# Supporting Relational Synchrony May 15 & May 22, 2022

The Central Role of Regulation of Arousal, Sensation, Motion and Emotion in the Development of Agency and the Sense of Self

Plenary Presentations
Mona Delahooke, PhD
Elizabeth Torres, PhD
Gilbert Foley, EdD, IMH-E
Serena Wieder, PhD
Ira Glovinsky, PhD

Case Presentations
Tal Baz, MS, OTR/L
Connie Lillas. PhD, MFT, RN







#### Serena Wieder, PhD Profectum Foundation Clinical & Conference Co-Director Co-creator of the DIR® Model

Gilbert Foley, EdD, IMH-E Profectum Foundation Sr. Faculty Conference Co-Director



#### Greetings,

We all have children who are puzzling whether you are a parent or a clinician. These children present with behaviors and feelings that are complex and confusing. What we observe in behavior alone is only the "tip of the causal iceberg." Underneath these behavioral patterns are layers of contributing challenges, not readily discernible to the naked eye. This cutting-edge conference will shed light and insight on these hidden factors, sharpening your powers of assessment, formulation and treatment.

We will bring body-brain systems, sensory and emotion regulation, motor planning, agency and sense of self into a clinically meaningful whole. Challenges in these areas lead to behavioral dysregulation, fear and anxiety, and mood and arousal changes that interfere with being able to form ideas, take perspective, inhibit, exercise judgment, act with agency or even know who you are.

This is what you'll come away with:

- How body-brain signaling processes influence how children feel and act and how to apply these concepts to tailored treatment and parenting approaches
- How to support developmental capacities and build on individual differences that contribute to being intentional and relational, having agency, and sense of self
- How and why Individual differences matter and how biosensor technology can help to measure what we cannot discern clinically to improve therapeutic interventions
- How to apply the DIR® (Developmental, Individual Difference, Relationship-based) approach to children with complex with neurodevelopmental differences, illustrated through cases with anxiety, bipolar disorder, and dysregulation of arousal
- How the DIR® Model is grounded in bioscientific research

Thank you, and we hope you enjoy the conference!

With appreciation,

Serena, Gil and the Conference Committee



Carrie Alvarado, PhD, OT



Tal Baz, MS, OTR/L



Mona Delahooke, PhD



Ira Glovinsky. PhD



Connie Lillas. PhD, MFT, RN



Ricki Robinson, MD, MPH

# Sunday, May 15, 2022 11:00 am to 5:40 pm EDT | Recording Available May 17 - June 6

4:10 – 5:40 pm	When Emotion Regulation Collapses: Disorders of Severe Mood Dysregulation and Bipolar Patterns in Children Ira Glovinsky, PhD				
3:55 - 4:10 pm	Break				
2:55 - 3:55 pm	Sensation, Separation and Self: Pathways and Hurdles for Neurodivergent Development Gilbert Foley, EdD, IMH-E; Serena Wieder, PhD				
12:20 - 1:35 pm 1:35 - 2:05 pm 2:05 - 2:50 pm	Identification of Personalized Targets for Treatment: Aiding Therapies with Three Contemporary Revolutions  Elizabeth B. Torres, PhD  Lunch  Panel Discussion: Harnessing the Readiness Potential of your Child Through the Identification of Personalized Targets for Treatment: Aiding Therapies with Three Contemporary Revolutions  Panelists: Carrie Alvarado, PhD, OTR; Mona Delahooke, PhD;  Gilbert Foley, EdD, IMH-E; Cindy Harrison, MSc Reg CASLPO; Anie Knipping; Connie Lillas, PhD, MFT, RN; Elizabeth B. Torres, PhD; Serena Wieder, PhD				
11:15 – 12:15 pm	The Role of the Brain-Body Feedback Loop and Its Impact on Development and Relationships Mona Delahooke, PhD  Harnessing the Readiness Potential of your Child Through the				
11:00 - 11:15 am	Welcome Serena Wieder, PhD				
10:45 - 11:00 am	ZOOM Webinar Opens for Attendees				
10:15 – 10:45 am	Meet Old and New Friends in the "Coffee and Connect" Breakout Rooms				

