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**THE COMORBIDITY OF COMMUNICATION AND PSYCHOLOGICAL DISORDERS: AN
ANALYSIS OF THE ORIGIN AND PREVALENCE OF CHILDREN PRESENTING WITH
COMORBID LANGUAGE, SPEECH, AND PSYCHOLOGICAL DISORDERS**

An honors paper submitted to the Department of English, Linguistics, and Communication
of the University of Mary Washington
in partial fulfillment of the requirements for Departmental Honors

Victoria L. Triska
December 2016

By signing your name below, you affirm that this work is the complete and final version of your paper submitted in partial fulfillment of a degree from the University of Mary Washington. You affirm the University of Mary Washington honor pledge: "I hereby declare upon my word of honor that I have neither given nor received unauthorized help on this work."

Victoria L. Triska
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The Comorbidity of Communication and Psychological Disorders:

An analysis of the origin and prevalence of children presenting with comorbid language, speech,
and psychological disorders

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Abstract

This paper addresses the comorbidity of communication and psychological disorders in children by gathering and analyzing research on communication disorders, psychological disorders, and approaches to understand their connection and present a possible origin of these two disorders. Using the transactional model, one can understand the comorbidity of these disorders and of an individual's psychological environment, communicative environment, and the relationship between these two spheres. The impacts on academics and social life can cause learning disabilities, reading disabilities, and social isolation from friends, teachers, and family. Furthermore, understanding disorders' origin allows for researchers to better assess the prevalence of speech, language, and psychological disorders and how to best treat both. Having this understanding can aid a speech-language pathologist in proper treatment and improved tactics in therapy. Future research should focus on each specific disorder and the combination of disorders in a longitudinal study to better understand their relationship.

Keywords: communication disorder, speech disorder, language disorder, psychological disorder

The Comorbidity of Communication and Psychological Disorders:

An analysis of the origin and prevalence of children presenting with comorbid language, speech, and psychological disorders

Comorbidity is very common among all age groups and disorders. It is not unlikely that an individual presenting with one disorder may also present with an additional disorder as well. Where comorbidity of multiple psychological disorders is well understood and studied, the connection between psychological disorders and communication disorders is still largely unknown. Researchers have conducted various types of studies in order to determine the origin, prevalence, and connection between these two disorders. However, little agreed upon conclusions have been made. The implications of this comorbidity can greatly impact a child's early development and only through a greater understanding of why communication and psychological disorders co-occur can children receive proper care. Through research and analysis, a transactional approach to studying the comorbidity of speech and language disorders with psychological disorders yields the most comprehensive understanding and positive connection between a child's communication abilities and psychological state. Using this approach, parents, teachers, and therapists can better understand and treat children presenting with comorbid communication and psychological disorders.

Communication disorders are classified as either a speech disorder or a language disorder. The American Speech-Language-Hearing Association defines a speech sound disorder (SSD) as a person's inability to produce sounds correctly and fluently, or control his or her voice properly ("Speech and Language Disorders and Diseases" n.d.). This can include problems with phonological processing errors, articulation errors, or fluency issues, such as stuttering. It has been reported that males present with communication disorders more than females, and that most

communication disorders arise and are treated during early development (Keating, Turrell, & Ozanne, 2001, 435). The impact of an SSD on a child can be detrimental to their social and personal life. McLeod, Daniel, and Barr (2013) report that children with a speech sound disorder have greater feelings of disempowerment due to their inability to communicate fluently and effectively. This is a very common feeling, as approximately 40%-60% of preschoolers present with a SSD, and after the age of six 4% continue to present with an SSD (Lewis, Short, Iyengar, Taylor, Freebairn, Tag, Avrich, & Stein, 2012; Lewis, Patton, Freebairn, Tag, Iyengar, Stein, & Taylor, 2016).

