

# **Research Thesis**

## **Aetiology of Stuttering and its Manifestation in Bilingual Children**

By

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MPhil

In partial fulfillment of the Masters of Philosophy in Applied Linguistics from the  
Department of English Language and Literature, University of Management &  
Technology.

**Acknowledgements:**

First of all, thanks to Allah Almighty, the Most Beneficent, the Most Merciful, Who gave me courage to complete this project.

This research thesis would not have been possible without the support of many people. With a deep sense of gratitude, I wish to express my sincere thanks to my supervisor Mr. Muhammad Shaban Rafi, who was abundantly helpful, and gave invaluable support, guidance and motivation to accomplish this project. He has been quite patiently modifying and suggesting various hunches to raise the standard of this work. Let me acknowledge that I acquired indeed real and practical knowledge regarding how to do research under his supervision.

The deepest gratitude goes to Mr. Munawar Malik and Ayesha Chattha, Speech Therapists who have been very cooperative during data collection. Special thanks also to my dear colleague Mr. Husnain for proving invaluable assistance.

I would also like to convey thanks to the administration of GIFT University, Gujranwala, Pakistan for providing financial means and partial study leave facility during my MPhil study.

I wish to express my love and gratitude to my beloved family whose constant support encouraged me to accomplish this study.

**Abstract:**

Stuttering in bilinguals is an area that has not received much attention. Stuttering and its manifestations in Bilingual Children who stutter with L1 (Urdu) and L2 (English) are dimensions, the present study draw on. This research investigates the most common stuttering sounds among bilingual children between 5 to 12 years old. This study is an attempt to analyze stuttering in relation with mother tongue and with stutter's second language. The study also explores whether or not speech aphasia is neurogenic or psychogenic cause. Findings indicate that vowels, bilabials, alveolar, velar and palato-alveolar are problematic sounds for bilingual stutterers. Moreover; stuttering is psychogenic speech disorder as compared to its neurogenic causes. The results regarding frequency of stuttering (L1 or L2) concur with the findings of Nwokah (1988) who ascertained that bilingual stutterers were more likely to stutter in one language than in another. The clinical implications and treatments in the light of findings are also presented to gain insight into the phenomena of stuttering.

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# Chapter I

## Introduction

### 1.1. Introduction:

This study examines manifestations of stuttering in bilingual children who stutter with L1 (Urdu) and L2 (English). The study draws on (a) the etiology of stuttering sounds (b) neurogenic causes of stuttering (c) psychogenic causes of stuttering, and (d) stuttering and bilingualism to address the aforesaid purpose.

Stuttering is a linguistic phenomena in which articulatory motor and speech organs fail to perform their usual function as a result of which stuttering occurs. With the discovery of some important aspects about stuttering, speech-therapists such as Anderson defines:

“Stuttering is disruption in fluency of verbal expression, which is characterized by involuntary, audible, or silent repetitions or prolongations in the utterance of short elements, namely sounds, syllables, and words of one syllable. These disruptions usually occur frequently or are marked in character and are not readily controllable” (2006).

Stuttering occurs when the forward flow of speech is interrupted abnormally by repetitions or prolongations of a sound, syllable, or articulatory posture, or by avoidance and struggle behaviors. There are two types of stuttering (a) Repetition. An example of

repetition is “where is mmmmmmy book?” (b) Blocking. When the sound is blocked it is blocking e.g. “my c----- at is black.” (Riper & Emerick, 1984).

Stuttering is a complex phenomenon. Therefore it is difficult to cover its all aspects in single definition. However, many definitions fail to capture the complexity of stuttering. Stuttering cannot be defined easily as a singular event as it encompasses many levels of breakdown, and these can be both overt and covert. Stuttering varies daily, in different situations and from person to person. Yairi (1997) defines stuttering as a complex disorder that has many dimensions featuring disfluency as just one of the elements. Focus of other definitions is relatively on the disfluency. Andrews (1987) defines it as a disorder of the rhythm of speech. He believes a person who stutters knows what he wants to say but is unable to say it due to involuntary repetitions, prolongations or cessation of sound.

In general, at any one moment, approximately 1% of the world population stutters and typically the onset is between 2-5 years (Conture, 1996). Studies in the United States report stammering affects 5% of the population at some time in their life. Boys are three times more likely to stutter than girls (Conture, 1996).

Currently there is no ‘cure’ for people who stutter although there are a variety of therapies such as Parent-Child Interaction, which infuses confidence among the children, and eventually they stutter less in their communication. (Rustin, Boteerill & Kelman, 1996) and (Onslow, 1993). Typically a stutterer is more episodic at first and a person’s

stutter is only considered chronic after puberty. Sargent (2007) says although a lot has been said on the symptoms of stuttering but its causes are still mysterious in this age of advanced technology. The above mentioned researches are important as they deal with different perspectives of stuttering, but they have shown limitations to explain causes of stuttering and its remedial measures.