# Sunday, May 22, 2022

### 11:00 am to 4:15 pm EDT | Recording Available May 24 - June 6

10:30 – 11:00 am	Meet Old and New Friends in the "Coffee and Connect" Breakout Rooms			
11:00 - 11:15 am	Welcome Serena Wieder, PhD			
11:15 - 1:00 pm	Regulation of Arousal as the Foundation for Organizing Individual Differences Tal Baz, MS, OTR/L; Connie Lillas, PhD, MFT, RN			
1:00 - 1:30 pm	Lunch Break			
1:30 - 3:00 pm	Regulation of Arousal as the Foundation for Organizing Individual Differences cont			
3:00 - 3:15 pm	Break			
3:15 - 4:15 pm	Panel Discussion Discussant: Lucy Jane Miller, PhD, OTR/L Moderator: Gilbert Foley, EdD, IMH-E Panel: Tal Baz, MS, OTR/L; Cortney Grove, MA, CCC-SLP; Connie Lillas, PhD, MFT, RN; Traci Swink, MD; Serena Wieder, PhD			

#### **Registration Fees**

	Early Bird Mar 21 - May 1	Member May 2 - May 22	Non-Member May 2 - May 22	Grp of 5+ May 2 - May 22	Scholarship Applications Due May 12
2 Days	\$275	\$295	\$335	\$295	\$75 to \$250
1 Day	\$195	\$205	\$235	\$205	\$75 to \$150

GENERAL Scholarship Application Link

PARENT Scholarship Application Link

**<sup>2</sup>Profectum**<sup>™</sup>

#### **Certificate of Attendance & Continuing Education**

A certificate of attendance for the event can be obtained using the website, CE-Go. Before the event, you will receive an email containing a link to CE-Go. This link will be sent to the email account you used to register for the event. Upon accessing the CE-Go website, you will be able to, join webinar sessions, complete evaluation forms and download your certificate in a PDF format after those requirements have been met and full attendance of the session is verified.

#### Sunday, May 15, 2022 & Sunday, May 22, 2022

# Supporting Relational Synchrony: The Central Role of Regulation of Arousal, Sensation, Motion and Emotion in the Development of Agency and the Sense of Self

Relationships are at the heart of development for all of us. They play a pivotal role in integrating body-brain systems which are in constant motion and dynamic interaction and are key to the development of agency and self.

What we observe in behavior is only the "tip of the iceberg." Underneath these behavioral patterns are layers of challenges, not easily detectable to the naked eye of the diagnostician, therapist, parent, and even to oneself.

In this cutting-edge conference, neuroscientific research and clinical practice will be combined in dynamic, inspiring, and valuable ways in a journey to a greater understanding of intentionality, regulation, and social communication. Addressing the foundational underpinnings of relationships and behaviors that define neurodivergent development, including the range of diagnostic categories from autism to trauma, will help the clinician design personalized approaches that promote respectful, non-ableist supports and advance the emergence of self and agency.

As a result of this conference, participants will be able to:

- 1. Describe the meanings of self and agency in development.
- 2. Identify the non-visible body-brain systems that interact to promote emotional regulation.
- 3. Define the goals of personalized intervention approaches.





#### Sunday, May 15, 2022

### The Role of the Brain-Body Feedback Loop and its Impact on Development and Relationships

#### Mona Delahooke, PhD

A new understanding of the Body-Brain connection opens up new vistas in how we understand, treat and parent neurodivergent individuals whose social and emotional development face challenges.

