Texas School for the Blind and Visually Impaired
Outreach Programs | Texas Deafblind Project
www.tsbvi.edu | 512-454-8631 | 1100 W. 45th St. | Austin, TX 78756

Play to Promote Resilience, Communication, and Strong Brains

EHDI Conference - Jacksonville, FL
March 17, 2026

Presented by

Hillary Keys, M.A., TVI, TDB
Early Childhood Deafblind Consultant
Texas Deafblind Project

Objectives

- Describe how play supports healthy brain development in infants and toddlers by promoting neural connections, problem-solving, and emotional co-regulation.
- Identify at least three strategies for creating rich, developmentally appropriate play experiences that lay the foundation for future learning and well-being.
- Explain how responsive, playful interactions help build resilience and fosters positive mental health outcomes by strengthening social and communication skills in early childhood.

PLAY!

Play

- Joyful
- Actively engaging
- Iterative
- Meaningful
- Socially Interactive

LEGO Foundation, 2024

Pediatrician, Jack Shonkoff, M.D., defines play as…

- Interactive – emphasis on active, usually with others or objects.
- Self-directed – choose to engage in the activity.
- Curiosity – intrinsic motivation to explore.

- Desire to master the environment – we want to win – understand objects and how we can master them even in imaginative play, we want to win – we are the princess or superhero!
- Universal – everyone plays beginning in infancy and actually in utero.
- Safe way to be in the world and figure things out – usually a safe environment to experiment without life-altering consequences, iterative – try things over and over to learn how outcomes are different under different conditions.

(Pfitzer, S. 2022)

Pediatrician, Jack Shonkoff, M.D., is the former Director of the Center on the Developing Child at Harvard University, author, and researcher. From the Brain Architects Podcast.

We are built for play!

Play supports healthy brain development.

We are built for play & social connection

- Play begins in the womb and helps us make sense of the body.
    - Motor
    - Touch
- Social play begins within the first few weeks of life
    - Eye contact - Once babies are attuned to the people responsible for caring for them, play is eye contact.
    - Social smile
    - Synchronized neural activity
- Movement - Once babies begin moving independently, adults find the right balance between allowing independent initiation and exploration, and helping or creating boundaries.

  (Brown, 2009)

What does play do?

- Neural development - Play enhances brain structure.
- Social interaction - Begins with eye contact.
- Attunement - Early attunement helps with co-regulation.
- Self-regulation - Babies' brains are immature and require the presence of someone else to help them regulate.
- Executive function - Develops working memory, inhibitory control, and cognitive flexibility, which contribute to building executive function skills.
- Builds resilience - Begins immediately with supportive relationships and interaction.
- Cognitive development - Play is the foundation for cognitive development.

- Communication - Interaction during play supports communication building blocks. (National Scientific Council on the Developing Child, 2011; Committee on Psychosocial Aspects of Child and Family Health, 2018)

Attunement/Copresence - Neural Synchrony - Coregulation

“There is growing evidence that neural activities can become coordinated between two individuals through environmental signals, such as face-to-face social interactions. This phenomenon, referred to as neural synchrony (or here coregulation), is believed to facilitate effective communication and behavioral coordination between individuals. Notably, cooperative activities are associated with increased neural coregulation or synchrony between brains” (Bornstein & Esposito, 2023).

Neural Development and Executive Function

- Social interaction strategies
- Cooperation, negotiation, compromise
- Awareness of others’ needs
- Create and follow rules
- Self-regulation
- Problem-solving
- Creative, imaginative, and critical thinking
- How to succeed at activities that interest them

(National Institute for Play, 2025)

Social interaction strategies:

- Interaction – Play is instrumental in fostering social skills and emotional resilience.
- Turn-taking, even in infancy, is pragmatically foundational for learning communication skills and language later
- Through pretend play, such as doctor-patient scenarios, children develop empathy by imagining others’ perspectives.
- These experiences contribute to better emotional regulation and the ability to manage interpersonal relationships

Self-regulation:

- Free Play, not adult-directed - including rough-and-tumble or outdoor activities, is linked to improved motor skills, cooperation, and emotional regulation.
- Studies have found that outdoor play correlates with better academic performance and enhanced social skills (Panksepp, 1998; Burghardt, 2005).

