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# The relationship between stressful life events and the development and maintenance of stuttering

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The Relationship Between Stressful Life Events and The Development and Maintenance of
Stuttering


By


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Thesis


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Speech-Language Pathology


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Ypsilanti, MI

**Dedication**

To my parents, Thomas Dits and Lisa Hayes, who taught me the meaning of being a lifelong learner. And to all people who stutter, who have taught me the meaning of radical acceptance and the power of vulnerability.

## Acknowledgments

The completion of this work would not have been possible without the assistance and support from many individuals. First, and foremost, I would like to thank Dr. Bill Cupples for his continuous support and unending encouragement throughout my graduate years and this thesis process. Dr. Cupples' enthusiasm for Fluency Disorders has inspired me to take on new challenges and keep asking questions. He has spent many hours with me patiently guiding each stage of the research process, encouraging me to explore related research themes, and offering new insights.

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## Abstract

Few studies have been conducted examining the impact of stressful life events on the course of one's stuttering. However, research reveals that stressful life events (i.e., divorce, death, or new move) increase the likelihood of the onset of stuttering (Guitar, 2006). This study investigated whether stressful life events in the life of a person who stutters (PWS) have caused and/or maintained stuttering over one's lifetime. A qualitative research design was utilized to measure the intended outcomes. Methodology included a 30 to 60 minute phone interview and three questionnaires measuring locus of control, the effects of traumatic events and stuttering on one's quality of life. Results identified three key findings: 1) an increase in negative emotions is due to an increase in stuttering related to a stressful situation, 2) a positive attitude remains despite experienced difficulty with speaking, 3) support groups show benefit for PWS. Directions for future study are suggested for fluency intervention.

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## Chapter 1: Introduction

**Introduction**

Stuttering is a disorder of speech fluency in which the smooth production of sounds, syllables, and words is disrupted. These disruptions (disfluencies) take the form of repetitions and prolongations of sounds, syllables, and words, and the stopping of voicing and airflow through the vocal tract (Guitar, 2006). It is now generally accepted that the root causes of developmental stuttering are constitutional, dependent on a mix of genetic, physiological, and neurological factors in people who stutter (PWS). It is also accepted, however, that environmental experiences and events contribute to the continued development and maintenance of stuttering in PWS (Klompas & Ross, 2004; Rotter, 1944; Treon, Dempster, & Blaesing, 2006). It was the purpose of this study to survey and interview PWS to determine the extent to which they believe that specific environmental experiences and events contributed to the development and maintenance of their stuttering. Previous research indicated that the experience of stuttering contributes to the development of negative feelings and attitudes as a communicator (Bleek et al., 2012; Guitar, 2006; Lewis, 1997). This study was designed to explore the impact of traumatic life events on the PWS' experience of stuttering. Interviews and questionnaires were used in this sample of PWS to determine 1) the possible impact of stressful life events; 2) how study participants feel they have adapted to these events; and 3) how these stressful life events have influenced their stuttering. The results of this study examined the impact of possible stressful life events on the occurrence and maintenance of developmental stuttering.

**Problem Statement and Background Information**

The exact cause for stuttering is still an issue of debate. According to Treon, Dempster, and Blaesing (2006; as cited in Iverach et al., 2009), stuttering is a multifactorial disorder

resulting from one or more of the following factors: a defect in the neurophysiological system (Craig, 2000), a genetic trait (Bloodstein & Ratner, 2008; Drayna & Kang, 2011), a faulty timing issue in the motor speech mechanism (physiological; Howell, 2004), and/or a psychosocial-emotional problem (Treon, Dempster, & Blaesing, 2006).

**Purpose of the Study**

In addition to these suggested etiologies, this thesis was an investigation into another possible contributing factor to the development of stuttering. This project investigated the relationship of stressful life events to the development and maintenance of stuttering in a sample of PWS.

**Justification and Significance**

While most sources report that stuttering arises from multiple factors, more research needs to be conducted to indicate whether stressful life events trigger and maintain persistent stuttering behaviors. According to Craig, "Adults who stutter may be at increased risk of developing psychological, emotional, and behavioral problems" (p. 928) due to a higher tendency towards social phobia (as cited in Iverach et al., 2009). Due to these negative risk factors, more research is critical to examine how stressful live events, such as ones that may bring about the development of social phobia and emotional difficulties, are associated with stuttering. A more thorough exploration into how stressful life events may contribute to the development and maintenance of stuttering will benefit the field of speech-language pathology and related fields in two ways:

1) Guide future research into the investigation of factors that may contribute to the development and maintenance of stuttering;

2) Open discussion among clinicians and researchers into whether these stressful life events may trigger the development and maintenance of stuttering in children and adults.

## Chapter 2: Review of the Literature

**Definition of Stuttering**

Various definitions of stuttering behavior have been proposed. Bloodstein and Ratner (2008) define stuttering as "a disorder in which the 'rhythm' or fluency of speech is impaired by interruptions, or blockages" (p. 1). Guitar (2006) defines stuttering as "an abnormally high frequency and/or duration of stoppages in the forward flow of speech. These stoppages usually take the form of (1) repetitions of sounds, syllables, or one-syllable words, (2) prolongations of sounds, or (3) 'block' of airflow or voicing in speech" (p. 13). According to Van Riper, stuttering is defined as "repetitions, prolongations, and blocks" (as cited in Guitar, 2006, p. 14). Guitar categorizes these three common stuttering behaviors as "core" behaviors. Often, as a result of experiencing frustration and embarrassment based on the stuttering, the PWS develops secondary behaviors or characteristics. Guitar refers to these secondary behaviors as "escape behaviors" and "avoidance behaviors." Escape behaviors occur during the moments of stuttering and involve the PWS in using interjections, blinking, and head nods in an attempt to produce the feared word as soon as possible. Avoidance behaviors occur before the anticipated moments of stuttering and include: filler words, starters, postponements, substitutions, circumlocutions, and other facial or postural movements. These secondary characteristics become learned habits or behaviors over time, and eventually reinforce the PWS's feelings of anxiety, embarrassment and frustration. These feelings then increase the frequency of stuttering in feared situations.

**Environment and Stressful Life Events**

Several studies have reported that PWS are no more prone to have psychiatric disorders than people who do not stutter (Bloodstein; Conture; Gregory; Guitar; Manning; Silverman; as cited in Treon, Dempster, & Blaesing, 2006). However, according to Starkweather, Johnson et

al., and Van Riper, it is suggested that there may exist a connection between stressful life events leading to emotional distress and the occurrence of stuttering (as cited in Guitar, 2006). Starkweather notes that most children speak with more disfluencies after periods of tension within the household (i.e., divorce, death of a family member, change of school). The author reports that it is likely for those children to develop stuttering or, that children who are more sensitive to such stressors may experience an increase in stuttering. Johnson et al. report similar events as triggers for the onset of childhood stuttering (as cited by Guitar, 2006). Although Van Riper did not find clear evidence correlating a child's stressful home environment and the development of stuttering, he noted that in some individual cases there were indicators that such disrupting home events led to increased stuttering (as cited in Guitar, 2006).