When the body sends signals to the brain, it directs us to respond in a way that keeps our body budget in balance—in scientific language, to maintain homeostasis. We often overlook that it's the information flowing to the brain from children's bodies that influences how they feel and what they do. Paying heed to these body-up signals helps us to customize our treatment techniques and parenting tools to each individual's unique physiology and allows us to better understand how they feel in body and in mind. We use this cross disciplinary information to customize an approach for each child that is respectful of their body's natural inclinations, visual and movement patterns, and adaptive responses. This approach is a stark contrast to the prevailing treatment models that view behaviors as a target, rather than a valuable signal of a child's internal world and coping strategies.

As a result of this presentation, participants will be able to:

- 1. Explain the role of the body's signals to the brain in how we interpret children's communication and behaviors.
- 2. Explain the difference between afferent and efferent neural pathways.
- 3. Describe why coherence is important in the relational dance and what it means.

### Thank you to our sponsors!



The Bracken Family





Harnessing the Readiness Potential of your Child Through the Identification of Personalized Targets for Treatment: Aiding Therapies with Three Contemporary Revolutions

#### Elizabeth B. Torres, PhD

Panel: Carrie Alvarado, PhD, OTR; Mona Delahooke, PhD; Gilbert Foley, EdD, IMH-E; Connie Lillas, PhD, MFT, RN; Elizabeth B. Torres, PhD; Serena Wieder, PhD; Cindy Harrison, MSc Rea CASLPO



Left to Right: Carrie Alvarado, PhD, OTR; Mona Delahooke, PhD; Gilbert Foley, EdD, IMH-E; Connie Lillas, PhD, MFT, RN; Elizabeth B. Torres, PhD; Serena Wieder, PhD; Cindy Harrison, MSc Reg CASLPO

Recent research advances in developmental neuroscience have revealed the plurality of paths that a nascent nervous system could take preceding a diagnosis of a neurodevelopmental disorder. It has become clear that while disorders on a spectrum serve the purpose of facilitating clinical classification, their heterogeneity poses a challenge when treatments are designed under a one-size-fits-all model. A case in point is autism spectrum disorders, allowed by the latest DSM-5 criteria to be comorbid with ADHD and other disorders involving sensory issues. These disorders are also now diagnosed at younger ages, with a push for early detection allowing early intervention. However, there is no concrete model that tailors focused treatment on readiness potential or learning preferences that prepare the child for schooling years. Clinicians across the board are asking for new tools to facilitate their continuous attempts to personalize treatments while helping them accelerate the child's gains. In this talk, Dr Torres will present new tools that to effectively use wearable sensors unobtrusively during clinical practices. These tools help mitigate stress and enhance the dyadic interaction that takes place during the therapy. She will do so within the model of Precision (personalized) Medicine adapted to autism and other neurodevelopmental disorders on a spectrum. This new model combines knowledge from multiple layers of research and clinical practices, spanning from clinical inventories to digital biomarkers, to omics. The goal being to bring a personalized approach to the identification of targets for treatments that dynamically shift and adapt as the child ages.

Dr Torres will show different comorbidities common with autism that have known genetic origins and will suggest ways to utilize existing resources to help treatments while identifying preferences based on newly characterized learning modes. This talk will augment your knowledge with the potential to enhance child-therapist interactions towards faster and more effective ways to learn together.

As a result of this presentation, participants will be able to:

- 1. Discuss the Precision Medicine model as it relates to autism and other neurodevelopmental disorders.
- 2. Describe autism and divergent development and describe the potential use of wearable biosensors in the treatment of autism and related disorders.
- 3. List conditions commonly comorbid with autism and recognize their genetic origins when designing treatments.



#### Sensation, Separation and Self: Pathways and Hurdles for Neurodivergent Development

#### Gilbert Foley, EdD, IMH-E; Serena Wieder, PhD

Separation is a lifespan process and the pathway to selfhood and agency. The road is peppered with body-brain challenges for neurotypical children-fears of loss, being left alone, bodily injury, and aggression itself. For neurodivergent children, including the range of diagnostic categories from autism to trauma, these and more fundamental "tests" related to regulation of physiological arousal, sensation, anxiety and emotions; movement and communication and relating itself complicate the journey.

