BabySmart #6: Dr. Joy Wilson: Sensory Development Between 0 and 5
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Dr. Joy Wilson was the guest for BabySmart #6. Dr. Wilson has lived in Walhalla her entire life. She attended the Medical University of Charleston and received her doctorate in Occupational Therapy in 2010 from Chatham University in Pittsburgh. She has been a pediatric occupational therapist for 17 years and has worked with the Oconee County School District.

City Talk's Riley Johnson was the host. Ms. Caren von Hippel, BabyRead's founder and Director, and Ms. Kathy Whitmire interviewed Dr. Wilson.

***Books vs. Apps and Technology in Preschool Children*.** **Dr. Wilson said there's a time and place for technology, but the brain develops the most between 0 and 5 and the importance of having books in their hands and other activities have a huge impact on their development.** It affects motor development such as holding the book and flipping pages; interactive books have flaps and tabs they can pull. **The interaction with parents to be able to talk and engage with them plus engagement with all the infant's senses through eyes, hands, smell, book textures, etc. all lead to brain development.** Ms. Whitmire asked specifically about the visual aspect, commenting that skill can be developed to enhance reading ability. Dr. Wilson agreed stating it is not only about visual acuity (e.g., 20/20 vision) and reading but is also about the visual perceptual skills that develop at the same young age. **Seeing the words on the pages, learning to read from left to right, watching parents scanning with their finger all contribute to virtual perception development.**

Ms. Whitmire asked Dr. Wilson to expand on the underlying building blocks. **Three-dimensional books really help with overall brain development. She said it is more mentally taxing to look at a [two-dimensional] screen. Books with different textures develop tactile senses – we want infants to be engrossed in that.** Sitting in a reader's lap, standing up and moving side to side rather than just sitting in a baby carrier or stroller helps with inner ear and balance (vestibular) development. Sitting in a walker with a phone or a screen or sitting in front of a TV means that vestibular system isn't developing as it should. If one or more of the systems is underdeveloped, we see hyperactivity, wigglers and movers. Ms. Whitmire added activities such as rolling down a hill, doing somersaults and just moving in space are developing balance through the vestibular system.

Dr. Wilson then discussed proprioception, the body's ability to sense its locations, movements and actions. **Applying deep pressure and having someone hold the child during reading has a calming effect on many kids.** Ms. Whitmire said a child that goes down the hall touching the wall may indicate proprioceptive underdevelopment. Books with the hand gestures, rocking movements and rhymes that we grew up with like *Itsy Bitsy Spider* and *Row, Row, Row Your Boat* help with this sense.

Too Much Technology? **Dr. Wilson said there are preliminary studies that indicate too much technology results in kids' inability to pay attention, having a hard time staying on task when they get to school, and experiencing language delays, poor sleep and impaired executive function (e.g., impulse control, problem solving, decision making).** It doesn't mean that we are necessarily damaging the brain, but it is **more screen time is passive**, and we need active and engaging stimulation to help all the senses integrate and systems develop together. Ms. Whitmire cited research that also shows the inability to self-calm; Dr. Wilson agreed. She said immersion in technology is a relatively new phenomenon but said there is growing preliminary research that shows very bright children are having difficulty with emotions, paying attention, and having impaired executive function.

More About the Visual Function. Ms. Whitmire asked Dr. Wilson to talk more about this sense. **Dr. Wilson said children that are beginning to read with weak visual perception skills and especially with visual closure problems have difficulty in distinguishing between letters that look alike (o, a, p, q) which leads to difficulty learning their sight words and spelling in school.** The child may see letters on top of each other because of poor visual discrimination. **Reading is very dependent on visual discrimination.** It's a three-dimensional environment and we are turning it into a two-dimensional one. Things like car seats with head restraints and not putting your child in a highchair in restaurants limit vision and affect normal visual perception growth. There is not a lot of research yet that indicates too much screen has a causal effect.

The Importance of Play. All three discussed the need to get books in children's hands, to play, sing and rhyme to them, and to get them moving so they are not confined to strollers, chairs or screens too much. **They need to explore, play, and experience their three-dimensional world to develop all the senses the way they should.** Ms. von Hippel mentioned her upcoming February 2020 *Journal* column on play. **All agreed play activities such as crawling, swinging, going outside and climbing and running help develop those essential primitive skills.** Parent involvement with simple things by asking how the child feels, asking about colors, and what we are doing, playing "I Spy", talking out loud and speaking out loud helps. So does simple math concepts like counting steps, and "we're putting on one shoe, we're putting on two shoes". **Dr. Wilson said a lot of parents think that technology will make their kids go further academically and there is a time and place for that, but during the first five years, reading, language and play are important to develop and integrate those early skills.**

An ADHD Perspective. **Ms. Whitmire is the Director of the Center 4 ADHD. She stated she is seeing major attention deficit disorder because children are spending too much time in the homes or on screens, and not being in nature, being still and listening, paying attention, and noticing the world around them.** And sometimes it's hard for parents to understand what the building blocks are for their children to be academically successful.

Ms. von Hippel closed the session by relaying contact information and inviting comments.