

# LANGUAGE AND SPEECH DISORDERS IN CHILDREN

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## ABSTRACT

*Many children will experience a temporary delay in speech and language development. Most will eventually catch up. Others will continue to have difficulty with communication development. Communication disorders include speech disorders and language disorders. Speech disorders are discussed in this article and some general guidelines are also given. This will help you decide if your child needs to be tested by a speech-language pathologist. A child with a speech disorder may have difficulty with speech sound production, voice, resonance or fluency (the flow of speech). A child with a speech sound disorder is unable to say all of the speech sounds in words. This can make the child's speech hard to understand. People may not understand the child in everyday situations. For most children, the cause of the speech sound disorder is unknown. Other speech sound disorders can be linked to things such as a cleft palate, problems with the teeth, hearing loss, or difficulty controlling the movements of the mouth. Most research on children with speech difficulties has focused on single words and has failed to take account of these children's sentence-level abilities. In practice it is common for children to be diagnosed and treated according to their most prominent difficulty - either speech or language. This status quo may, in part, be due to the unintelligible productions of some children with speech disorders, which make it difficult to determine their sentence-level abilities.*

Childhood speech disorders are one of the most frequent types of communication problem that Speech and Language Therapists (SLTs) are likely to encounter (Enderby & Philipp, 1986) and it is estimated that they represent 70% of paediatric SLTs' caseloads (Weiss, Gordon, & Lillywhite, 1987). They are interpreted and treated from a multitude of different perspectives. A prerequisite to addressing the relationship between speech disorders and sentence-level ability is the understanding of what speech disorder means and how it is currently approached. This chapter serves to frame the perspective on speech disorder that will be adopted and carried through this thesis.

There is a growing body of literature regarding the incidence and prevalence of children with speech and/or language difficulties (Beitchman, Nair, Clegg, & Patel, 1986; Broomfield & Dodd, 2004b, 2004c; Law et al., 2000; Tomblin, Records, Buckwalter, Zhang, Smith, & O'Brien, 1997). But, little of this literature looks at the relationship between speech and language disorders. This is evident even in the diagnosis of children with speech and language difficulties. In the vast literature on speech and its disorders, the diagnosis of speech disorder makes no reference to language or any other ability, either linguistic or non-linguistic. The diagnosis of language disorder - in particular Specific Language Impairment (SLI)<sup>1</sup> - is carried out with reference to a variety of abilities, including speech, but children with phonological difficulties are excluded from this category unless they also perform poorly on other measures of language (Leonard, 1998).

Language disorder is a highly prevalent condition, affecting approximately 7% to 19% of children, depending on the age of the child and the definition adopted (Law, Boyle, Harris, Harkness, & Nye, 2000; Reilly et al., 2010; Tomblin, Records, et al., 1997). This high prevalence rate, compared to 1% to 2% for ASD for example (Baird et al., 2006), makes children with language disorder one of the largest groups of young people with special needs that professionals are likely to encounter. However, language disorders are often considered a 'hidden disability', and receive less public attention and funding than other neuro-developmental disorders,

including ASD (Bishop & Morty, 2010). Thus, there is a strong need for both researchers and policy makers to understand more about this highly prevalent condition, and to work towards improving identification and intervention practices to remediate, and even prevent, the long-term adversities associated with poor language performance for these children.

## TYPES OF SPEECH DISORDERS

For children with speech disorders, it can be tough forming the sounds that make up speech or putting sentences together. Signs of a speech disorder include:

- Trouble with p, b, m, h, and w sounds at 1 to 2 years of age
- Problems with k, g, f, t, d, and n sounds between the ages of 2 and 3
- When people who know the child well find it hard to understand them

There are many types of disorders within various categories, and each person's condition may be different. Following are some of the most common speech disorders that speech therapists treat.

### 1. Childhood Apraxia of Speech

With childhood apraxia of speech, a child has trouble making accurate movements when speaking. It occurs because the brain has difficulty coordinating the movements.

### 2. Orofacial Myofunctional Disorders

Children, teenagers, and adults may suffer from these abnormal movement patterns of the face and mouth. They occur due to an abnormal growth and development of facial muscles and bones, the cause of which is unclear. Individuals with orofacial myofunctional disorders may have trouble eating, talking, breathing through the nose, swallowing, or drinking.