DIR®, with roots in psychodynamic, attachment-separation and cognitive theories, offers practitioners a unique, comprehensive, multidisciplinary, bio-developmental, play and relationship-based approach to tackle these roadblocks. Learn how DIR® therapeutically addresses the complexity, puts the pieces together and promotes development by coaching parents while respecting each child's individual differences and uniqueness providing non-ableist intervention that advance the emergence of self and agency.

As a result of this presentation, participants will be able to:

- 1. Identify the challenges of sensation and movement impacting the development of self.
- 2. Describe the anxiety and conflict related to separation for child and parents.
- 3. List tangible strategies to support the development of agency and self.

### When Emotion Regulation Collapses: Disorders of Severe Mood Dysregulation and Bipolar Patterns in Children

#### Ira Glovinsky, PhD

Pediatric bipolar disorder is highly complex and involves multiple body symptoms. Although still controversial, the diagnosis is consistent with a trend to understand children, adolescents and adults more dimensionally and find parallels between the manifest behavior and the underlying genetic, biological, social-cognitive and emotional contributions.

In this session, a historical perspective will examine the factors that led to the conceptualization of bipolar disorder as "madness", the link between mania and depression (manic-depressive) and the current conceptualization of bipolar disorder. The contemporary multi-dimensional model of bipolar that accounts for genetics, molecular and cellular structures, physiology and environmental factors, will be highlighted, including the important role of the autonomic and endocrine systems in understanding the disorder. These transacting component parts of the disorder will be humanized through the lens of my experience parenting a child with bipolar disorder.

As a result of this presentation, participants will be able to:

- 1. Explain the difference between categorical diagnoses and dimensional determinants.
- 2. List the dimensional factors that contribute to severe mood dysregulation.
- 3. Develop an intervention plan to work with children with severe emotion dysregulation.



#### Sunday, May 22, 2022

#### Regulation of Arousal as the Foundation for Organizing Individual Differences

Tal Baz, MS, OTR/L; Connie Lillas, PhD, MFT, RN

Discussant: Lucy Jane Miller, PhD, OTR/L Moderator: Gilbert Foley, EdD, IMH-E

Panel: Tal Baz, MS, OTR/L; Cortney Grove, MA, CCC-SLP;

Connie Lillas, PhD, MFT, RN; Traci Swink, MD; Serena Wieder, PhD















Left to Right: Tal Baz, MS, OTR/L; Gilbert Foley, EdD, IMH-E; Cortney Grove, MA, CCC-\$LP; Connie Lillas, PhD, MFT, RN; Traci Swink, MD; Serena Wieder, PhD; Lucy Jane Miller, PhD, OTR/L

Exploring the Individual Profile of any child presents a challenge for caretakers, since any child's profile is neither simple nor static, but rather multi-faceted as well as subtly fluctuating and evolving throughout development. Moreover, a child's profile is not independent of how others perceive and respond to it, at any given moment and over time.

A unifying principle for this presentation will be the concept of arousal as the foundation for organizing the individual profile. The phenomenon of arousal will be further elaborated and discussed as a distributed property across autonomic reactivity, sensory reactivity, emotional reactivity, and motor reactivity.

In this presentation we will explore the unique, complex, and uneven regulatory profiles of two different boys and the ways we can make sense of their making sense of their world. These two cases illustrate two different stress response patterns; One child who fluctuates between moments of shut down and moments of seeking high positive affect, accompanied by giddiness and motor disorganization, and another with intense hypervigilance and controlling behaviors, with spikes into aggression.

Approaches for scaffolding self and co-regulation of arousal will be described and methodologies to compliment the individual differences will be emphasized.

A team of disciplines spanning neurology, mental health, occupational therapy, and speech-language therapy will then relate to the cases and expand on the discussion.

As a result of this presentation, participants will be able to:

- 1. Discuss Arousal as the foundation for organizing the individual profile.
- 2. Identify the differences between Arousal Profiles.
- 3. Describe the intervention methodologies used to enhance Regulation of Arousal.



