# ECHO IDAHO:
## K12 Supporting Students with Autism

# Supporting Our Autistic Students Through a Sensory Processing and Coregulatory Lens

12/19/2024

Susan Cooper, OTP

None of the planners or presenters for this educational activity have relevant financial relationship(s) to disclose with ineligible companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.

# Learning Objectives

- Understand how sensory processing and motor differences can cause stress and impact regulation in autistic students
- Importance of identifying sensory preferences and identifying sensory based/ biological stressors
- What is coregulation and why is it so important
- Understand the impact of stress on a student's regulatory capacities or their "window of tolerance"

# Handle With Care

Delahooke, 2019

# What Is Sensory Processing

- Sensory neurons are embedded in the skin, muscles, eyes, ears, nose, mouth AND within the internal organs detect stimuli
- The brain receives ongoing sensory data from the central nervous system coming from the environment and  from within the body (interoception)

# Sensory Processing Continued

- The brain receives these sensory messages, the sensory data is processed and interpreted as having an **alerting effect** on a child's state of arousal/alertness, **calming effect** on the child's state of arousal/alertness or **neutral effect** (no need to change response).

- The brain perceives and then interprets based on **past experiences or memories** and this guides action.

- Smoothly running sensory integration and processing sets the stage for a regulated nervous system.

# Sensory Processing Differences

- Often a child's individual differences (sensory processing) create a nervous system response of high reactivity to sensory input(low threshold for noticing stimulus), or they may have more of lack of reactivity to sensory input or possibly a mixed sensory reactivity creating a complex "reactivity profile." ( Lillas et. al., 2023)

- Often these **sensory perceptions** autonomically or "automatically" trigger the "threat detection system" triggering an **autonomic stress "fear response"** resulting in mobilization of the body and the shift from a student that is regulated and connected to state of mobilization and protection (i.e. fight/flight).

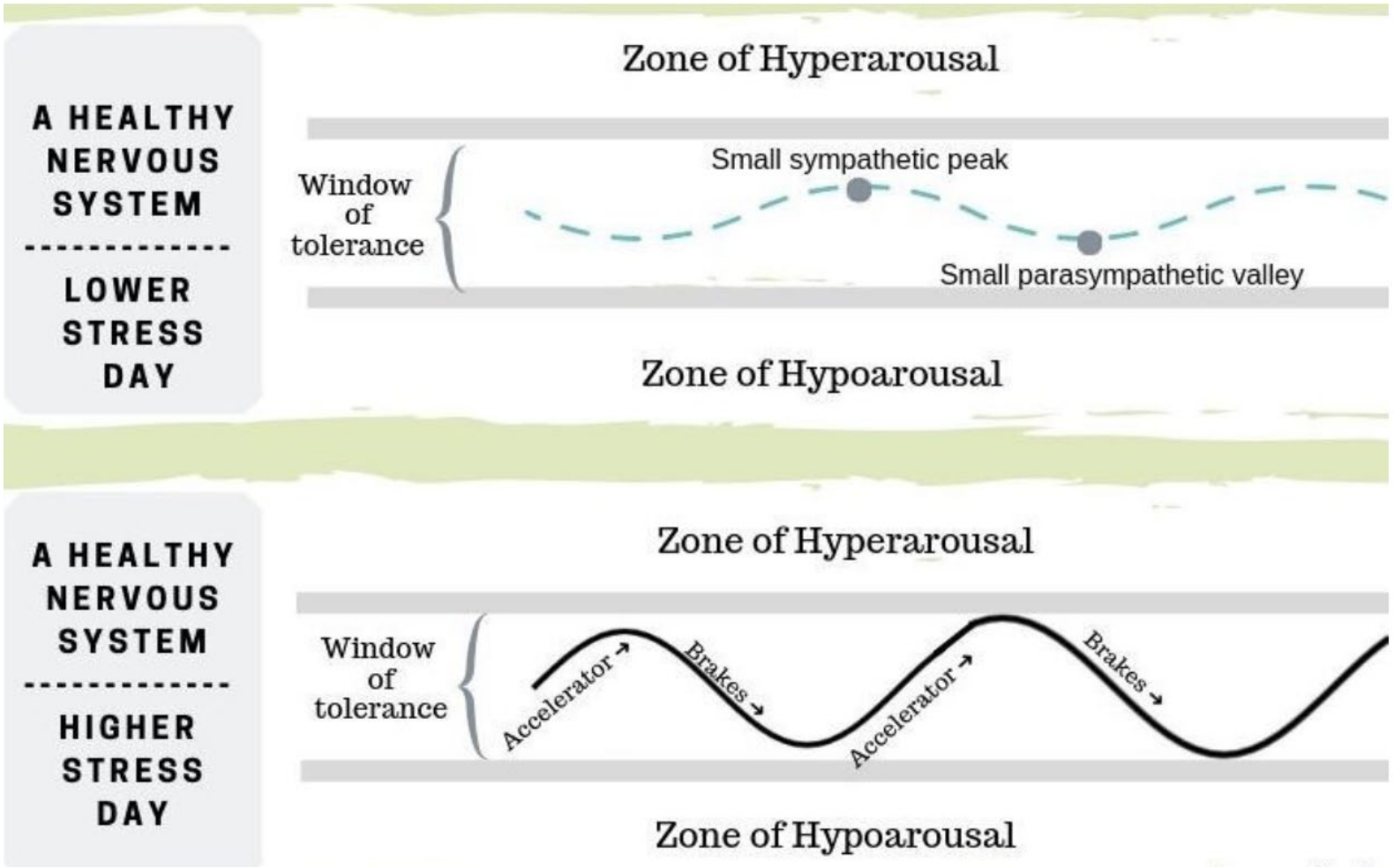
# Impact of Stress on Regulatory Capacities