The American Speech-Language-Hearing Association defines a language disorder (LD) as a difficulty understanding others' language as well as using one's own language to communicate thoughts, ideas, and feelings ("Speech and Language Disorders and Diseases" n.d.). A child can struggle with both receptive and expressive language, causing problems with casual conversation, explaining experiences, and answering simple questions. This disorder manifests as a pragmatics disorder and remediation can only be achieved through practicing conversation. A person can acquire a language disorder through stroke or any traumatic brain injury. A child can also be born with a language disorder, which can be and is most commonly comorbid with a psychological disorder.

The National Institute of Mental Health reports that one in five children have a serious mental disorder ("Any Disorder Among Children" n.d.). The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) defines a mental disorder as: "...a syndrome characterized by [a] clinically significant disturbance in an individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning." (As cited in Maisel, 2013). A mental diagnosis can be caused

from a variety of life stressors and genetic factors. For those who present with a communication disorder, there are also psychological diagnoses of disorders such as anxiety, depression, ADHD, and autism. Recently the question of the connection between these two different types of disorders has inspired researchers to begin to explore the comorbidity through a variety of different studies. The comorbidity of different communication disorders as well as a psychological disorder is prevalent in young children. It was reported that children with a comorbid speech and language disorder comprise 7% of the general population (Lewis, Short, Iyengar, Taylor, Freebairn, Tag, Avrich, & Stein, 2012). Additionally, those with both a speech and language disorder present with higher rates of a comorbid psychological disorder such as ADHD (McGrath, Hutaff-Lee, Scott, Boada, Shriberg, & Pennington, 2008).

Keating, Turrell, and Ozanne (2001) found that 25.8% of children present with a psychological, language, and speech disorder. This demonstrates the high prevalence of comorbid communication disorders with an additional psychological disorder. When looking further into this population, 14.3% of males and 11.1% of females had a mental disorder and communication disorder (Keating et al., 2001). This difference between male and female could be due to the unequal proportion of males presenting with communication disorders than females. The connection between communication disorders and psychological disorders is not entirely surprising. Prizant, Audet, Burke, Hummel, Maher, & Theadore (1990) argue that “Children who have difficulty communicating no doubt have a significant impact on their psychosocial environment.” Many psychological disorders have roots in communication disorders, and vice versa. Baker and Cantewell noted that:

“...language is a uniquely human quality, it is therefore not unexpected that a disorder in language development might have far reaching consequences for other areas of early

childhood development. In fact, systematic research has suggested that language is uniquely and intrinsically related to the development of the child's thought, play activities, social and emotional development and learning.” (as cited in Prizant, Audet, Burke, Hummel, Maher, & Theadore, 1990, p. 180).

This explains a possible connection between psychological disorders and communication disorders. As Baker and Cantwell suggest, language is intertwined in everyday life. A child uses their understanding of language to reason through difficult situations, make choices, and form ideas and feelings. It aids in a child’s interactions with others and with their own emotions. Behavior disorders, such as Attention Deficit Hyperactivity Disorder, oppositional disorder, conduct disorders, and emotional disorders, such as Anxiety Disorders, phobias, and depression disorders, have all been associated with communication disorders. (Prizant et al., 1990). Though some connections between psychological and communication disorders have been proposed, the exact nature of the relationship is still unknown. Much of the debate comes from the origin of this comorbidity.

Hypotheses for the Origin of Comorbidity

Five hypotheses have been utilized to determine the reason for the high comorbidity between communication and psychological disorders. The first and most basic is that there is no consistent connection. This hypothesis is hard to accept because of the strong correlation between the two types of disorders (Prizant et al., 1990). It can be argued that children who present with both a communication and psychological disorder have too many conflicting issues to truly analyze which disorder causes what. For example, a researcher may struggle to determine if a child’s diagnosis of depression is because he or she is not accepted by their peers because of their communication disorder or because they are experiencing neglect or abuse at

home. This child's experiences might greatly differ from another child, making a blanket reason for the comorbid occurrence of the disorders difficult to determine. This hypothesis poses that the connection between the two are too complex and an exact origin cannot be determined for all cases.