### Continuing Education Information

### Psychologists, NY Social Workers & NY Creative Art Therapists, NY Mental Health Counselors, NY Psychologists, NY Marriage and Family Therapists

Each professional is responsible for the individual requirements as stipulated by his/her licensing agency. Please contact your individual licensing board/regulatory agency to review continuing education requirements for licensure renewal. Please note: You must attend "live" (in real-time) to earn CE credits.

Before the event, you will receive an email from CE-Go with access to the virtual event. After the event, you will receive access to your evaluation and continuing education certificate via a personalized "attendee dashboard" link, hosted on the CE-Go website. This link and access to the virtual event will be sent to the email account you used to register for the event.

Upon accessing the CE-Go website, you will be able to:

- Complete evaluation forms for the event
- Download your continuing education certificate in a PDF format [post conference, once all requirements have been met]

If you have any questions or concerns regarding the CE-Go process, please contact CE-Go at 888-498-5578 or by email at support@ce-go.com Please Note: Emails for this event will come from "support@ce-go.com".

**American Psychological Association:** CE Learning Systems, LLC is approved by the American Psychological Association to sponsor continuing education for psychologists. CE Learning Systems maintains responsibility for this program and its content.

**New York State Education Department's State Board for Social Work:** CE Learning Systems SW CPE is recognized by the New York State Education Department's State Board for Social Work as an approved provider of continuing education for licensed social workers #0060.

**New York Education Department Board of Creative Arts Therapy:** CE Learning Systems (d/b/a CE-credit.com), is recognized by the New York State Education Department's State Board for Mental Health Practitioners as an approved provider of continuing education for licensed creative arts therapists. #CAT-0008

**New York Education Department for Licensed Mental Health Counselors:** CCE Learning Systems, LLC is recognized by the New York State Education Department's State Board for Mental Health Practitioners as an approved provider of continuing education for licensed mental health counselors. #MHC-0072.

**New York State Education Department's State Board for Psychology:** CE Learning Systems dba CE-Credit.com & AddictionCounselorCE.com is recognized by the New York State Education Department's State Board for Psychology as an approved provider of continuing education for licensed psychologists #PSY-0016.

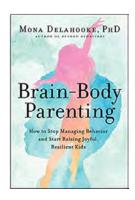
**New York State Education Department's State Board for Marriage and Family Therapy:** CE Learning Systems dba CE-Credit.com & AddictionCounselorCE.com is recognized by the New York State Education Department's State Board for Marriage and Family Therapy as an approved provider of continuing education for licensed marriage and family therapists #MFT-0045.

#### Occupational Therapists/Certified Occupational Therapy Assistants:



Profectum Foundation is an AOTA Approved Provider of professional development. Course approval ID# 04486. This Distance Learning-Interactive is offered up to .55 CEUs on May 15 & .425 CEUs on May 22 Intermediate, OT Service Delivery, Foundational Knowledge. AOTA does not endorse specific course content, products, or clinical procedures.

#### Our presenters are publishing far and wide. Come learn with us!



#### Mona Delahooke, PhD

Brain-Body Parenting: How to Stop Managing Behavior and Start Raising Joyful, Resilient Kids by Mona Delahooke, PhD

Beyond Behaviors: Using Brain Science and Compassion to Understand and Solve Children's Behavioral Challenges by Mona Delahooke, PhD

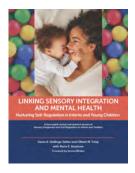


#### Elizabeth B. Torres, PhD

The most popular paper is "Autism: the micro-movement perspective" which is part of the research topic "Autism: The Movement Perspective" with over 700K accesses.

https://www.frontiersin.org/research-topics/801/autism-the-movement-perspective#articles