Problem-solving:

- Brain Development and Executive Functioning – Free Play stimulates brain development at molecular, cellular, and behavioral levels, promoting neuronal growth and connectivity.
    - Play enhances adaptive and prosocial behaviors by increasing the production of brain-derived neurotrophic factor (BDNF), which is crucial for brain development (Panksepp, 1998; Burghardt, 2005).
- Cognitive Benefits– Play enhances cognitive abilities, encouraging experimentation, creativity, and critical thinking.
- Play also strengthens problem-solving skills and executive function (Pepler & Ross, 1981; Diamond & Lee, 2011).

Trauma and Resilience

Play builds resilience.

Toxic Stress Derails Healthy Development

"Toxic Stress Derails Healthy Development" on the Center on the Developing Child: Harvard University YouTube Channel

- "In the early 2000s, the National Scientific Council on the Developing Child coined the term 'toxic stress' to describe extensive scientific knowledge about the effects of excessive activation of stress response systems on a child's developing brain, as well as the immune system, metabolic regulatory systems, and cardiovascular system. Experiencing ACEs triggers all of these interacting stress response systems. When a child experiences multiple ACEs over time—especially without supportive relationships with adults to provide buffering protection—the experiences will trigger an excessive and long-lasting stress response, which can have a wear-and-tear effect on the body, like revving a car engine for days or weeks at a time (National Scientific Council on the Developing Child, 2011)."
- What are ACES? And how do they relate to toxic stress?

What is resilience?

The capacity of a system to adapt successfully to challenges that threaten the function, survival, or future development of the system. (Masten & Barnes, 2018)

Developing resilience

- Supportive relationships - attachment and positive interaction within strong, supporting relationships. Perhaps the most important aspect of resilience.

- Coping Skills that build resilience
    - Manage stress
    - Solve problems
    - Regulate behavior
    - Plan ahead
- Resilience is shaped throughout life by the accumulation of experiences—both good and bad—and the continuing development of adaptive coping skills connected to those experiences. What happens early may matter most, but it is never too late to build resilience.

(Pfitzer, S. 2022)

The Role of "Play" in Building Resilience

- Mastery motivation - Play is how children learn to master the world, whether it is building a block tower, learning to follow the rules of a game, or pretending to be a superhero; they are experiencing agency.
- Developing executive function and self-regulation - Unstructured, imaginative, and social play requires self-regulation to stay "in character," follow rules, take turns, problem-solving, and negotiate conflicts.
- Building social competence and relationships - Building blocks for all relational interaction, beginning with shared attention, turn-taking (serve and return), and becoming more complex through cooperation, empathy, and conflict resolution.
- Processing stress and trauma - Play is a way for children to safely process frightening experiences and can act to relieve the pressure or intensity of the emotional impact of adverse experiences.

(Matsen, 2025)

Free play and psychological health

"Free play is the primary way children satisfy the three basic psychological needs essential for human happiness and mental health: Autonomy, Competence, and Relatedness." (National Institute for Play, 2025)

Resilience (video)

"In Brief: The Science of Resilience" on the Center on the Developing Child: Harvard University YouTube Channel

A little more about resilience

“Play provides opportunities to create ways to be in charge and in control during such times of uncertainty, anxiety, and stress. As a result, play enables children to acquire some critical developmental skills that can serve them for the rest of their lives.” (Housman, D. 2020)

Play allows children to take control without life-altering consequences. It allows them to try things out and figure out what works and what does not, and what is acceptable and what is not, in a safe environment.

Meaningful Play Experiences

Play is how we build meaning with young children.

Interaction - Create Moments of Joy

- Copresence
- Recognize initiations
    - Presume competence
    - Serve and return
- Presume competence
- Follow the child’s lead
- Joint attention
    - Child’s topic
- Playful rituals
- Routine
    - Structure
    - Feeling of safety

Interaction Drives Development

- We are active agents in our own development by engaging in serve and return interactions
- It’s that back-and-forth interaction – active engagement – between the child and the adult, with each playing a role, that’s how development happens

(Pfitzer, 2020.)

The human brain expects this game of back and forth, and it is essential to healthy development. Serve and Return reinforces brain circuits that are at the core of our early emotional well-being and social competence (Harvard Center on the Developing Child, n.d.).

Cultivating a Playful Mindset

- Attitude, attitude, attitude
- Curiosity
- Humor
- Openness
- If you are having fun, those around you will too.
- If you are bored, those around you will be too.
- (Remember attunement.)

