. Grandin, T. (2006). *Thinking in Pictures: My Life with Autism*. New York: Vintage.