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REGISTRATION NUMBER:.....15/U/11991/EVE

RESEARCH METHODOLOGY

The cause of Stuttering

Introduction

Stuttering is a universal disorder of speech fluency, present in all cultures and languages. The severity of individual stuttering moments and the frequency with which words are stuttered are highly variable, within and across individuals and speaking situations. While people who stutter often have a family history of the disorder, there is currently no satisfactory genetic model of transmission. Stuttering typically begins in the third and fourth years of life as children are putting words together into short utterances.

One instance of stuttering can comprise all three types of behavior. The development of this descriptive system allows understanding of stuttering within the context of speech motor control. The cause of stuttering is unknown, although it is widely thought that it is caused by a deficit in neural processing for speech, and that this is Influenced by linguistic and environmental factors

Abstract

Stuttering is present in all cultures. While there has been extensive brain and behavioral research into stuttering, its cause remains unknown. Brain imaging research has shown anomalous activation during stuttered speech and, more recently, has identified structural anomalies in the speech language areas of the brain. A recent meta-analysis concluded that these aberrant neural activation is a consequence of stuttering rather than a cause, and that stuttering is a disorder of the initiation of speech motor plans. Expanding on this hypothesis we propose that this disorder comprises the initiation of syllables.

Methods

The search for cause: Brain imaging. Functional brain imaging shows that the speech of adults who stutter is associated with unusual brain activity. While findings are at times quite divergent, recent meta-analysis indicates increased right Hemisphere activation, decreased temporal lobe activity, and unusual cerebellar activation. Structural brain anomalies have also been reported in adults who stutter.

Results

In an attempt to explain findings of prolonged speech. That analysis established that adults reduced the variability of linguistic stress when using prolonged speech to control their stuttering. Reducing syllabic stress contrasts reduces the need to vary motoric effort from syllable to syllable and that this may be a critical feature of prolonged speech. Stuttering almost entirely disappears when a person speaks in rhythm, particularly in syllable-timed speech, which is arguably the most powerful and best known of the so-called fluency enhancing conditions. Stuttering is triggered by the motoric demands of linguistic stress; namely, the variation in effort required to vary emphasis from syllable to syllable.

Conclusion

People who stutter have more difficulty initiating syllables than normally fluent speakers. Thus, stuttering can occur on the first syllable of an utterance or, when syllables occur in sequence as in connected speech, it can occur at syllable transitions. The latter occurs when the difference in stress (motoric effort) between syllables is greatest.