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One Aspect of the Language Development Spectrum

By Karen Mitchell

North Carolina nurse Kristina Fahringer-Day longed to hear the sound of her two year old son Matthew's voice. She was certain something was wrong despite reassurances from her husband, colleagues and friends that she was "reading into things because she was a nurse."

"I remember feeling jealous and isolated and kind of hating my friends with typically developing children," Fahringer-Day said. "I remember wondering if I would ever hear Matthew's true speaking voice, and tried to imagine what that would sound like."

Complex, meaningful and informative language is a tool associated with human beings.¹ The successful execution of this tool-- reading, writing, speaking, creating and comprehending words and sentences, is known as language.² Language production in humans is a compound process involving intricate interactions between the brain, nervous system and multiple other body systems and pathways.³ Piecing words together, sounding out consonants aloud, imitating

a caretaker's voice and emitting vocalizations are each instruments within this unique tool kit that leads to language development in human beings.⁴

Communication skills develop at a young age, some of which predates birth.⁵ Researchers discovered the ability to produce language may begin during embryonic development. During cell division and the intricate swapping of genetic material known as meiosis, genetic predispositions including the rate of acquisition of language skills may also be exchanged.⁶ A family history of delayed language development may be mixed within this complex, genetic soup.⁷

Also contained within the fetal, genetic stew is gene sequence FOXP2. FOXP2 is a type of biological code. It instructs the brain on how to develop language.⁸ Its presence may facilitate language skills and language development. But unhealthy, mutated FOXP2s may interrupt signals in the brain that physiologically drive human speech.⁹ That's concerning because it can lead to an inability to shape words and create sounds by manipulating the cranial physiology.¹⁰

Children learn conversation and communication skills from their parents and other primary care takers who spend significant amounts of time interacting verbally with the child.¹¹ Some scientists say a dialogue begins between the parent and the unborn child through the muscular, fleshy walls of the womb.¹² Hearing interactive, spoken language boosts a toddler's chances of developing language skills at a pace on par with the toddler community at large. Person-to-person, face-to-face communication with a toddler is a valuable two-way street. Although the toddler may not be able to talk, respond coherently or interact by producing recognizable words or non-verbal cues, a communicative dialogue is occurring. Built into the back and forth exchange of eye contact, gesture, dialogue and sounds are verbal and non-verbal cues the child subconsciously taps into, wetting the language development centers within the

toddler brain, helping it to grow while also helping the child to identify caretakers, to respond to the sound of a caretaker's voice and to ultimately develop language.¹³ Without these interactions, children remain silent longer. When these important social interactions are lost, a toddler's language skills and the development of speech may be affected too.¹⁴

Researchers recently discovered, before infants can speak, they are capable of intelligent thought. Specifically, toddlers can distinguish between items that are the same and items that are different. Understanding abstract relationships is a complex skill.¹⁵ Aristotle found intelligent thought is a necessary precursor to language.¹⁶

When Dr. Sean Carver was a toddler of almost 30 months in age, his first words were a complete and correctly constructed sentence: "Take the pickle out." Sean spoke these words after a hamburger was placed in front of him at mealtime. Like Aristotle stated, Sean's command of language revealed a great deal about the inner workings of toddler Sean's mind. In one informative mouthful, Sean's cognition, personality, preferences and the unique sound of his vocal cords, beating and hammering upon one was revealed.

As a toddler, Sean was at risk for being a late talker or language impaired. In the BMJ, Speech and Language Therapist Sheena Reilly states, "Children have language impairment when their ability to understand (receptive) or use (expressive) language falls below age expectations." Within the Journal of Child Psychology and Psychiatry, Psychologist Fiona J. Duff et. al. further defines the condition: "'Late talkers' is used to refer to 18-35-month olds who are slow to develop spoken language in the absence of any known primary cause." Duff explains these children's language and literacy skills may rank as average yet significantly below their peers.¹⁷

Like Fahringer-Day's son Matthew, toddler Sean was not producing words before reaching 24 months old. Matthew's vocabulary and toddler Sean's vocabulary were both

significantly under the 50 words typical of toddlers between 18 – 24 months in age.^{18 19 20}

Usually, by this stage of development, toddlers are firing out several new words daily and comprehending what they hear.^{21 22 23}

