

The Psychology of Stuttering: Possible Causes and Treatments of Persistent Stuttering Disorder

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Background Literature

M.E. Wingate coined the earliest found definition in 1964.¹

- A speech disorder characterized by word or syllable repetitions or prolongations and silent interruptions in the flow of speech known as blocks.

Persistent Developmental Stuttering (PDS) affects about 1% of the world's adult population across all cultures and social classes, and approximately 80% of those who stutter recover in childhood.²

The recovery rate is much higher in females than males resulting in three to four males who stutter to every female.³

Possible Causes of Stuttering

Genetics	Neurology	Motor Control
<ul style="list-style-type: none"> 18% concordance rate for same sex siblings.⁴ 30% concordance rate for dizygotic twins.⁵ 80% concordance rate for monozygotic twins.⁶ Mutations found on genes 2, 3p, 3q, 10, 14, 16.⁷ 	<ul style="list-style-type: none"> Activity in the left hemisphere was more active in stuttered speech, while right hemisphere activation was present in fluent speech.⁸ Excessive dopamine production in people who stutter.⁹ Blood flow to Broca's area was inversely related to stuttering severity.¹⁰ 	<ul style="list-style-type: none"> Children who stuttered showed lower gross and fine motor skills and increased articulatory variability.¹¹ Children who stuttered preformed less well on the Movement Assessment Battery.¹²

Stigma Reduction

People who stutter are often met with adverse reactions and feelings from the public.¹⁵ They are stereotyped as having adverse personality traits¹⁶ and turned away from jobs that require speaking or customer interaction.¹⁷

3 Primary Strategies:¹⁸

- Interpersonal Contact
 - Heavily reliant on sharing personal information by the individual, a willingness to listen, and an eventual change by the audience.
- Educational Approach
 - Primary focus to debunk myths and present facts to the public.
- Protest Method
 - Offers a chance to speak out for the unfair treatment of individuals who stutter and gives a voice to those who are overlooked.

Therapy Treatment for Stuttering

Van Ripper Stuttering Modification Therapy¹³

- Identification**
 - The client recognizes the stuttering behaviors (e.g., muscle ticks, foot tapping.)
- Desensitization**
 - The client reduces the negative feelings and harmful behaviors while stuttering.
- Modification**
 - The client learns the three phrases of cancellations (*repeat phrase after stuttering*), pull-outs (*stop during stutter, and repeats entire phrase*), and preventative techniques (*speaks slowly and over-articulates when anticipating stutter*).
- Stabilization**
 - The client monitors their stuttering behaviors and becomes self-aware.

Fluency Shaping Intervention¹⁴

- Easy Onset**
 - The slow start of a vocal cord vibration rather than a sudden movement in starting speech (e.g. humming before speaking)
- Loose Contacts**
 - The client focuses on muscle movements and airflow.
- Changing Breathing**
 - The client focuses on breathing patterns to relax muscles and movement
- Pausing Between Phrases**
 - The client learns to pause in between sentences/phrases to allow time for breathing and word articulation.
- Reduce Speaking Rate**
 - The client slows the rate of speech and incorporates the techniques learned.

Discussion and Future Direction

The validity of the existing therapies has not been tested. Future research could conduct studies to discover the effectiveness of the therapies.

Future research should discover a definitive cause of stuttering, and combine the data found across the various fields of science.

References available upon request