Autism: The Movement Sensing Perspective by Elizabeth B. Torres, Caroline Whyatt



#### Gilbert Foley, EdD, IMH-E

Linking Sensory Integration and Mental Health: Nurturing Self-Regulation in Infants and Young Children (2022. Zero To Three Press. Forward by Serena Wieder, PhD) by Susan A. Stallings-Sahler and Gilbert M. Foley with Marie E. Anzalone



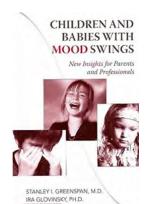
#### Connie Lillas, PhD, MFT, RN

To be released soon - 3 Steps to Resilience: NRF Foundations Manual: An Introduction for Enhancing Customized and Collaborative Care by Connie Lillas PhD, MFT, RN

Infant/Child Mental Health, Early Intervention, and Relationship-Based Therapies: A Neurorelational Framework for Interdisciplinary Practice by Connie Lillas PhD, MFT, RN and Janiece Turnbull, PhD



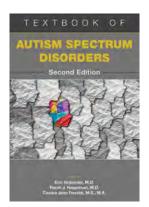
#### Our presenters are publishing far and wide. Come learn with us!



#### Ira Glovinsky, PhD

Children and Babies with Mood Swings: New Insights for Parents and Professionals by Stanley I. Greenspan, MD; Ira Glovinsky, PhD with Cindy Glovinsky, MSW

Bipolar Patterns in Children: New Perspectives on Developmental Pathways and a Comprehensive Approach to Prevention and Treatment by Stanley I. Greenspan, MD and Ira Glovinsky, PhD



#### Serena Wieder, PhD

Wieder, S. (2022). The Developmental, Individual Difference, Relationship-Based Intervention Model: A Comprehensive Parent-Mediated Approach. In E. Hollander (Ed.). Textbook of Autism Spectrum Disorders, Second Edition.(pp. 565-574) Washington, DC: American Psychiatric Association Publishing.

Visual/Spatial Portals to Thinking, Feeling and Movement: Advancing Competencies and Emotional Development in Children with Learning and Autism Spectrum Disorders
By Serena Wieder, PhD and Harry Wachs, OD



#### Lucy Jane Miller, PhD, OTR/L

No Longer A SECRET: Unique Common Sense Strategies for Children with Sensory or Motor Challenges (2nd Edition) by Doreit S. Bialer, MA, OTR/L and Lucy Jane Miller, PhD, OTR/L

Sensational Kids: Hope and Help for Children with Sensory Processing Disorder by Lucy Jane Miller, PhD, OTR/L



## References

- Berens, A., Jensen, S., and Nelson, C. (2017). Biological embedding of childhood adversity: from physiological mechanisms to clinical implications. <u>BMC Medicine</u>. 15:135 DOI 10.1186/s12916-017-0895-4.
- Bethesda, Maryland: American Occupational Therapy Association, Inc. McEwen, B. S. (2017). Neurobiological and systemic effects of chronic stress. *Chronic Stress* doi: 10.1177/2470547017692328 [Epub ahead of print].
- Bermperidis, Rai, Ryu, & Torres, 2021; E. B. Torres, 2021; E.B. Torres et al., 2022; E. B. Torres, Brincker, et al., 2013; E. B. Torres, Rai, Mistry, & Gupta, 2020; E. B. Torres, Yanovich, & Metaxas, 2013; Vaskevich & Torres, 2022; Wu, Jose, Nurnberger, & Torres, 2018)
- Bermperidis, T., Rai, R., Ryu, J., & Torres, E. B. (2021). Optimal Time Lags from Causal Prediction Model Help Stratify and Forecast Nervous System Pathology. BbioRxvi.
- Christensen JS, Wild H, Kenzie ES, Wakeland W, Budding D and Lillas C. (2020) Diverse Autonomic Nervous System Stress Response Patterns in Childhood Sensory Modulation. Front. Integr. Neurosci. 14:6. doi: 10.3389/fnint.2020.000
- Conner, C, M, Golt, J., Shaffer, R., Righi, G., Siegel, M., & Mazefsky, C. A. (2021). Emotion dysregulation is substantially higher in autism compared to the general population: Impact on psychiatric services. *Autism Research*, 14, 169-181.
- Delahooke, M. (2019). Beyond Behaviors: Using Brain Science and Compassion to Understand and Solve Children's Behavioral Challenges. Eu Claire, Wisconsin: PESI Publishing & Media.
- Duffy, A. (2014) Toward a comprehensive clinical staging model for bipolar disorder: integrating the evidence. Canadian Journal of Psychiatry. 59 (12), 656-666.
- Fogelman, N. and Canli, T. (2019). Early life stress, Physiology, and Genetics: A Review. <u>Frontiers in Psychology:</u>