- Many autistic student's school experiences are not well matched with their unique biology and many cannot access "buffering" for their system to regulate on their own therefore are prone to experiencing high levels of stress.
- When stress load outweighs a child's body/ brain's ability to produce an adaptive response to manageable stress, their observable responses or actions are signally that they **need our help** to manage their external environment or internal bodily system and the emotions tied to them.
- Sensory perceptions from the external and internal inputs may create repeated or chronic activation of the ANS, the brain starts becoming **primed to look for threats,** even when none exist. Unfortunately, this ANS becomes super sensitized and triggers "protection" mode with even small low level stressors. (Shanker, 2017)
- Chronic stress responses to differences in a child's sensorimotor system contribute to autistic student's difficulties with regulation, ability to remain connected to people and activities and to experience "felt safety". (Delahooke, 2019)

# What is Regulation, How Does It Develop?

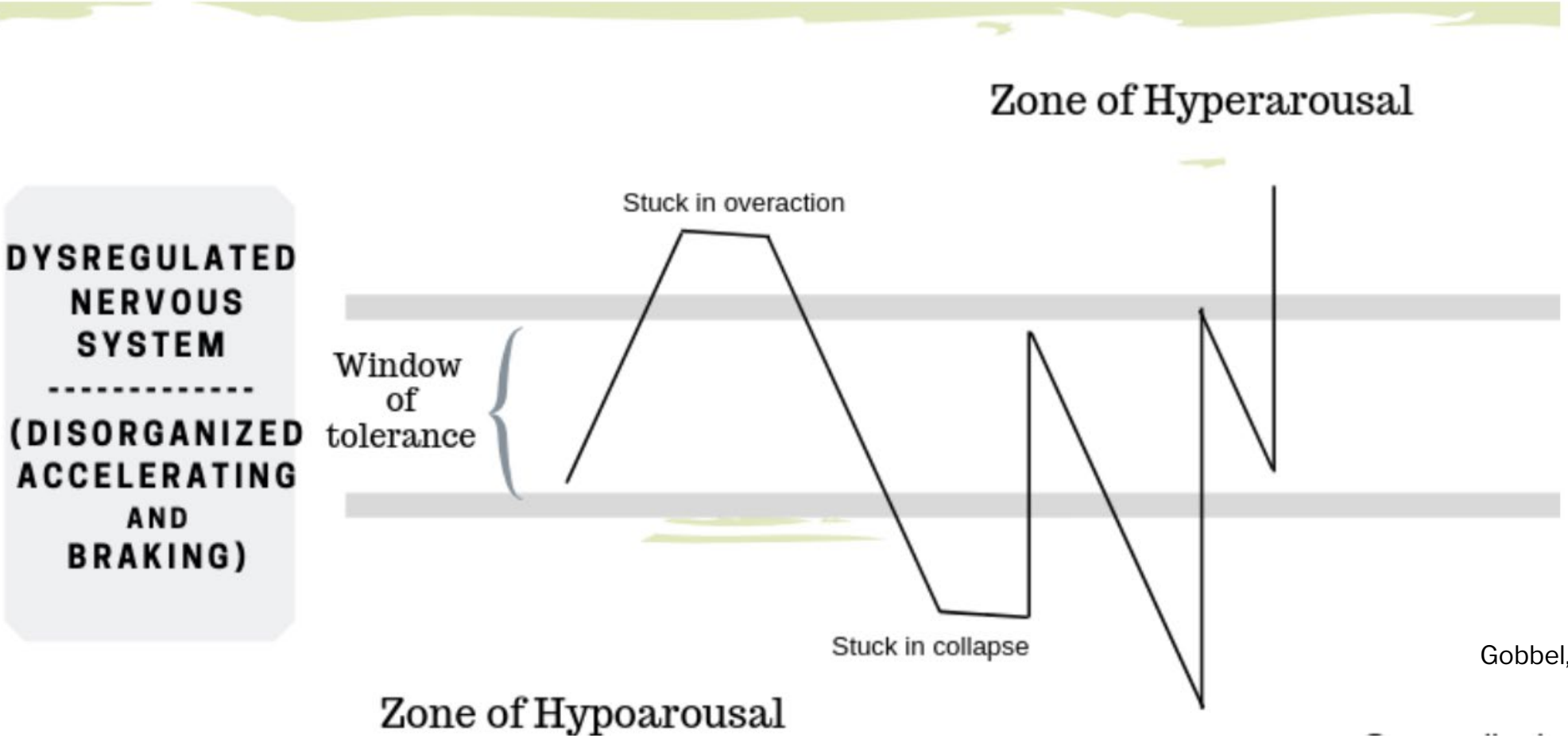
- Regulation is how a student shifts and maintain states according to the demands of the environment (STAR Inst. Denver, CO)
- The ability to manage stressors from biological, social, academic/cognitive and other domains (Shanker, 2016)
- Regulation develops from infancy in ALL humans, from predictable, repeated attunement with caregivers
- **Differences in sensorimotor processing** and resulting stress **impairs regulation** (Perry, 2017 Ed.)

# A Regulated Nervous System Able to Cope with Stress




Gobbel, R. (2024)

# Sensory Processing Differences Impacting a Student's Ability to Cope




Gobbel, R. (2024)

# Being Your Student's Sensory Detective

- Is this sensation familiar to a student or is it new?
- How strongly does this sensation affect your student?
- Does this sensation(s) make your student feel:

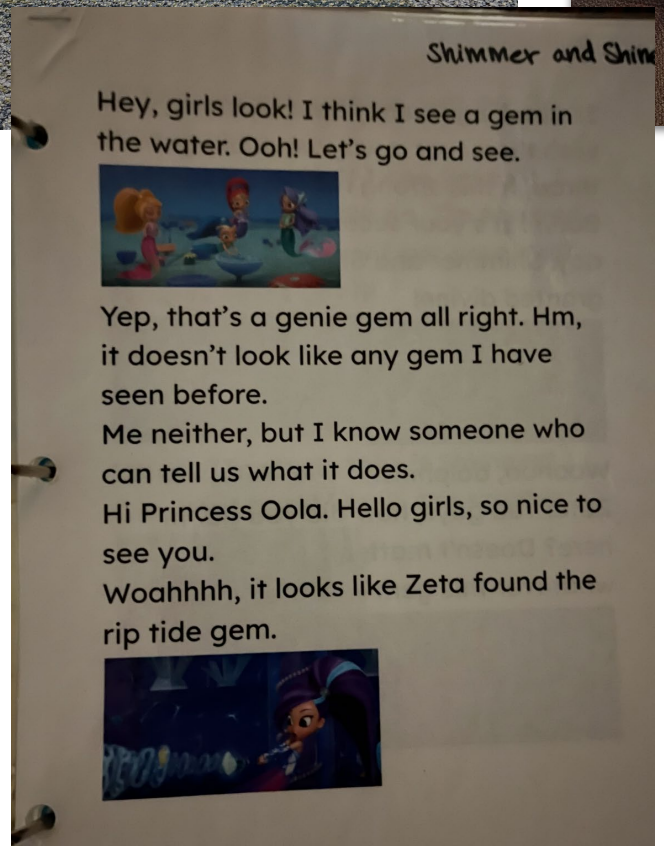
  **safe and comfortable** or does the sensation elicit **fear/stress** or sense of being threatened?
- Does the student quickly shift to lash out, kick, hit to protect themselves or do they run and hide?
- OR do they want/need more of this sensation, does it feel good?

(Lillas 2023)

# What Are Your Student's Sensory Preferences

- Movement preferences: Walking/Pacing with/without adult partner, rocking/glider, jumping
- Sound/rhythm preferences: portable mp3 players, Yoto players
- Visual Preferences: stuffies, characters, notebooks with visual preferences
- Touch/Pressure Preferences: weighted animals/ pads/blankets, silky or glittery fabrics
- Alternate sensory space preferences: increase control over sensory inputs (i.e. lights, sound, space to move their body)




Shimmer and Shine

Hey, girls look! I think I see a gem in the water. Ooh! Let's go and see.



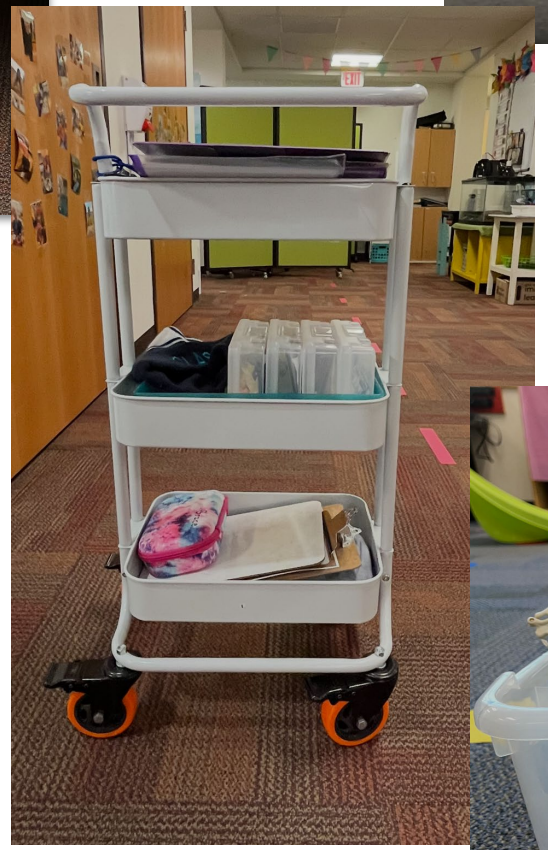
Yep, that's a genie gem all right. Hm, it doesn't look like any gem I have seen before.