Sean was both cognitively and physically active. He seemed to be hitting all other development milestones. Toddler Sean's twenty-something year old parents, Jay and Jill Carver, were concerned. But Sean's pediatricians hadn't rung any alarms and, as time and some research has revealed, the pediatricians were correct not to raise the alarm. Today, over 4 decades later, Sean is a successful doctoral graduate from Cornell University. He has not shown any signs of potential language impairment since the scare during his toddler years. According to Dr. Rescorla, "...late talking toddlers do not generally go on to manifest persistent language delay...."²⁴

Yet, Matthew's development took a different road. By three, Fahringer-Day's son wasn't talking. At two, Matthew's first words had been "mama" but, after hitting that milestone, Matthew's language development took a significant turn. Fahringer-Day learned her gut instinct had been right. "Our first child had special needs and was outside the boundaries of "normal" with his development," Fahringer-Day said.

Language impairment afflicts 5 – 12% of children between the ages of 2 and 5 years old.²⁵ It is one of a cluster of afflictions most-commonly found among preschool aged children.²⁶²⁷

Physicians diagnose late talking by using a test known as the Language Development Survey. The tool was created by psychologist Dr. Leslie Rescorla.²⁸ Health care providers and scientists may begin constructing a case for a language impairment diagnosis by analyzing a child's phonological skills- the way a child puts sounds together to form speech. Parents assist

with the diagnosis by informing caretakers about the child's vocabulary skills.²⁹

Researchers and medical healthcare providers acknowledge when it comes to language development, children may fall within a broad spectrum with multiple points along the spectrum identified as normal. Within that spectrum, normal rates of language development may vary from toddler to toddler. Bookends of that spectrum are normal development and impaired development. Traits that are examined to determine where a child falls on that spectrum include how consonants are produced, which consonants are sandwiched together when language is formed and whether a child is capable of producing language at all.³⁰ Warning signs a 24 – 35 month old child may be experiencing delayed language development include a tendency to remain silent, an ability to form less than 50 words and rarely attempting to form words or word combinations.³¹ These children also seem less able to understand what's being said to them. They routinely fail to communicate with verbal and non-verbal cues.³²

In toddler Sean's case, the warning signs were unwarranted. But for toddler Matthew, these warning signs foreshadowed a firm diagnosis of language impairment with something more foreboding on the horizon.

Being male, having a less-educated mother and social disadvantages are a few of factors that may contribute to language impairment in toddlers.³³ Disruptive home environments and growing up within metropolitan areas may also negatively impact language development in children.³⁴ In a comprehensive study involving 1,778 healthy, Korean toddlers, researchers learned toddlers who watch over an hour of television daily may experience brain damage and disruptions to cognitive development. The study found television viewing also interfered with vital parent-child interactions which are key to boosting the child's word count. The researchers learned television is a one-way dialogue and, as such, it can discourage children from exercising

and practicing communication skills. Another study found front-facing strollers also discouraged communication between mother and toddler. When pushed in a rear-facing stroller, mom's interacted with their children more.³⁵ Its interactions like these that encourage language development in toddlers.

Treatment Options

It can be treated with speech therapy, cognitive testing, physical therapy and a host of other treatment plans according to the specific diagnostics run by the child's pediatrician or healthcare provider.³⁶ Often, physicians and healthcare providers will tailor treatment to meet a child's entire set of needs noted along the course of the child's development.³⁷ At risk children should be monitored over time: Those interacting with the child including parents, relatives, health-care providers and instructors should maintain a log noting their experiences with the child. This case history will help with diagnosis and treatment if that is needed.³⁸

Controversial Diagnosis

The diagnosis of late talking baby syndrome can be controversial in the United States. Within the science world, there are varying schools of thought regarding child development, developmental patterns and the pace of development from child-to-child.³⁹ Labeling a toddler as "late" because he hasn't developed under the same clock, has been seen as some as codifying the child and wrongly deciding what is normal and what behavior falls outside of an allusive, controversial parameter known as 'normal'.⁴⁰ Child development codified as normal or not normal has landed some physicians in the hot seat with parents and colleagues. More recently, child development is categorized within a spectrum that allows more space for individualized growth and self-pacing.

New Research and Other New Discoveries

New research uncovered by Dr. Rescorla unveils some of the mystery surrounding late talkers. Her work demonstrates when a child's language comprehension skills are normal and environmental or physical factors that may hinder normal development aren't present, late talkers catch up with their peers by the time they enter school. Late talkers develop at a different pace than their peers. Having a different pace of development isn't bad, it's just different and normal.

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