Guitar (2006) lists various stressful life events that could increase a child's risk for developing stuttering. The events include a family move to a new house, neighborhood or city, divorce, death in the family, a parent loses a job, the birth of child, an extended absence of one or both parents, or a change in routine due to holiday events or family visits causing anxiety and excitability in the child. Guitar states that he knows of no concrete evidence showing a relationship between stuttering and these stressful life events, but notes that clinicians such as Van Riper and others have written about and studied these events.

Rotter's (1944) study investigated the relationship between environmental factors and the onset of stuttering behaviors. Rotter interviewed eight young adults who stuttered to gain insight into their current psychological condition. Rotter wanted to know the relationship of environmental circumstances, past events and their effects on present daily situations and the occurrence of stuttering. The case reports revealed that childhood pampering or overprotection from parents contributed to a higher degree of neurotic or psychological disturbances in these

young adults. The subjects reported distinct life changes impacting their social adaptation to school and life environments (i.e., feeling threatened by peer competition, starting school, changing schools, living in anxious environments, having demanding parents, and more). Rotter interpreted these early childhood experiences as predictors of increased anxiety and fear across the lifespan, and consequently to a development of speech difficulties.

Treon, Dempster, and Blaesin (2006) examined the risk factors leading into the depressive personality type. Treon et al. hypothesized that psychosocial-emotional disorders are a reasonable explanation for the development of stuttering. The overall scores from the items of the Minnesota Multiphasic Personality Inventory (MMPI-2 and MMPI-A) scales/subscales, and the average T-scores from this inventory indicated that subjects who stutter (SWS) have a tendency towards psychosocial-emotional disorders. The prominent disorders associated with the scores from the SWS were "schizophrenia, depression, health concerns-somatic complaints, psychasthenia (tendency toward phobia, obsession and compulsion), anxiety-fearfulness, and self-doubt-self-depreciation" (p. 288). The researchers concluded that, due to traumatic life events occurring during early childhood and a sensitive temperament-reactivity trait, the child was generally more vulnerable to traumatic events. This vulnerability then resulted in psychosocial-emotional disorders persisting into adolescence and adulthood. Based on these findings, the authors posited that psychosocial-emotional disorders served as a major contributing factor into the cause of developmental stuttering.

Klompas and Ross (2004) found that, of the 16 subjects who stuttered, eight subjects reported that "educational factors, heredity, family aspects, nervousness, tension and trauma" (p. 295) were the cause of their stuttering. One subject reported that "my stuttering may be due to traumatic experiences which may have brought about psychological manifestations" (p. 295).

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Another subject talked about how his educational experience could have been the trigger to stutter. He reported that, "My second grade teacher was a traumatic experience for me, which I believe was one of the causes" (p. 295). Another participant noted that a horrible experience in nursery school "may have provoked it (stuttering)" (p. 295). According to Guitar, a variety of factors may contribute to the onset and persistence of stuttering (as cited in Klompas & Ross, 2004). Guitar notes that among these factors are "neurophysiological, psychological, social, and linguistic" (p. 295).

Of the 16 subjects in Klompas' and Ross' study (2004), 37.5% of responses revealed that a lack of self-confidence and low self-esteem had an impact on the subjects' stuttering behaviors. One subject stated, "Stuttering on your name gives you a low self-image.... Yes. I possibly have low self-confidence, I'm not good enough' that kind of thing" (p. 295). Feeling stupid was the second strongest factor which affected the subjects' self-image, occurring in 18.75% of participant responses. Participants expressed the following statements, "I feel so stupid - You think maybe I'm a fool, you avoid answering questions, and, I feel I'm so stupid, I sound so stupid, get cross with my self-esteem..." (p. 295). Previous research supports the view that those who hold a low self-image tend to view themselves as ineffective speakers, and thus, "incompetent person(s)" (p. 295). Personal feelings of self-hatred and feeling different were reported in 12.5% of subjects' responses. They spoke of hating their stuttering, hating themselves, and not feeling like a normal person. The effect of positive and negative emotions on the subjects' experience of stuttering was analyzed. The majority of subjects reported mainly negative emotions accompanying stuttering behaviors and memories. The sub-themes of negative emotions expressed in the interviews were those of frustration, anger, shame, embarrassment and nervousness, feeling stupid or foolish, and fear. One participant experiencing

shame reported, "After stuttering the feeling is more like shame" (p. 296). Another participant expressed feeling highly nervous and agitated as a consequence of the emotion of embarrassment brought on by stuttering. A third participant described his frustration caused by stuttering by saying that there is "nothing more frustrating than not being able to say what you want to say. It's like being permanently silenced" (p. 296).

**Attitudes, Feelings, and Emotions**

Guitar (2006) defined attitudes as "feelings that have become pervasive and part of a person's beliefs" (p. 16). He noted that adolescent and adult PWS tended to hold more negative attitudes surrounding stuttering than children who stutter. Guitar explained that feelings may precede the stuttering, but the stuttering may also create the feelings. As the child continues to experience more negative reactions towards his stuttering from others, as well as the shame and guilt he places upon himself, the feelings can cause him to hold back or stutter more. The most common feelings that PWS experienced were: frustration, shame, guilt, hostility towards listeners, embarrassment, and fear of stuttering again. Common attitudes which PWS hold were reflected in statements such as: "I am stupid. I am nervous. Oh no, I'll never get this word out. She'll think I'm dumb" (p. 17).

According to Turnbaugh, Guitar, Houghman, and Woods and Williams, many people, as well as speech-language pathologists and classroom teachers, hold stereotypes or beliefs about PWS which in turn can negatively effect the way a PWS sees himself. It was reported that these listeners' viewed the PWS as more "tense, insecure and fearful" (as cited in Guitar, 2006, p. 17). Guitar noted that PWS were greatly affected by a listener's reaction to their speech. They perceived these speaking situations as negative and their belief that they are incompetent or

helpless is even more solidified. Their feelings of "helplessness, frustration, anger, and hopelessness" only increase (p. 163).

Underlying these negative feelings and attitudes is the individual's self-concept. Clarke-Stewart and Friedman posited that the self-concept is formed during preschool years and is described as someone who sees himself as what he can do, but not what he is (as cited in Guitar, 2006). At the advanced stuttering stage, PWS hold the self-concept that they are impaired speakers. This self-concept is a result of how their listeners perceive them, which ultimately impacts the perceptions of the PWS.