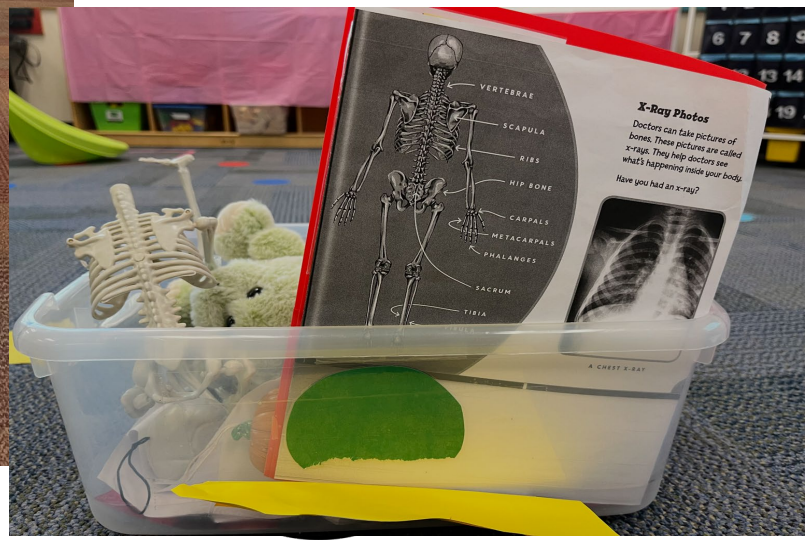
Me neither, but I know someone who can tell us what it does.

Hi Princess Oola. Hello girls, so nice to see you.

Woahhhh, it looks like Zeta found the rip tide gem.







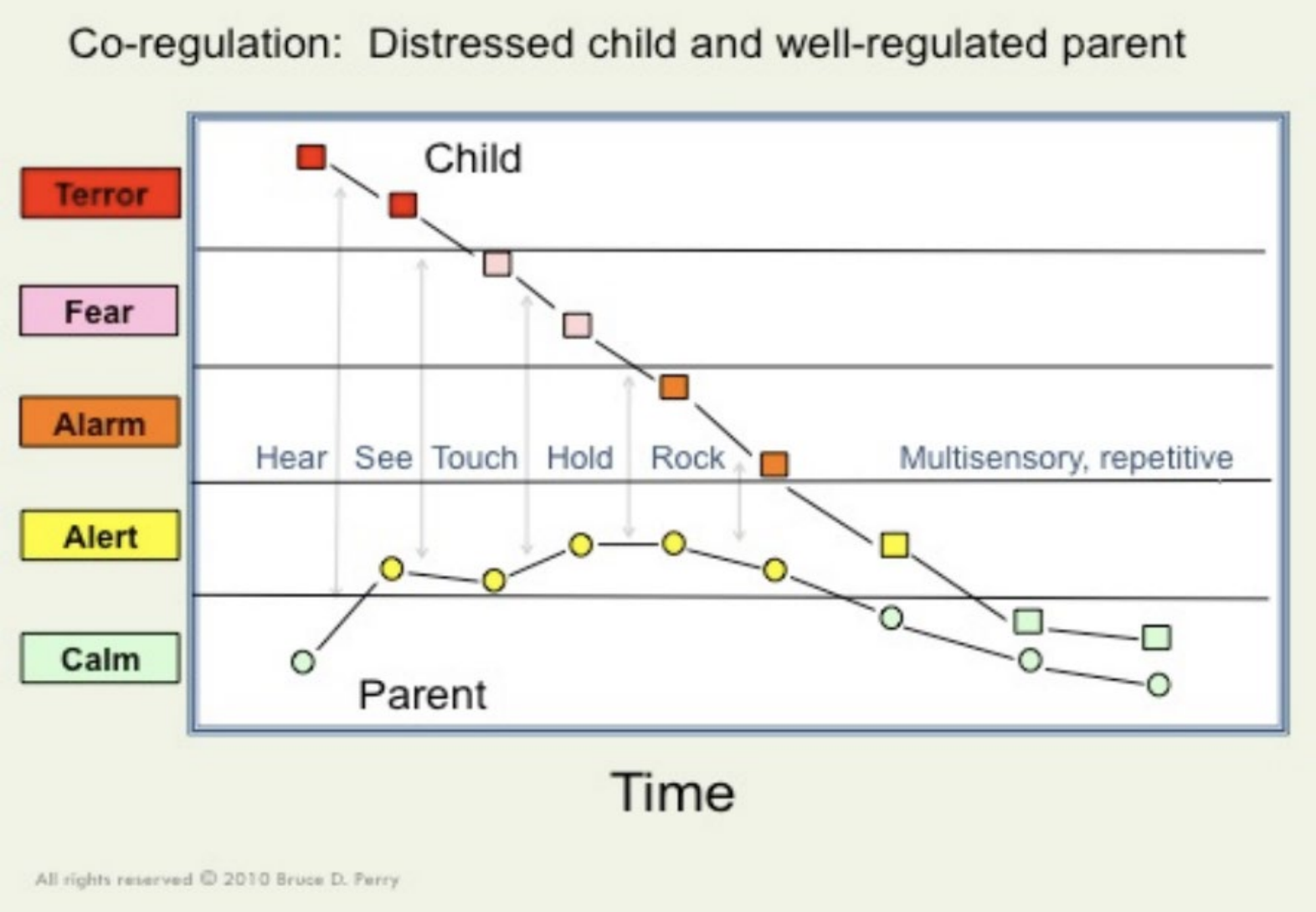
# How Can I Increase Regulation With My Students?