Researches attempting to explain stuttering exist in great diversity and span several life times. One such study can be traced back to Aristotle, who believed that stuttering was due to some abnormality of the tongue (Bloodstein 1995). However, many studies including Freudian like interpretations of stuttering with the emergence of psychoanalysis in the 19<sup>th</sup> century, behavioral-based interpretations with the advent of operant conditioning, psychological, and genetic and neurological models with advance technology are beliefs reflection of the time,. These studies have been considering the physiology, psychology and environment of a person who stutters overwhelmingly.

In 1933, Johnson, who first stemmed interest in social factors of CWS (Children Who Stutter) believed that a child's stuttering was in the parent's listening skills rather than the child's speech i.e. a parent misheard the child and then reinforced a habit, known as the diagnostic theory. However, Van Riper (1973) believed that stuttering was the outcome of a disorder in the timing of muscle movement, which was then reinforced by his fear and the struggle for fluency. Today it is generally accepted that there are many factors that can contribute to stuttering e.g. physiological, linguistic, environmental and

emotional, recognised as the Four Factor Model (Rustin, Botterill & Kelman, 1996) as advocated by the Michael Palin Centre.

Stuttering is as old as human history, but still found mysterious. Its causes are manifold or perhaps nothing causes it. Researchers like Paul Broca (1861), Carl Wernicke (1874), Penfield, Mead, Bouhuys, and Proctor (1968) attempted to discover the changes occurring in brain activity during speaking. The link between brain and speech organs is investigated by these researchers.

The previous studies on stuttering mainly delineate the monolingual communities especially those speaking English as their mother tongue (Brosel, Maes & Foulon, 2001). The findings hence ascertained can be generalized if their validity is tested in Urdu-English bilingual cultures. The current study attempts to gauge the validity of the facts of stuttering by examining it in Urdu- English bilingual children.

This study is of considerable importance as it is first draft of its type in Pakistani context. Both clinicians and researchers would be able to unearth the etiology of stuttering. The study is significant for the parents as they can avoid possible causes of stuttering and can provide feasible treatment for the children. Findings of the study are of considerable importance especially as far as bilingualism is concerned because the study shows that stutterers stutter more in their mother tongue as compared to second language – a pattern contrary to outcomes of most research studies available to date. The speech therapists

may draw on this study while suggesting treatment to their patients. The present study therefore includes clinical implications and treatments.

The researcher attempts to discover the etiology of stuttering, and its possible causes and its interaction with bilingual children. For this purpose data were collected from different clinics of speech-therapy to address the following research questions.

### **1.2. Research Questions:**

As mentioned above, this study aims to explore: (a) aetiology of stuttering more precisely the onset (the very moment when a person starts stuttering on a specific sound.) of stuttering during the conversation that is, what are the sounds on which Urdu-English bilingual children stutter the most, (b) in the analysis of relationship between stuttering and bilingualism the study also looks into the research question whether Urdu-English bilingual children stutter more in first language or second language , and (c) Also to know the possible causes of stuttering; the study looks into the research question whether it's a neurogenic or psychogenic speech disorder is the research area of the study. Capsulating the aforesaid research questions, this study examines: (a) etiology of stuttering (b) Frequency of stuttering among Urdu-English bilingual children, and (c) causes of stuttering The study addresses these research questions (a to c), through the following research design.

### **1.3. Procedure of the Study:**

A sample consists of 15 Urdu English bilingual children between 5 to 12 years old was selected purposely to answer the research questions (a to c). These children were under treatment with the Speech therapists for the cure of stuttering, and were approached at the clinics of different speech therapists in Lahore which included Speech Therapy Centre of Sheikh Zaid Hospital, Hamza Foundation, Johar Town. The subjects were accompanied with their parents in the speech therapy clinics, which facilitated the researcher to administer the evaluation sheet and to conduct interviews following Sanders and Lois's (1972) model regarding etiology of stuttering, frequency of stuttering in L1 and L2 and causes of speech disorder, (see appendix). The researcher took opportunity to interview the parents to explore causes of stuttering among their children. Initially, hidden observation was taken to avoid source of friction among the children, and to compare the result with live observations and interviews. Each subject was audio recorded while interacting for approximately 15 minutes.

And following the research design of Sanders and Lois, live sessions with stuttering children were taken in which reading passages, words lists, sentence list and pictures were administered to explore the most common problematic sounds. The data were shared with the speech therapist to ensure the reliability and validity of the outcomes. Further treatment of Stuttering with the help of NLP (NeuroLinguistic Programming) was discussed.

#### **1.4. Division of Chapters:**

The study includes six chapters which include Introduction which encompasses the main purpose of the study, its brief background, rationale, implications, significance, research questions, and procedure of the study.