Lewis' (1997) literature review revealed that stutterers' communication attitudes were significantly poorer than those of nonstutterers. According to Gregory, and Peters and Guitar, PWS take on negative attitudes in regard to their speaking behaviors and that these negative attitudes may prevent the PWS from generalizing his/her therapy goals to other settings (as cited in Lewis, 1997). Lewis studied the communication attitudes directed towards the stutterers' and nonstutterers' own speech. Lewis found that PWS showed significantly higher scores on the S-scale, which measures interpersonal communication drawn from 39 true/false statements regarding communication attitudes and beliefs. The scores range from zero to 39, with higher scores showing poorer communication attitudes. Quesal and Shank (1978) reported that the average S-scale score for PWS was 27 versus 14 for the people who did not stutter (PWNS). These scores were significantly different between the two groups: the PWS, who held negative feelings and attitudes toward the way they communicated with others, and the PWNS, who held significantly less negative reactions towards their communication style.

According to Craig, Blumgart and Train, Shapiro, Sheehan, Van Riper, and Yaruss, stuttering has a negative impact on the quality of life of those who stutter due to the PWS'

negative reaction to their style of speaking (as cited in Bleek et al., 2012). For instance, PWS tended to experience more negative feelings and attitudes around occupation roles, school performance, interviewing, dating, and relationships with teachers, peers and others. Bleek and others' results revealed that "persons who stutter may experience frequently intense feelings of anxiety, shame, loss of control and avoidance" (p. 326).

In a study comparing anxiety in typical speakers, speakers who persist in stuttering, and speakers who recover from stuttering, those with persistent stuttering experienced higher levels of state anxiety compared to the normal speakers and recovered group (Davis, Shisca, & Howell, 2006). However, the recovered speakers still felt high state anxiety in speaking situations 75% of the time. These findings reveal that certain speaking situations can be correlated with higher state anxiety in persistent and recovered speakers who stutter.

The relationship between temperament, stuttering and anxiety has been of clinical and theoretical interest to researchers such as Kefalianos, Onslow, Block, Menzies, and Reilly (2012). The authors posed two hypotheses that might explain the association between anxiety and persistent stuttering: 1) atypical temperament is a factor in the onset of the development of stuttering and its subsequent correlation with anxiety, 2) the manifestation of anxiety is revealed to be an effect of stuttering. The findings are inconclusive due to limited evidence and inconsistent data. However, despite a lack of conclusive evidence, the authors emphasized the need to conduct more quantitative and qualitative longitudinal studies to indicate the extent to which differences in temperament and anxiety impact one's stuttering and how stuttering affects anxiety levels.

**Shame**

According to Miller, shame is "the conviction that one is small or inferior or defective" with "an intense sense of displeasure about one's status and a wish to be changed" (as cited in Patraka, 1998, pp. 31-32). In addition, Sheehan stated that there was definitely a connection between the experience of shame in a PWS "for the stutterer is expected to speak, and to speak fluently within normal limits, and fails to do so" (as cited in Patraka, 1998, p. 69). Likewise, Van Riper reported that shame was prevalent in the PWS' life experience in that they tended to blame themselves for not being strong enough to get rid of their stuttering (as cited by Patraka, 1998).

The results of Patraka's study (1998) revealed that internalized shame experienced by PWS is a contributing factor into the maintenance of stuttering behaviors, such as struggle, avoidance and expectancy. Buss emphasized that this internalized shame might be a result of the inability to achieve or attain personal goals for performance (as cited by Patraka, 1998). Patraka stated that ultimately this kind of internalized (and generalized) shame, which affects a PWS' self-concept, "disrupts the experience of life and the attainment of happiness" (p. 21).

**Self-Consciousness**

When the individual focuses more on himself, the way he speaks, acts and behaves, the more self-conscious he becomes (Patraka, 1998). For PWS, the feeling of self-consciousness is a result of giving more attention to his own speech, as well as to his own critical self-evaluations. This feeling may internalize his self-consciousness to the level that he becomes anxious and hesitant about public and social situations. Patraka suggested that this heightened level of self-awareness to one's speech may "increase the disfluency" (p. 24). Ultimately, the PWS is giving himself a negative evaluation based on his increased inward attention and a narrow focus on how others perceive his performance, which results in the final stage of anticipatory anxiety. This

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heightened inward attention is another factor which plays a role in the development and type of one's locus of control.

**Locus of Control**

Lefcourt and Rotter defined locus of control as "an indication of the extent to which individuals believe that life events are the consequence of their own behavior and, thus, under their control" (as cited by Patraka, 1998, p. 26). The locus of control (LOC) for behavior is viewed along a continuum, with external LOC on one end and internal LOC on the other end. The individual who possesses traits of external LOC tend to view external circumstances, fate, chance, or others' behaviors as a result of their life situation. Conversely, one with traits of internal LOC perceives that "personal abilities, attributes, and endeavors determine the outcomes that ensue" (p. 26). Research has focused on LOC in those who stutter to determine how they perceive their life outcome of being a person who stutters. Many studies (Andrews & Craig; Craig & Andrews; Craig & Howie; De Nil & Krol; Dharitri) indicate that a higher degree of internal LOC in PWS shows greater therapeutic success (cited by Patraka, 1998). Those with an orientation towards an external LOC tend to perceive their stuttering as holding them back and the reason for their inability to attain their communication and general goals.

In a study comparing the recovery from stuttering among 15 adult speakers, Finn, Howard, and Kubala (2005) found that the group who had a tendency to stutter (TS) tended to attribute their residual stuttering behaviors to negative emotional and mental states, such as stress or fatigue. In addition, some participants reported that speaking to an audience, to large social groups, or someone on the telephone led them to become more aware about their stuttering. Negative environmental situations were shown to exacerbate the stuttering more so in the TS group than the other group with no tendency to stutter (NTS). Three TS subjects reported the

following external influences which affected their speech: having "to deal with them [obnoxious people]" (p. 297), other people making the subject feel more self-conscious, and the influence of time pressure. While the NTS and TS group both showed positive feelings and beliefs about themselves as communicators, eight out of eight TS subjects revealed that certain environmental situations, stress, and fatigue were significant contributors to their residual stuttering behaviors.

## Chapter 3: Methodology

**Study Design**

The present study is a qualitative research design using a semi-structured phone interview and three different questionnaires and scales. According to Smith and Davis (2010), qualitative research is conducted in natural settings dedicated to studying diverse human behaviors and its impact on societal trends throughout history. The structure of this project is designed to study the variety of stressful life events (SLE) of people who stutter and its emotional and psychological impacts with the intention to discover whether there is a possible relationship between SLE and stuttering.

**Participants**

Participants in this study included five adults who stutter from various states across the United States. All participants in the sample were male. Participants self-reported their race and ethnicity as follows: 4/5 (80%) White or non-Hispanic Caucasian and 1/5 (20%) Hispanic or Latino. The mean age of the sample was 33.8 years old (range: 27 to 44 years old). Two participants are actively receiving speech therapy, one in the southeast Michigan area and one in the northwest California area. The third and fourth participants had received speech therapy at some point in their lives as adolescents and young adults, but they are not currently receiving services. It is unclear as to whether the fifth participant is currently receiving speech therapy, but he noted having received therapy at different periods over the course of his lifetime.