  <u>Developmental Psychology</u>. <a href="https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01668/full">https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01668/full</a>
- Foley, G. M. (2006). Self-social emotional development in infancy: A descriptive synthesis. In G. Foley & J. D. Hochman (Eds.), Mental health in early intervention: Achieving unity in principles and practice (pp. 139-173). Paul H. Brookes.
- Foley, G.M. (2017). Play as regulation: Promoting self-regulation through play. Topics in Language Disorders, 37 (3), 241-258.
- Foley, G. M. (2020). Adjusting the lens on the spectrum through DIR: Developmental, parent-mediated, play-based intervention. In U. Das, N. Papaneophytou, & T. El-Kour (Eds.), Autism 360 (pp- 367-386). Elsevier.
- Foley, G. M., & Baz, T. (2021). "Aggression" in young children on the autistic spectrum: The dysregulation-"aggression" hypothesis. In N. Papaneophytou & U. Das (Eds.), Emergent programs for autism spectrum disorder (pp.141-160). Elsevier.



### References

- Gartstein, Maria A., Gregory R. Hancock, and Sydney L. Iverson. "Positive Affectivity and Fear Trajectories in Infancy: Contributions of Mother-Child Interaction Factors." Child Development 89, no. 5 (September 2018): 1519–34. https://doi.org/10.1111/cdev.12843.
- Goldstein, B.I., Birmaher, B., Carlson, G.A. et al (2017) The international Society for Bipolar Disorders Task Force report on pediatric bipolar disorder: Knowledge to date and directions for future research. Bipolar Disorders, 19 (7), 524-543.
- Hagerman, & C. Ferretti (Eds.), Textbook of Autism Spectrum Disorder (2<sup>nd</sup> ed.). American Psychiatric Association.
- Immordino-Yang, Mary Helen, Linda Darling-Hammond, and Christina R. Krone. "Nurturing Nature: How Brain Development Is Inherently Social and Emotional, and What This Means for Education." Educational Psychologist 54, no. 3 (2019): 185–204. https://doi.org/10.1080/00461520.2019.1633924.
- Kloiber, S., Rosenblat, J.D., Husain, M.I. et al. (2020) Neurodevelopmental pathways in bipolar disorder. Neuroscience Biobehavioral Review, 112, 213-226.
- Lillas, C., TenPas, H., Crowley, C., & Spitzer, S. (2018). Improving Regulation Skills for Increased Participation for Individuals with ASD. In Watling, R. & Spitzer, S. Autism Across the Lifespan: A Comprehensive Occupational Therapy Approach, 4th Edition.
- Lovallo, W.R. (2016) Stress and health: biological and psychological interactions (3rd ed.). Los Angeles, CA: Sage.
- Molenaar, N.M., Tiemeier, H., van Rossum, E.F.C. et al (2019) Prenatal maternal psychopathology and stress and offspring HPA axis function at 6 years. Psychoneuroendocrinology, 99: 120-127.
- Naragon-Gainey, K., McMahon, T. P., & Park, J. (2018). The contributions of affective traits and emotion regulation to internalizing disorders: Current state of the literature and measurement challenges. American Psychologist, 73(9), 1175–1186.
- National Academies of Sciences, Engineering, and Medicine. Vibrant and Healthy Kids: Aligning Science, Practice, and Policy to Advance Health Equity. Washington, DC: The National Academies Press, 2019. https://doi.org/10.17226/25466.
- National Center for Biotechnology Information. "What Is 'Normal' Sleep?" Via InformedHealth.org and Institute for Quality and Efficiency in Health Care. Accessed May 18, 2021. https://www.ncbi.nlm.nih.gov/books/NBK279322/.
- Quevedo, J., Carvalho, A.F., & Vieta, E. (2021) Neurobiology of bipolar disorder: road to novel therapeutics.