### 3. Speech Sound Disorders/Articulation Disorders

Especially common in young children, articulation disorders are based on the inability to form certain sounds. Instead, certain words and sounds may be distorted, such as making the "th" sound in place of an "s" sound.

### 4. Stuttering and Other Fluency Disorders

Stuttering can come in a number of forms, including "blocks" characterized by long pauses, "prolongations" characterized by stretching out a sound, and "repetitions" characterized by repeating a particular sound in a word. Stuttering is not always a constant, and it can be exacerbated by nervousness or excitement. Individuals who stutter may feel tenseness in their bodies and may even avoid situations or words that may trigger their stuttering. Secondary physical behaviors may include excessive eye blinking or jaw tightening.

### 5. Receptive Disorders

Receptive disorders are characterized by trouble understanding and processing what others say, causing trouble following directions or a limited vocabulary. Disorders such as autism can lead to receptive disorders.

### 6. Autism-Related Speech Disorders

Communication concerns are one aspect of autism spectrum disorder, which involves challenges with social skills and repetitive behaviors. An individual with autism may have difficulty understanding and using words, learning to read or write, or having conversations.

He or she may also be hard to understand, use a robotic voice, and speak very little or not at all.

### 7. Resonance Disorders

Resonance disorders occur due to a blockage or obstruction of airflow in the nose, mouth, or throat, which may affect the vibrations that determine voice quality. Cleft palate and swollen tonsils are two causes of resonance disorders.

### 8. Selective Mutism

Most often seen in children and teens, selective mutism is an anxiety disorder characterized by a child's inability to speak and communicate effectively in select social settings. Teenagers who experience selective mutism may have more pronounced social phobias.

### 9. Brain Injury-Related Speech Disorders/Dysarthria

Dysarthria occurs when the muscles in the lips, mouth, tongue, or jaws are too weak to properly form words, usually due to brain damage. These include traumatic brain injury and right hemisphere brain injury.

### 10. Attention Deficit/Hyperactivity Disorder Symptoms

ADHD makes it hard for individuals to pay attention and control their own behavior, leading to various problems with communication. Although not everyone with ADD has the hyperactivity aspect of the disorder, those who do may have trouble sitting still as well. A speech and language pathologist can help improve the communication aspect of ADHD.

### CHILDREN WITH POOR EXPRESSIVE VOCABULARIES

In toddlerhood, early language delays are often first classified at 2 years on the basis of slower than normal development of language skills. Two years is often selected as there is substantial variation in children's language development prior to that age (Bishop et al., 2012; Dale, Price, Bishop, & Plomin, 2003; Henrichs et al., 2011). While a minority of studies do include receptive language as part of their criteria (Rescorla, Dahlsgaard, & Roberts, 2000; Zubrick, Taylor, Rice, & Slegers, 2007), at this stage of development early delays are most commonly indexed by the child showing limited expressive language ability (Paul, 1993; Reilly et al., 2007; Whitehouse, Robinson, & Zubrick, 2011; Zubrick et al., 2007). More specifically, early language delays are often determined by a limited number of words in the child's expressive vocabulary and/or an absence of word combinations at the 2-year mark (Whitehouse, Robinson, et al., 2011; Zubrick et al., 2007). These children are frequently referred to as late talkers. At this stage of development, a child's expressive language ability is commonly measured by parent-report checklists. Three commonly used standardised checklists include the Language Development Survey (LDS; Rescorla, 1989), the MacArthur-Bates Communicative Development Inventory (CDI; Fenson, 1993), and the Ages and Stages Questionnaire (ASQ; Bricker, Squires, & Mounts, 1999). Population-based studies have shown that based on performance on these measures, late talkers represent between 9% and 20% of 2-year-old children (Fenson, 2007; Rescorla, 1989; Zubrick et al., 2007). The high prevalence rate, coupled with the fact that these early delays may be significant markers for subsequent persisting language impairments, makes the late talking population one of interest for researchers and clinicians. For this reason, Chapters 3 and 5 of this thesis focus on the late talking population.

### LINGUISTIC APPROACH

This approach is concerned with the description of overt speech behaviour. Early procedures for analysing phonological processes were developed by researchers such as Weiner (1979), Hodson (1980), Grunwell (1981) and Ingram (1981). Grunwell (1988) later identified three groups of phonological disorder:

1. Delayed: where a child appears to be following the normal pattern of development but at a slower rate than is expected for his/her age.
2. Uneven development: where phonological processes from one stage of development co-exist with processes from a later stage in development.
3. Deviant development: where some phonological processes identified in the child's speech are unusual or idiosyncratic.