Volunteers who self-report as PWS were recruited through three online support groups for PWS via Facebook which include IStutterSoWhat?, Stuttering Community, and NSA 20Somethings. PWS were also invited to participate through an announcement at the National Stuttering Association Convention in Scottsdale, AZ (2013), an NSA Chapter meeting in

Michigan, and through the yahoo support group, *Neuro-Semantics of Stuttering* (http://www.masteringstuttering.com), an online discussion forum for PWS. One participant was recruited during a speech therapy session with his therapist, the chair investigator of this study. Participants were informed of the research procedures of the study and intended outcomes through email. They were assured of their confidentiality rights and anonymity both in the email and again during the initial phone interview. Participants provided their informed consent to participate in the research study through email. The participants participated in one semi-structured phone interview lasting approximately 30 to 60 minutes.

Further data were collected through the participants' completion of three questionnaires and scales measuring locus of control, types of traumatic events, and perception of speaking experience. The three scales and questionnaires used in this study were: *Traumatic Life Events Questionnaire (TLEQ;* Kubany & Haynes, 2004), *Overall Assessment of the Speaker's Experiences of Stuttering (OASES;* Yaruss & Quesal, 2010), and the *Multidimensional Locus of Control Scales (MLC;* Levenson, 1973). No participants were excluded due to race, gender, ethnic background, disability, sexual orientation, religion, or health status. The participants were randomly assigned identity codes to insure confidentiality and maintain anonymity.

**Data Gathering Procedures and Instrumentation**

**Participant interview**. In the interview, audiotaped and later transcribed by the researcher, the participants were asked six open-ended questions:

*Participant Interview Questions.*

1. What do you remember when you first started stuttering?

   o (Branching) In which age group in school were you when you first started stuttering?

o (Branching) Are there any specific people or events related to that time that you first started stuttering? And if so, describe those people or events.

2. Are there any memories since that time about the experience of stuttering until the present moment that you would like to share with me?

3. Describe for me how you feel about your ability to communicate?

o (Branching) Could you describe for me how you feel your stuttering has affected your ability to communicate?

o (Branching) Do you think there are situations which cause you to stutter more than other situations? Has this changed over time?

4. If you have any memories about experiences in your life that have been stressful for you, then tell me about those experiences?

o (Branching) Tell me if these experiences had any effect on your stuttering and/or ability to communicate, and why?

5. Have you done anything to work on your stuttering and your ability to communicate? And if so, what have you done?

o What type of work? (i.e., self-help, support groups, conferences, speech therapy)

o For how long?

o What impact did that work/group/therapy have on your stuttering and ability to communicate?

o Were any of these groups/situations helpful? And if so, why?

6. Is there anything else you want to tell me about being a person with a stutter and how your life experiences had an effect on your stuttering?

**Questionnaires and Scales**

The participants completed three different questionnaires and scales measuring traumatic events, personal assessment of the speaking experience, and personal beliefs discerning external and internal locus of control. Each measure is listed and explained as follows:

- Traumatic Life Events Questionnaire (TLEQ)

- Overall Assessment of the Speaker's Experiences of Stuttering (OASES)

- Multidimensional Locus of Control Scales (MLC)

*Traumatic Life Events Questionnaire (TLEQ)*

According to Kubany et al. (2000), the Traumatic Life Events Questionnaire (TLEQ) is a self-report used to assess the 22 types of traumatic events (as cited by Wolf, Miller, & Brown, 2011). Events include natural disasters, parental violence, physical and sexual abuse, motor vehicle accidents, death of a loved one, assault, witnessing assault, abortions, pregnancy complications, family or self-illnesses. Participants reported on the frequency of events they had experienced indicating on a 7-point scale the responses "never" to "more than 5 times." If the participant experienced a traumatic event, he/she had to describe if that event caused fear, horror, or helplessness, and other indications of the outcome of the event. Kubany et al. indicated that this measure has good test-retest reliability, well-above average content and convergent validity, and good predictive validity (as cited by Wolf, Miller & Brown, 2011).

*Overall Assessment of the Speaker's Experience of Stuttering (OASES)*

The Overall Assessment of the Speaker's Experience of Stuttering (OASES) is a 100-item self-report scale which assesses the experience of stuttering feelings, behaviors and attitudes from the perspective of the PWS (Yaruss & Quesal 2010). The OASES measures PWS' knowledge of stuttering, reactions to stuttering, ability to communicate in various situations, and

quality of life using a 5-point Likert Scale. The subscales of this measure include, OASES I:

general information; OASES II: reactions to stuttering (affective, behavioral, and cognitive

reactions to stuttering); OASES III: communication in daily situations (functional

communication difficulties); and OASES IV: quality of life (impact of stuttering on the speaker's

quality of life). The scoring indicates the impact of stuttering on the speaker's life experience in

the form of a severity index (Bleek et al., 2012). Yaruss & Quesal (2006) carried out extensive

testing and further analysis of the four sections of the OASES in order to determine the reliability

and validity of this instrument. A high degree of test-retest reliability, and strong content and

construct validity among test items and test sections were found.

*Multidimensional Locus of Control Scales (MLC)*

Developed by Levenson (1973), the Multidimensional Locus of Control Scales (MLC)

scale is a 24-item Likert-type scale designed to measure "the degree to which a person perceives

daily occurrences of stuttering as a consequence of his or her own behavior" (Manning, 2009, p.

180). This scale was developed to discern the extent of one's perception of external control,

which is belief that events, people, or circumstances beyond the individual's control determine

behaviors. The scale also discerns the extent of one's perception of internal control, which is

their belief that their life consequences are a result of their own behaviors. Personal beliefs using

agreement and disagreement markings (-3-strongly disagree to +3-strongly agree) are summed

and given a score on a scale of 0 to 48 points, 48 points indicating the highest degree of

internality for an Internal locus of control (LOC), and higher degrees of externality for Powerful

Others and Chance LOC. Items 1, 5, 7, 8, 13, and 16 are scored in reverse order (Manning,

2009). In a study measuring the psychometric properties of the multidimensional locus of control

scales (MLC), Form A, for college students in Iran, results revealed an acceptable reliability and

validity of all IPC (Internal-Powerful Others-Chance) items of this scale

(Moshki, Ghofranipour, Hajizadeh, & Azadfallah, 2007).