## References

- Stallings-Sahler, S., & Foley, G. M. (in press). Linking sensory integration and mental health: Nurturing self-regulation in infants and young children. ZERO TO THREE.
- Schmahmann, J. D., Guell, X., Stoodley, C. J., and Halko, M. A. (2019). The theory and neuroscience of cerebellar cognition. *Annu. Rev. Neurosci.* 42, 337–364. doi: 10.1146/annurev-neuro-070918-050258
- Schore, A.N.(2016) Affect regulation and the origin of the self: The neurobiology of emotional development. New York: Routledge.
- Torres, E. B., Yanovich, P., & Metaxas, D. N. (2013). Give spontaneity and self-discovery a chance in ASD: spontaneous peripheral limb variability as a proxy to evoke centrally driven intentional acts. Front Integr Neurosci, 7, 46. doi:10.3389/fnint.2013.00046
- Torres, E. B., Brincker, M., Isenhower, R. W., Yanovich, P., Stigler, K. A., Nurnberger, J. I., . . . Jose, J. V. (2013). Autism: the micro-movement perspective. Front Integr Neurosci, 7, 32. doi:10.3389/fnint.2013.00032
- Torres, E. B., Rai, R., Mistry, S., & Gupta, B. (2020). Hidden Aspects of the Research ADOS Are Bound to Affect Autism Science. Neural Comput, 32(3), 515-561. doi:10.1162/neco\_a\_01263
- Torres, E. B. (2021). Precision Autism: Genomic Stratification of Disorders Making Up the Broad Spectrum May Demystify Its "Epidemic Rates". J Pers Med, 11(11). doi:10.3390/jpm11111119
- Torres, E. B., Bermperidis, T., Varkey, H., Vero, J., London, E., Phan, H., . . . Sejnowski, T. (2022). Sensing Echoes: Temporal misalignment as the Earliest Marker of Neurodevelopmental Derail. bioRxvi.
- Vaskevich, A., & Torres, E. B. (2022). Rethinking Statistical Learning as a Dynamic Stochastic Process, from The Motor Systems Perspective. bioRxvi. doi:doi: <a href="https://doi.org/10.1101/2022.01.18.476831">https://doi.org/10.1101/2022.01.18.476831</a>
- Wazana, A., Szekely, E., & Oberlander, T. F. (2021). *Prenatal Stress and Child Development*. Switzerland: Springer Nature.
- Wieder, S. (2017). The power of symbolic play in emotional development through the DIR lens, Topics in Language Disorders, 37 (3), 259-281.
- Wieder, S. & Foley, G. (2018). The DIR model. In E. Hollander, R. Hagerman & R. Fein (Eds.). Autism Spectrum Disorders (pp. 232-252). American Psychiatric Association.
- Wieder, S. (2020). Reuniting development and infant mental health through the DIR Model. In U. Das, N. Papaneophytou, & T. El-Kour (Eds.), Autism 360 (pp- 367-386). Elsevier.
- Wieder, S. (in press). The developmental, individual difference, relationship-based, intervention: A comprehensive parent mediated approach. In E. Hollander, R.
- Wu, D., Jose, J. V., Nurnberger, J. I., & Torres, E. B. (2018). A Biomarker Characterizing Neurodevelopment with applications in Autism. Sci Rep, 8(1), 614. doi:10.1038/s41598-017-18902-w