Building Babies' Brains Through Play (video)

"Building Babies' Brains Through Play" on the Center on the Developing Child: Harvard University YouTube Channel

We don't stop playing because we grow old. We grow old because we stop playing.

— George Bernard Shaw

Resources

- Centers for Disease Control information about A.C.E.s
- Harvard Center on the Developing Child
    - The Brain Architects | Podcasts
    - A Guide to Resilience
- National Institute for Play
    - Stuart Brown: Play is more than just fun | TED Talk
    - Play Note (December 2024): The Importance of Play for Adults
    - Webinar: Play as a Healing Modality: A Playful Path to Bridging Divides and Strengthening Bonds
- Interaction videos
    - Heather Lightfoot, Texas Deafblind Project, Texas School for the Deaf: Interactions and Connections: Following Your Child's Lead with Your Conversations
    - How every child can thrive by five | TED Talk

Thank you for joining me!

Hillary Keys
keysh@tsbvi.edu
512-206-9183

References

Bornstein, M., and Esposito, G. (2023, July 31) *Coregulatiion: A Multilevel Approach to Biology and Behavior. Children*. 10(8):1323. DOI: https://doi.org/10.3390/children10081323

Brown, S. (2009). *Play: How It Shapes the Brain, Opens the Imagination, and Invigorates the Soul*. Penguin Group.

Center for the Developing Child at Harvard University. (n.d.). *Three Science-Informed Principles to Improve Outcomes in Early Childhood Development*. ScienceXDesign Module 1. https://developingchild.harvard.edu/wp-content/uploads/articulate_uploads/Final-8-6-24/#/

Committee on Psychosocial Aspects of Child and Family Health Council on Communications and Media. (2018). *The Power of Play: A Pediatric Role in Enhancing Development in Young Children. Pediatrics*, 142(3), Article: e20182058. http://publications.aap.org/pediatrics/article-pdf/142/3/e20182058/1525232/peds_20182058.pdf

Houseman, D. (2020). *The Power of Play: Building Young Children's Resilience, Healthy Development and Learning*. Houseman Institute. https://www.housmaninstitute.com/blog/the-power-of-play-building-young-childrens-resilience-healthy-development-and-learning#:~:text=Play%20provides%20opportunities%20to%20create,the%20rest%20of%20their%20lives.

LEGO Foundation. (2024). *Learning through play: what the science says.* Learning Through Play. https://learningthroughplay.com/explore-the-research/the-scientific-case-for-learning-through-play

Matsen, A. (2025). Ordinary Magic: Resilience in Development. 2nd ed. Guilford Press.

Masten, A.S., and Barnes, A. J. (2018, July 17). Resilience in Children: Developmental Perspectives. Children (Basel). 2018 Jul 17;5(7):98. https://pmc.ncbi.nlm.nih.gov/articles/PMC6069421/#sec1-children-05-00098

National Institute for Play. (2025). *The Importance of Play for Children*. Play Note. https://nifplay.org/play-note/child-play/

National Scientific Council on the Developing Child. (2011). *Building the Brain's "Air Traffic Control" System: How Early Experiences Shape the Development of Executive Function*. (Working Paper 11). National Forum on Early Childhood Policy and Programs. https://developingchild.harvard.edu/resources/working-

paper/building-the-brains-air-traffic-control-system-how-early-experiences-shape-the-development-of-executive-function/

Pfitzer, S. (Host). (2022, February 22). Building Resilience Through Play. In The Brain Architects Podcast. Harvard Center for the Developing Child. https://developingchild.harvard.edu/resources/podcast-resilience-play/

Pfitzer, S. (Host). (2020, March 9). Serve and Return: Supporting the Foundation. In The Brain Architects Podcast. Harvard Center for the Developing Child. https://developingchild.harvard.edu/resources/the-brain-architects-podcast-serve-and-return-supporting-the-foundation/

Ross, E. (2023, May 17). Embracing Learning Through Play. Harvard University. https://www.gse.harvard.edu/ideas/usable-knowledge/23/05/embracing-learning-through-play

Rueda, M., Moyano, S., and Rico-Pico, J. (2021).Attention: The grounds of self-regulated cognition. WIREs Cognitive Science. https://doi.org/10.1002/wcs.1582

Willis, J. (2007). The Neuroscience of Joyful Education. Association for Supervision and Curriculum Development. https://ascd.org/el/articles/the-neuroscience-of-joyful-education