# Chapter 4: Data Analysis and Findings

The data collected during the qualitative interviews among the five participants were analyzed for common themes. Additionally, the scores from the MLC, OASES and TLEQ were coded and analyzed for common themes and similar experiences between the interviews. Coding and analysis were carried out in several steps. First, participants received an anonymous identification code to maintain confidentiality during the collecting and analysis of data on the interviews and three scales. Second, the interviews were transcribed and each of the three scales was scored individually. Thirdly, the interviews and each of the scales were analyzed for common themes between the participants. Finally, participants' responses were compared and evaluated to identify common themes between the interviews and scales.

Data analysis demonstrated that negative reactions to stuttering tended to increase during or after stressful life events. For some participants, stuttering appeared to be connected to such events, but the relationship was not clearly identified. Participants' interview statements demonstrating a sense of personal self-control, resilience, and a positive attitude towards their stuttering were congruent with scores on the MLC and OASES.

Transcription and analysis of the Interviews between participants revealed six common themes. Each theme addressed areas such as stressful life events; earliest memories of stuttering; situations and stuttering; beliefs, thoughts, emotions and stuttering; positive outlook on stuttering; and self-help. These six common themes are listed in the following table.

**Section I: Interviews**

The following table presents commonalities among participants' responses in the interviews.

Table 1

*Common Interview Themes among Participants*

| Common Themes | Participants' Quotes |
|---|---|
| Stressful Life Events and Stuttering | Stuttering has made me a "better communicator, listener, more patient, confident, mood better." "Basically it (stressful events) makes me stronger… I can get through them (stressful events) and, that they don't have to stop me from living my life." ".. I can get through the very most difficult things that I never thought that I could get through in life." "Don't have to wait to be fluent to communicate." |
| Earliest Memories of Stuttering | Presentations, Speaking in class, Speaking in front of large groups |
| Situations and Stuttering | "My speech comes and goes… It all depends on my mood, depends a lot on the circumstances. If I have anxiety, or if I'm not in a good mood, or if I have to speak in front of a large class, and I wasn't prepared, those are usually fairly difficult." When the participant can "sense a hierarchy out in the world. "…feel(ing) like I'm low on the totem pole.. I stutter more." When feeling like the "small person in the conversation," and experiencing "psychological power dynamic" is what "exacerbates my (his) stuttering."<br>"Speaking to people whose opinion matters" "Fast conversations" "The telephone" "Speaking well and trying to do something else." "Trying to think and speak at the same time." "Speaking in front of large groups." |
| Beliefs, Thoughts, Emotions and Stuttering | Emotions & Beliefs:<br>"…been stuttering more, then feeling a bit frustrated, (feeling like I'm less able to communicate now although, not necessarily with my stuttering)…" "Feeling less communicative.. (at this particular moment)…" "Feeling less effective (as a communicator).." "Anxiety one of main concerns… Successful Stuttering Management Program (SSMP) improved anxiety." "CBT was a technique for understanding anxiety." Feelings of frustration. "The more anxiety you have, the more stressors, the less you can share with people."<br><br>Thoughts:<br>"Have been stuttering more on words that I have in the near past." "Difficult to say what I'm thinking." "Goal to not think about word when say word." "Don't always say what I need to say, major way it affects me." |
| Positive Outlook and Stuttering | Feeling more "confidence" and feeling "acceptance." "There's always challenges, whether it's your personal life,… (you) just (got to) be content with what you got. Just move forward with the tools that can help you." "I'm alive right now and I'm happy right now." |
| Self-Help and Stuttering | National Stuttering Association (NSA) local support groups and national conferences |

**Theme A: Stressful Life Events and Stuttering.** Three of the five participants (23, 47, 83) reported that general stress and internal expectations were factors contributing to maintenance of their stuttering behaviors. One participant indicated that general, blatant stress, and lack of sleep played in a role in the continuation of his stuttering. Another participant reported that internal "self-expectations," and "internally-generated stress" generated more stress, and that "stuttering (is) tied into that." Stressful life events such as choosing the correct major, the correct job, and going to college were external pressures contributing to his internal stress and high self-expectations. During those events, his stuttering had persisted.

A third participant identified a unique relationship between stress and stuttering by stating that "stress is totally connected to stuttering….and there's a correlation." He noted that "the more that you practice (techniques) in those situations, the more you see that you're less stressed. And the less stressed you are, the less you stutter." He continued by saying, "I get how it's all connected, how stressors can cause us to feel like we're gonna stutter." For this participant, stress played an important role in his life concerning his speech and communication. He noted that a higher degree of stress in his life was a direct reflection of a higher degree of stuttering at the time.

**Theme B: Earliest Memories of Stuttering**. During the interviews, the majority of participants (47, 65, 83, 89) described specific early memories related to the time they began stuttering. Presenting before classmates and/or colleagues, speaking in class and in front of large groups, as well as speaking with friends in social settings were reported to be the participants' earliest memories of stuttering. One participant indicated that when he was not prepared to give presentations to his class as a Teacher's Assistant, he felt more uncomfortable, which negatively affected his stuttering. Reading aloud in front of his fourth grade class was an early memory

associated with stuttering for another participant. He noted that "speaking in front of large groups" had been a struggle for him which has continued into adult work settings.

A third participant indicated that reading in class, giving oral presentations, and speaking with friends in social circles were difficult for him. He reported that he did not believe there was an acute onset of his stuttering, and that his stuttering was "always there… probably there when I was in kindergarten, but it didn't really bother me or influence my life at all … when I was in elementary school." This statement revealed that this participant's stuttering began at the typical early onset age and did not affect or impact the persistence of his stuttering throughout his primary or elementary school years. He noted that he became more aware of and ashamed of his stuttering as he progressed through higher grades in school. In this case, this participant experienced increasing feelings of awareness and shame towards his stuttering as his stuttering persisted into adolescence and adulthood.

The fourth participant described family pressures and his parents' divorce as his earliest memories of stuttering. He recalled that his grandfather "placed a lot of pressure on me to communicate," and often told him to "speak up, speak loudly." This participant stated that he was "not exactly sure how that (family pressure, divorce) relates to stuttering, but it does seem to be related somehow."

The participants did not openly indicate whether these early life experiences of stuttering had been at the exact time of onset of their stuttering. However, one participant recalled two family members (mother, grandfather) as being influences in causing pressure on him to communicate more clearly. Generally speaking, participants stated in the interviews that stuttering had already been occurring either before or during these early life experiences. While stuttering has persisted for these individuals over their lifetime, it is not clear as to whether these

early memories of stuttering or the typical development of chronic stuttering were the deciding factors that triggered their stuttering.

**Theme C: Situations and Stuttering.** External circumstances and internal emotional conditions (i.e., mood and anxiety) affecting the course of the participants' stuttering appeared to be a common theme for four participants (47, 65, 83, 89). Two participants reported that no specific situation affected their speech; rather general stress over time, and in the moment, reactions to stuttering, early experiences, and fatigue were contributing factors to an increase in stuttering.