The second hypothesis is that communication disorders create psychological disorders (Prizant et al., 1990). This stance argues that communication difficulties create the basis for psychological disorders. A child will first present with a communication disorder that then will cause a psychological disorder. For example because of a child's stutter or inability to express their feelings they develop anxiety. The social pressure and stigma of those with communication disorders elicits emotional and psychological imbalances. This is a plausible conclusion however there is little research to support this hypothesis. Baker and Cantwell supported this hypothesis because they believe that language is the root of what makes us human and is therefore the root of comorbidities, but sometimes the connection between a communication disorder and a psychological disorder does not make sense. For example, a speech error causes Down Syndrome. This psychological disorder precedes a speech disorder, countering hypothesis two.

The third hypothesis argues the reverse of hypothesis two. It states that psychological disorders create communication disorders (Prizant et al., 1990). For example a psychological disorder of Attention Deficit Hyperactivity Disorder can lead to children struggling with attention and learning language, causing issues with both pragmatics as well as with specific speech sounds. On the surface, this might seem plausible but it has been very hard to prove that this is the origin of communication and psychological disorders. There is little empirical evidence to support this hypothesis, making it one of the least supported views. This is an area

for future research to explore. Intersectionality and different methods of research could be employed to find evidence to support this approach.

The fourth hypothesis introduces a third factor in to the comorbidity of disorders. It states that there is not a unidirectional way to understand the connection between communication and psychological disorders. One does not cause the other, but rather an outside, underlying factor causes both to arise. Socioeconomic status, familial dynamics, genetics, social pressure, and many other factors have been studied but no significant findings were acquired (Prizant et al., 1990). For example, this hypothesis argues that a child's socioeconomic status leads to a speech, language, and psychological disorder. This has been tested and it was found that there was no relationship between socioeconomic status and communication disorders but more research would have to be conducted to fully prove this finding (Keating et al., 2001).

The fifth hypothesis poses the idea that disorders, both communicative and psychiatric, stem from a relationship between the two and the environments in which they are presented. This is the transactional model that states that there is a mutual influence between one's communication and environment (Keating et al., 2001). An environment of an individual includes their internal environment, such as their emotions, as well as their social and familial environment. For example, a child who is experiencing neglect may begin to present with disorders such as depression or language disorders because of the lack of attention and care at home. It is not solely one outside force or one disorder that causes the child's issues, but rather a combination of all the factors. Recently, the impacts of neglect or maltreatment have also been studied using the transactional model, and it has been found that these factors greatly impact a child's communicative ability (Wissnick, 2015).

Of the five hypotheses, the transactional model yields the most plausible explanation for the high comorbidity of communication and psychological disorders. One cannot evaluate an individual's psychological state without understanding the context in which they are living, so why would one evaluate an individual's psychological and communicative abilities without factoring in the environment with which they live? Additionally, an environment cannot be evaluated without an understanding of one's disabilities. Surrounding a child with the appropriate resources and support they need is pivotal to successful and frequent communication. Though a transactional approach, one can understand why the high rate of communication and psychological disorders cause impacts in individuals' academic, social, and familial life. The downfall of this model is that it does not pose a consistent direction for each SSD or psychological case. It suggests that one must evaluate each child and determine the reason for comorbidity according to the information given.

Impact of Comorbidity

Many children who present with a comorbid communication and speech disorder have problems with their academics as well. McLeod, Daniel, and Barr (2013) note that children with an SSD and psychological disorder have more difficulties in school than typically developing children. This has been observed by teachers who report that children who present with an SSD and a comorbid psychological disorder have limited participation and that peers are less supportive and accepting. Issues with phonological processing also cause reading and spelling impairments. It has been proven that ADHD is comorbid with a reading disability, estimated at 25-40% and an SSD is comorbid with a reading disability at approximately the same rate (McGrath, Hutaff-Lee, Scott, Boada, Shriberg, & Pennington, 2008). Speech sound disorders

play a large role in academic success and when paired with a language disorder, not only do academics suffer, but so do a child's social ability.