Second Chapter is of literature review which includes the previous studies on etiology of stuttering, frequency of stuttering among L1 and L2 children and causes of stuttering. Framework of this study, which covers target sample, setting, procedure, reliability and validity, is covered in Chapter three. Chapter four presents results and discussion in the light of framework discussed in Chapter three. Chapter five includes discussion on findings. However, Chapter VI, which is the last Chapter of the study, presents conclusion and recommendations to cure stuttering.

## **Chapter II**

### **Literature Review**

This study was not less than accepting a challenge. Owing to less research work in this area especially with reference to Urdu English bilingual children, the present study delineates overwhelmingly on out of context researches. Thus the following literature is based on the most influential theories and concepts regarding (a) the etiology of stuttering sounds (b) neurogenic causes of stuttering (c) psychogenic causes of stuttering, and (d) stuttering and bilingualism. Scarcity of context bound researches lead the researcher to lay foundations in this area of study. The present study bench marked overwhelmingly on available researches.

To cure stuttering, the present approaches towards speech therapy are based on the theories mentioned in this chapter. These are the theories infact which give a profound base to build the whole building of this mysterious disorder. As it has been mentioned in the first chapter that for centuries stuttering remained a mysterious disorder whose exact or neumarical causes are still unknown. In this situation these are only the theories which allow us to peep into this mystery. This limitation of the study forced us to make speculations that there must be some specific sounds on which the stuturers stutter the most. Same is the case with the possible causes of stuttering which includes psychogenic and neurogenic causes of stuttering.

The most interesting speculation is about the bilingual children, which says that they stutter most in their second language as compare to their first language. Let's discuss the aforesaid points systematically while citing available researches.

The best-known facts about stuttering are in fact replicated research findings that pertain to the occurrence and variability of stuttering in the population and in individuals (Guitar, 1998). Researchers like Andrews et al. (1983) agree that the onset of stuttering is most likely to occur between ages 2 and 5 years. So its onset often coincides with a period of rapid expansion of speech and language skills (Guitar, 1998).

Another important aspect of stuttering is how it varies, yet it is surprisingly predictable in its occurrence. To Travis and his fellow researchers (1930), the variability of stuttering behaviours was seen as part of an organic disorder.

Modern research though has covered a long and complex journey from Travis's laboratory at Iowa in the 1920s, yet Travis's view of stuttering as a neurophysiological disorder is represented with a new sophistication. This updated view, in the words of Guitar (1998), envisages stuttering disorder of neuromotor control of speech, influenced by the interactive processes of language production and intensified by temperament and complex learning processes. Neuromotor control of speech is muddled because inheritance or injury has resulted in an inefficient or unstable cerebral organization' (p 19).

The neuromotor control of such children begins to show disruption, as their language development in preschool years requires planning and production of larger and more complex syntactic units. Children who do not spontaneously recover and become persistent stutterers are those who learn maladaptive responses to disruptions. This learning is influenced by biological temperament developing social and cognitive awareness and the response of the environment to the speech of these children.

Oliver Bloodstein (1950) wrote his PhD dissertation titled “Conditions under Which Stuttering is Reduced or Absent”. Studying the speech of stutterers in 115 different conditions, he found that in many of these conditions stuttering is markedly decreased some of these conditions are speaking when alone, when relaxed, in unison with another speaker, to an animal or an infant, in time to a rhythmic stimulus or singing, in a dialect, while simultaneously writing, and when swearing. In later studies some more conditions were found to reduce stuttering: speaking in slow prolonged manner, speaking under loud masking noise, speaking while listening to delayed auditory feedback, shadowing another speaker, speaking with reinforcement for fluent speech. Several explanations are available that account for reduction of stuttering severity in certain conditions. Most of them are compatible with the idea that stuttering has a substantial learned component and is affected by external stimuli such as communicative pressure. Recently new explanations have appeared reflecting a new trend of thought about stuttering. It has been suggested that “reduced stuttering is associated with conditions in which the

neurophysiological demands of speech motor control and language formulation are reduced (Andrews, Howie, Dozra, & Guitar, 1982).

There are no formal theories of stuttering. Instead the researchers have developed explanations of stuttering, usually based on models of other disorders. These explanations change every few years as more data come in (Guitar, 1998). There are many theories which try to give some footings to understand the mysterious disorder of stuttering as exact causes of this disorder are still veiled. These theories show the possible known relation between stuttering and articulatory machinery, also working of brain during stuttering is also discussed in these theories. As all the previous researches on stuttering are unable to give sound reasons for its occurrence, so these are the theories which give sound footings to understand this mysterious phenomena.

## **2.1. Theories of Stuttering**

Bloodstein (1995) has categorized the theories on stuttering into three groups.

- a- those that attempt to define the etiology of stuttering
- b- those concerning the moment of stuttering
- c- those, which attempt to reformulate existing theories in either of the aforementioned areas.