In response to recalling memories of stuttering over his lifetime, one participant indicated that "It (stuttering) all depends, it seems at the time depends on my mood, depends on the circumstances. If I have anxiety, or … I'm in a good mood, or … I have to speak in front of a large class … and I wasn't prepared, those are usually fairly difficult." Feeling good, confident, prepared, or calm was suggested by this participant as salient factors contributing to fluent speech.

Situations that caused another participant to stutter more were when he could "sense a hierarchy out in the world..."…and when "feel(ing) like I'm low on the totem pole... I stutter more." In addition, feeling that he was the "small person in the conversation," due to experiencing a psychological power dynamic was what "exacerbates my (his) stuttering." Fast conversations were also more challenging for him. Speaking in daily conversations with people perceived by this participant to be more influential or important decreased his feelings of significance and self-worth and exacerbated his degree of stuttering.

A third participant remarked that "speaking to people whose opinion matters," was one situation that caused him to stutter more. This response is similar to the second participant's

response that when speaking with people who were higher up in the hierarchy in the world and when he felt like a subordinate to others, he tended to stutter more as well. Influential people were identified to be complicating factors for maintaining speech fluency for these two participants (47, 89). Additionally, speaking on the telephone, "speaking well and trying to do something else," "trying to think and speak at the same time," and "speaking in front of large groups," were other difficult speaking situations reported by this participant.

A fourth participant mentioned there are no specific situations which caused him to stutter, rather, it was "a condition of stress and early experience." He noted that reactions to stuttering were what caused him to stutter more. In this answer to the interview question, the participant continued to emphasize that "stress is totally connected to stuttering… and there's a correlation." He believed there's an area of the brain that, when under stress, is a trigger to making stuttering worse. This participant stated that "the more you practice (techniques) in those (stressful) situations, the more you see that you're less stressed… and the less stressed you are, the less you stutter." It appears that this participant has identified a relationship between more stress in the body and increased and persistent stuttering. Practicing techniques were what helps him decrease his stress level, which then decreased the frequency and persistence of his stuttering in that particular situation.

**Theme D: Beliefs, Thoughts, Emotions, and Stuttering.** Many of the participants (23, 47, 83, 89) reported experiencing increased feelings of frustration, anxiety, fear, and lower self-worth when thinking about and experiencing stuttering. Each participant noted these feelings occurred as a result of a stuttering moment or stressful life event involving a moment of stuttering. One participant expressed that he has "…been stuttering more… when feeling a bit frustrated, (feeling like I'm less able to communicate now although, not necessarily with my

stuttering)…" "feeling less communicative… (at this particular moment)." He also noted that "anxiety (is) one of (my) main concerns… Successful Stuttering Management Program (SSMP) improved anxiety… Cognitive Behavioral Therapy (CBT) was a technique for "understanding anxiety…" as factors influencing his thoughts and beliefs around dealing with stuttering.

This participant mentioned that stuttering caused him to feel more frustration, and at the same time feeling less effective as a communicator, but not due to his stuttering. A second participant stated "feeling less effective…" as a communicator. Another participant related that "the more anxiety you have, the more stressors, the less you can share with people." According to this participant, not being able to share with people was due to experiencing excessive anxiety. A fourth participant remarked that his "ability to speak is tied into self-value, …and when I can't speak fluently, when I can't say what I want to say, my self-value, a lot of times is in the toilet." Each participant reported that during times of stuttering, they might experience a range of feelings including frustration, anxiety, and of feeling like less of an effective communicator and like they have less self-worth. These statements revealed that stuttering negatively impacts one's feelings and attitudes, as well as a successful exchange of communication of ideas, feelings, and opinions.

Additionally, three of five participants (65, 83, 89) expressed their thoughts related to their stuttering, which include the following statements: "...have been stuttering more on words than I have in the near past..." A second participant noted that it has been "...difficult to say what I'm thinking." He indicated that he doesn't "always say what I need to say, major way it affects me." The third participant expressed that his "goal (is) to not think about word when say word." These statements from participants revealed a direct relationship between a stressful

stuttering experience and the negative thoughts, beliefs and emotions associated with that experience.

**Theme E: Positive Outlook and Stuttering.** While general stress, specific stressful life events, or traumatic events may have negatively impacted the participants at one or many times in their lives, they each expressed an attitude of resilience and positivity in spite of the painful experience of stuttering. One participant shared feeling "confidence," and that "stuttering had made me a better communicator, listener, more patient, confident, mood better." Another participant identified stuttering and life experiences as "challenging," but he is feeling "happy and content," and looks to "move forward." He also expressed that, "I'm alive right now and I'm happy right now." He continued to mention that "…I can get through the very most difficult things that I never thought that I could get through in life." Two participants remarked on the common theme of experiencing acceptance from others and themselves, as well as the need to provide more education and awareness of stuttering to others. Regarding stressful events, one participant remarked that "basically it (stressful events) makes me stronger… I can get through them (stressful events) and, that they don't have to stop me from living my life." He also indicated that one of his biggest revelations is that he "don't (doesn't) have to wait to be fluent to communicate."

**Theme F: Self-Help and Stuttering**. The majority of participants (23, 47, 83, 89) are currently involved in support groups for people who stutter through the National Stuttering Association (NSA) on the local and national level. The fifth participant made reference to a local support group he was informed of, however, he did not report attending a meeting. Every other participant mentioned that the NSA support groups and conferences have been helpful to their development as a PWS. One participant mentioned that the local NSA "support group and self-

help helped changed my mentality regarding stuttering, education and speech therapy was an asset too." These participants verbalized the positive benefits of such self-help groups, such as: making new friends, finding successful role models, experiencing acceptance, being in a supportive environment, and forming a more positive mindset of stuttering. Four the five participants (47, 65, 83, 89) noted that speech therapy programs, whether past or current, have been somewhat to mostly helpful in treating their stuttering. All participants commented on the helpfulness of general techniques or more specific techniques. Of these four participants, each noted some resistance, struggle, and difficulty utilizing their techniques outside of the therapy room. The participation in and benefits of self-help groups appeared to be a commonly shared experience for four of the five participants. As indicated in the interviews, these NSA support groups provided these four individuals with new friendships, a supportive, safe environment, and a more positive view of their stuttering.