While linguistic classification systems such as this one do provide a framework for approaching speech difficulties, their groupings have not been systematically validated. In 1995, Dodd published a classification system of developmental speech difficulties based on the symptomatology of presenting speech. Within this classification system four sub-types of speech disorder are identified:

- Phonological delay (PD): where "all the phonological processes derived to describe a child's speech occur during normal development but are typical of a younger chronological age" (Dodd, 1995, p.55).
- Consistent phonological disorder (CPD): where there is systematic use of deviant phonological rules, specifically error patterns that are atypical of normal phonological development (Ingram, 1989). "Most children who use nondevelopmental rules also use some developmental rules that may... be appropriate for their chronological age. They should be... classified as having a consistent deviant disorder, since the presence of unusual processes signals an impaired understanding of their native phonological system" (Dodd, 1995, p.56).
- Inconsistent phonological disorder (IPD): where there is variable production of the same word or phonological features in the same contexts: in addition to delayed and non-developmental rules, these children's phonological systems show at least 40% variability that does not reflect a maturing system: on a 25-word test they produce ten or more of the words differently on at least two of the three occasions that they are elicited (Dodd, Hua, Crosbie, Holm, & Ozanne, 2002).

- Articulation disorder (AD): where a child shows an “inability to produce a perceptually acceptable version of particular phones” (Dodd, 1995, p.54).

### THE CAUSES OF MOST SPEECH DISORDERS

- **Articulation:** It’s hard for your child to pronounce words. They may drop sounds or use the wrong sounds and say things like “wabbit” instead of “rabbit.” Letters such as p, b, and m are easier to learn. Most kids can master those sounds by age 2. But r, l, and th sounds take longer to get right.
- **Fluency:** Your child may have problems with how their words and sentences flow. Stuttering is a fluency disorder. That’s when your child repeats words, parts of words, or uses odd pauses. It’s common as kids approach 3 years of age. That’s when a child thinks faster than they can speak. If it lasts longer than 6 months, or if your child is more than 3.5 years old, get help.
- **Voice:** If your child speaks too loudly, too softly, or is often hoarse, they may have a voice disorder. This can happen if your child speaks loudly and with too much force. Another cause is small growths on the vocal cords called nodules or polyps. They’re also due to too much voice stress.

### CONCLUSION

Children are born ready to learn a language, but they need to learn the language or languages that their family and environment use. Learning a language takes time, and children vary in how quickly they master milestones in language and speech development. Typically developing children may have trouble with some sounds, words, and sentences while they are learning. However, most children can use language easily around 5 years of age. Speech and language are central to the human experience; they are the vital means by which people convey and receive knowledge, thoughts, feelings, and other internal experiences. Acquisition of communication skills begins early in childhood and is foundational to the ability to gain access to culturally transmitted knowledge, to organize and share thoughts and feelings, and to participate in social interactions and relationships. Speech and language skills allow a child to engage in exchanges that lead to the acquisition of knowledge in his or her community and the educational arena. Communication skills are crucial to the development of thinking ability, a sense of self, and full participation in society. Parents and caregivers are the most important teachers during a child’s early years. Children learn language by listening to others speak and by practicing. Even young babies notice when others repeat and respond to the noises and sounds they make. Children’s language and brain skills get stronger if they hear many different words. Parents can help their child learn in many different ways, such as

- Responding to the first sounds, gurgles, and gestures a baby makes.
- Repeating what the child says and adding to it.
- Talking about the things that a child sees.
- Asking questions and listening to the answers.
- Looking at or reading books.
- Telling stories.
- Singing songs and sharing rhymes.

Children with language problems often need extra help and special instruction. Speech-language pathologists can work directly with children and their parents, caregivers, and teachers. Having a language or speech delay or disorder can qualify a child for early intervention external icon (for children up to 3 years of age) and special education services (for children aged 3 years and older). Schools can do their own testing for language or speech disorders to see if a child needs intervention. An evaluation by a healthcare professional is needed if there are other concerns about the child’s hearing, behavior, or emotions. Parents, healthcare providers, and the school can work together to find the right referrals and treatment.

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