- **Coregulation IS KEY**!

  -Coregulation is the process where two individuals' nervous systems sync- up through physiological state and emotional mechanisms allowing them to regulate and create a sense of connection and safety.

  -"Through connection, **co-regulation** and engagement with others, we are able to proactively calm ANS states, to become more **regulated**, **less hypersensitive,** more able to **engage socially** as well as being able to **access higher cognitive areas of the brain.**" (Porges 2023)

# Coregulation in Action from Trusted Adult



# We Can All Provide Coregulation and Sensory Preferences to Our Students

- **During times of stress/perceived stress with resulting dysregulation, trusted adult partners  can provide "buffering" to an autistic student's stress signals by:**
  - Use of Coregulatory Strategies-
  - Providing therapeutic Use of Self
  - Cue safety by soft gaze/posture, prosodic vocal quality, providing time
- **Providing Access to Sensory Preferences**
  - What soothes your student :listening to rhythmic music, body movement, carrying visually comforting object etc.
- **Teachers and Classrooms** can increase availability and embedded opportunities for sensory preferences for all students

# Key Takeaways

- Autistic student's have differences in their brain structures and connectivity causing differences in sensorimotor and regulatory differences
- Become a "stress detective" for your students
- Remain curious! about your observations and use Sensory Preferences and Coregulation strategies!
- Autistic students are  highly vulnerable to heightened stress responsivity due to sensory processing differences
- Use of coregulation and sensory preferences can shift a student's regulatory capacity, widening their window of tolerance to the complex school environment

# References


- Delahooke, M. (2019). Beyond behaviors using brain science and compassion to understand and solve children's behavioral challenges. Eau Claire, WI: Pesi Publishing and Media.

- Gobbel, R. (2024). Raising kids with big baffling behaviors. London: Jessica Kingsley Publishers.

- Porges, S. and Porges S. (2023). Our polyvagal world how safety and trauma change us. New York: W.W. Norton & Co. Ltd.

- Perry, B. and Szalavitz, M. (2017 Edition). The boy who was raised as a dog and other stories from a child psychiatrist's notebook. New York: Basic Books.

- Shanker,S. and Barker, T. (2017). Self-reg how to help your child (and you) break the cycle of stress cycle and successfully engage with life.New York:Penguin House.

- The STAR Institute. https://sensoryhealth.org/basic/understanding-sensory-integration-process. Accessed 14 December 2024.