Children who present with both a speech and language disorder also experience setbacks in their social lives as well. Frustration, embarrassment, and low self-esteem are all common feelings for children who struggle to communicate (McLeod et al., 2012). Lewis, Patton, Freebairn, Tag, Iyengar, Stein, & Taylor (2016) conducted a study that found that, "...children with LI – many of whom also had SSD – indicate adverse psychosocial behavior...including poorer peer relationships, increased victimization, and more problems in social competence, adaptive functioning, emotional and self-regulation." Children with a SSD, LD, and a psychological disorder struggle to connect and communicate with their peers because of their disabilities and therefore suffer socially compared to typically developing children.

Implications in Therapy

It is important for speech-language pathologists (SLP) to be aware of the strong correlation between psychological disorders and communication disorders. Having a full understanding of a client's abilities is pivotal to conducting successful therapy. Many have argued that the role of SLPs is essential for the proper remediation of communication disorders and control of psychological disorders. It has been suggested that there needs to be an increase in early intervention services at childcare facilities as well as through teachers and SLPs in the school setting (Keating et al., 200; Getty, 2007). Regardless of where the therapy is conducted, an SLP must treat children according to both their communication and psychological disorder. Therapy without structure because a child has behavior issues is pointless. The child's psychological impairments will hinder their communicative progress. To avoid academic and social issues, it is important that SLPs diagnose children keeping psychological diagnoses in

mind so that they receive the proper treatment (Getty, 2007). The role of a speech-language pathologist is crucial to a child's success, especially when the client presents with a comorbid communication and psychological disorder.

Problems and Future Research

There are various problems surrounding the study and research of the comorbidity of communication and psychological disorders. Changing definitions and diagnostic criteria, differences in research methods and populations, and differences in the ways in which these disorders are presented makes it difficult to come to conclusive findings. Changing definitions and diagnostic criteria immediately dates research when new definitions are published. Changes in the definition of a mental disorder, for example from DSM-IV to DSM-V, alters the way researchers analyze psychological disorders. The same issue arises when different terminology is used for communication disorders. The term "speech sound disorder" is relatively new and only encompasses disorders that involve issues with sound production. Before this distinction was made, a variety of terms were interchangeably used to describe this disorder; phonological disorder, articulation disorder, speech disorder (Bernthal, Bankson, Flipsen, 2013). Inconsistency in defining communication and psychological disorders makes creating a uniform and well-rounded understanding of communication and psychological comorbidity extremely difficult. Finally, statistics on the prevalence of communication disorders, psychological disorders, and a combination of these two, vary according to methods used, the background of the researcher, and the population studied. In order to address these issues, future research should conduct a longitudinal study of children presenting with just psychological disorders, just communication disorders, and a combination of these two. Through this long-term study of the variations of

these different disorders, it is possible that a better understanding of their origin and prevalence can be obtained and analyzed.

Some research has been conducted to address the comorbidity of psychological and communication disorders. Researchers have found that language, speech, and psychological disorders have a strong correlation, but the origin and exact prevalence of this comorbidity has not been determined. Various approaches have been employed in order to learn more about the connection between these disorders. According to research reviewed and knowledge of both linguistic and psychological factors, it can be concluded that a transactional model yields the most plausible explanation for the comorbidity of communication and psychological disorders. Using the understanding that environment and the individual are intertwined and work together, one can understand why academics and social life is disrupted by comorbid psychological and communicative disorders. These impacts can only be diminished through speech therapy. Therefore, the importance of the speech-language pathologist to properly handle children who present with this comorbidity is pivotal. Where there have been calls for improvement of speech therapy to properly address these issues, it is important to first understand the problem. Once a conclusion can be made about the origin and prevalence of communication and psychological comorbidity, there can be improvements in the remediation of these disorders.

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