**Section 2:  Participants' Responses on the MLC, OASES and TLEQ**

Participants completed three standardized scales, the MLC, OASES and TLEQ, to further evaluate the impact of their stuttering on their quality of life. The following table presents the participants' responses on the MLC.
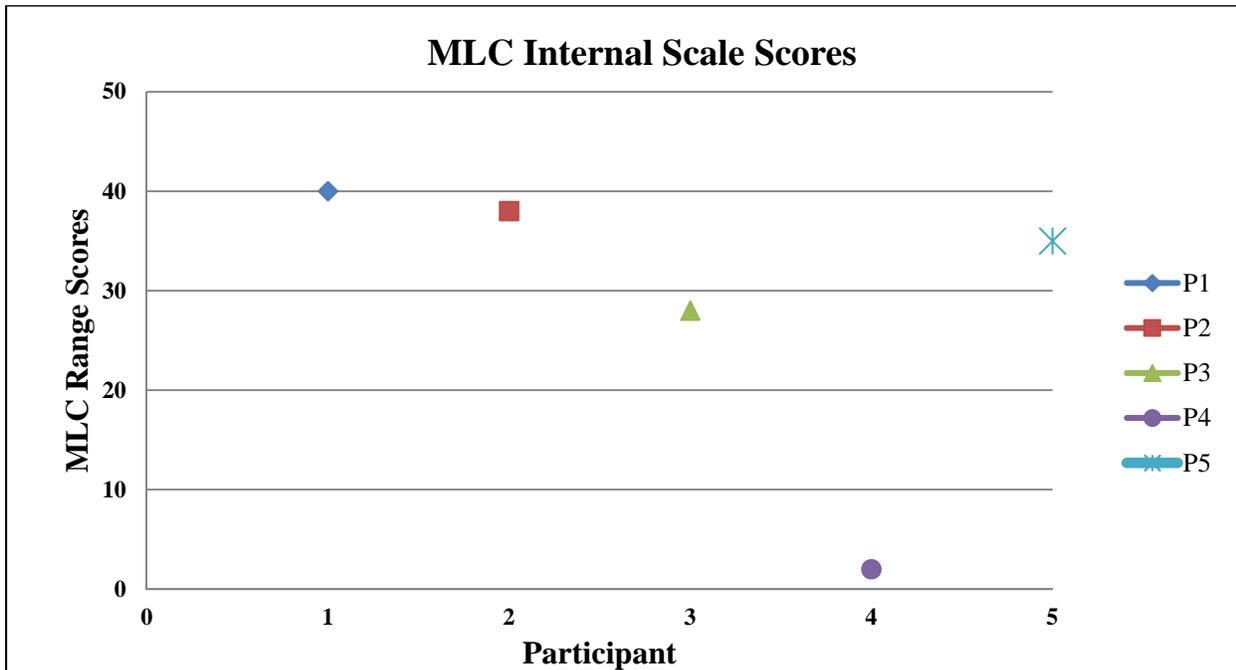


*Figure 1*. MLC Internal Scale Scores

Three participants maintained scores within a five-point range between 35 and 40 points on the Internal Scale Scores. These numbers are higher on the continuum of the scale and indicate the individual viewing himself as having control over what happens to him. External circumstances do not dictate the direction of his life. He manages and directs his own life. For all MLC scale items marked with an (I), that indicated an item related to a response revealing an internal locus of control, two participants provided the same responses on three out of eight (I) items. Both individuals noted, "When I get what I want, it's usually because I worked hard for it," and "My life is determined by my own actions." For these same scale items, another participant with similar scores indicated feeling even stronger about completing what he has set

out to do and feeling "one hundred percent in control of my choices and my choices determine my life." Additional correlations were discovered between two other participants for three out of eight (I) scale items as they both indicated feeling strongly about whether or not one becomes a good leader depends on his own abilities, and "how many friends I have depends on how nice a person I am." Three of eight Internal Scale items, were found to be common attitude statements held by three participants when compared among them.
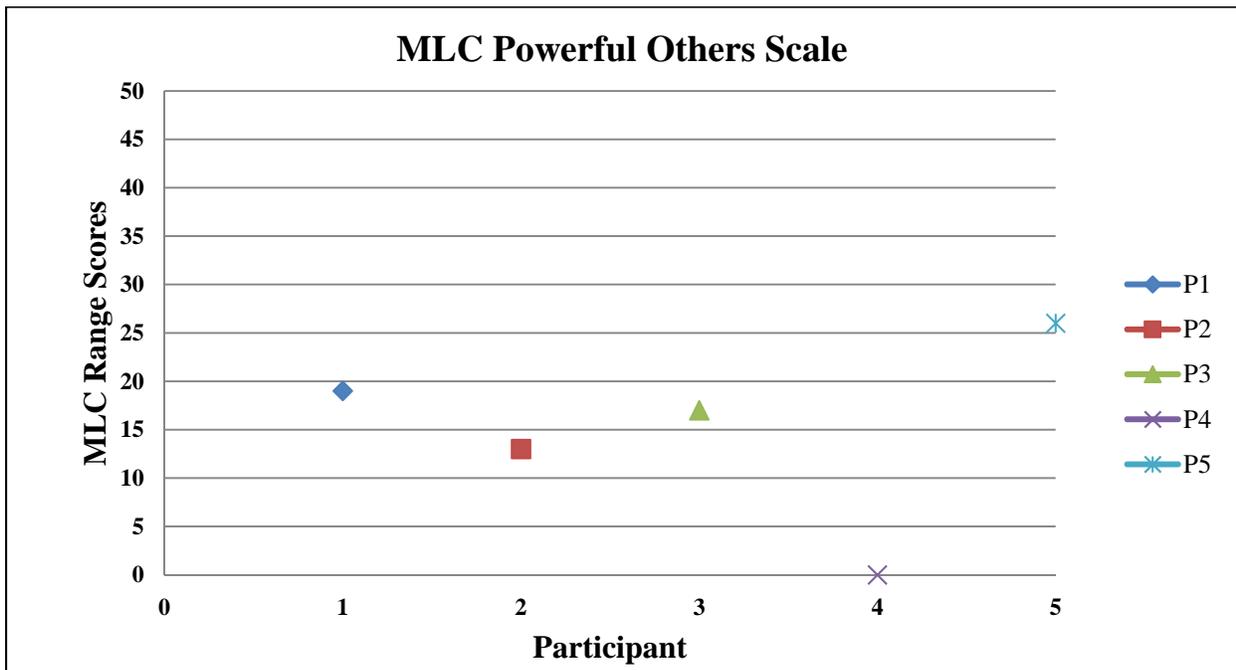


*Figure 2.* MLC Powerful Others Scale Scores

As shown in Table 3, participants' scores vary across a range of 0 to 28 points (median=24, range=0 to 48). Three participants (P1, P2, P3) obtained scores of 19, 13, and 17. These lower scores indicated a locus of control less concerned with the approval or influence of powerful others. That is, the influence of powerful others in the participants' lives did not impact the direction in their life or the choices they made. P2 and P3's responses demonstrated the most commonalities between four out of eight scale items associated with life decisions controlled by powerful others. For one scale item, they both indicated a score of -1 (-3=strongly disagree to

+3=strongly agree) which is "slightly disagree" with the statement, "Although I might have good ability, I will not be given leadership responsibility without appealing to those positions of power." This statement portrays these participants as individuals who believe it is within their ability, not by others' influence or opinion, to acquire and maintain positions of leadership in life. Four of five participants received Powerful Others Scale scores below the median; however, one participant received a score of 28, which reveals he possesses more of a tendency to believe that influential others have more of an influence over the outcomes of events in his life.
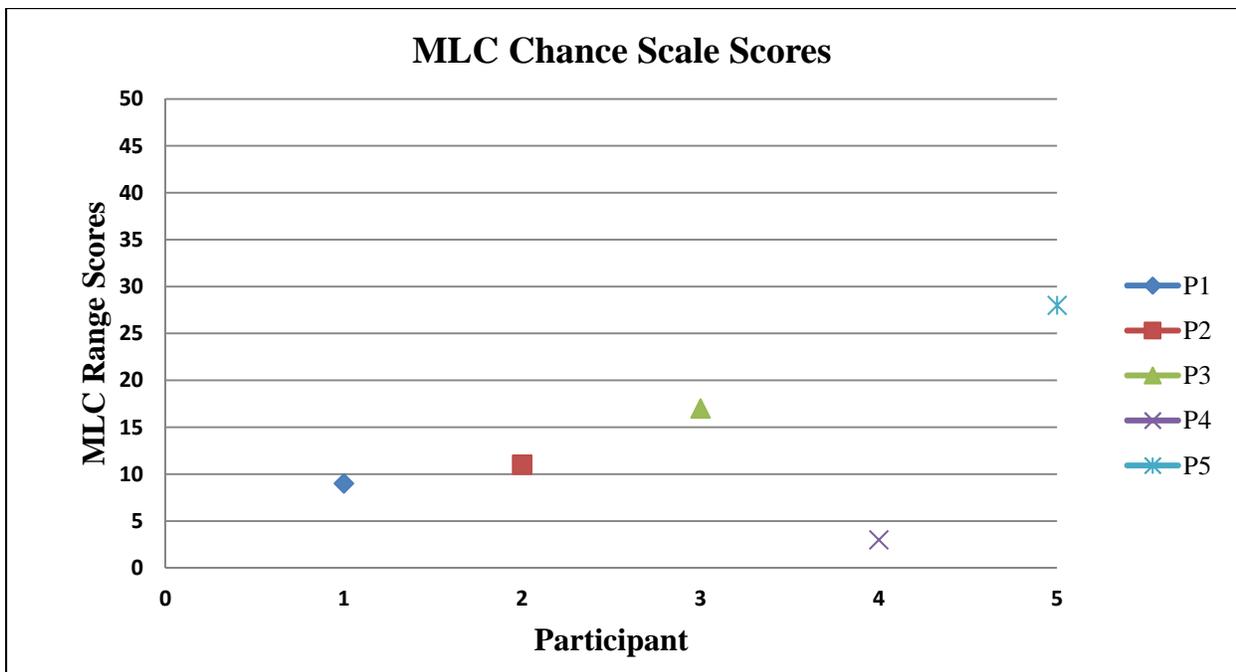


*Figure 3.* MLC Chance Scale Scores

Like the Powerful Others Scale scores, participants' scores on the Chance scale of the MLC varied from a range of 3 to 28 (median=24, range=0 to 48). Only two participants scored within 2 points revealing scores of 9 and 11. These scores, which lie on the lower end of the continuum, indicated a more internal locus of control. Both participants exhibited a score of -2 which is "somewhat disagree" to the attitude statement "To a great extent my life is controlled by accidental happenings." Also, they provided a score of -2 which is "somewhat disagree" to

the statement "It's chiefly a matter of fate whether or not I have a few friends or many friends."

In total, three belief statements were a direct match between these participants, a lower number

of matches for the other participants when scores were compared on either the Internal or

Powerful Others Scales. As a whole, the Chance Scale scores revealed more differences than

commonalities among all participants.

Table 2

*Summary of OASES Scale - Overall Impact Rating Scores*

| Impact Scores | Mild | Mild/Moderate | Moderate | Moderate/Severe | Severe |
|---|---|---|---|---|---|
| P1 | | 1.72 | | | |
| P2 | | | 2.26 | | |
| P3 | | 1.81 | | | |
| P4 | | 1.8 | | | |
| P5 | | | 2.79 | | |

The overall impact rating scores for the OASES revealed close connections between three

participants indicated by scores of 1.72 (Mild/Moderate), 1.81 (Mild/Moderate), and 1.8

(Mild/Moderate) that indicated a mild/moderate impact on the participants' experience of

stuttering. These three participants scored within +/- 2 points on Section IV: Quality of Life.

Their scores were most similar for items related to stuttering interfering with all types of

relationships and overall well-being and sense of self-worth. The following tables and scores

revealed further commonalities between participants' responses on each section of the OASES.

Section I: General Information of the OASES was not included in the report of scores due to its

minimal relevance to the purpose of the study.

Table 3

*Section II: Your Reactions to Stuttering*

| Impact Scores | Mild | Mild/Moderate | Moderate | Moderate/Severe | Severe |
|---|---|---|---|---|---|
| P1 | | 1.63 | | | |
| P2 | | | 2.47 | | |
| P3 | | 2.1 | | | |
| P4 | | 1.83 | | | |
| P5 | | | 2.8 | | |

All participants expressed varying total scores among Section II: Your Reactions to Stuttering. While many participants reported feeling more frustrated for the section regarding feelings around stuttering, the majority of responses did not show any further similarities. P3 and P4 demonstrated the most similarities between responses on Section II: Your Reactions to Stuttering. Both participants revealed minimal negative feelings towards/when thinking of stuttering, with feeling "frustrated" as a more commonly experienced emotion. Experiences of physical tension, secondary behaviors (i.e. eye blinks, facial grimaces, arm movements, etc. when speaking), avoiding situations and people and use of filler words or word substitutions were marked as "rarely" to "frequently" experienced. These participants expressed "strongly disagree" to "neutral" in response to agree and disagree statements regarding beliefs and attitudes of personal identity, control over and acceptance of stuttering. Both participants indicated feeling more confident in their abilities as a speaker and a strong attitude of feeling able to achieve goals in life. As a whole, each participant's experience of stuttering and their

reactions, both physical and emotional, to stuttering demonstrated more subtle differences than similarities.

Table 4

*Section III: Communication in Daily Situations*

| Impact Scores | Mild | Mild/Moderate | Moderate | Moderate/Severe | Severe |
|---|---|---|---|---|---|
| P1 | | 1.52 | | | |
| P2 | | 2.24 | | | |
| P3 | | 1.52 | | | |
| P4 | | 2.08 | | | |
| P5 | | | | 3.04 | |

OASES impact rating scores for two participants (P1, P3) on Section III: Communication in Daily Situations were the same, 1.52, a Mild/Moderate impact rating score. This section consisted of a list of daily situations that are most difficult for the respondent in four categories (general, work, social, home). Both participants identified all daily communicative situations as either "not at all difficult" to "somewhat difficult" as it impacted their speech fluency and communicative abilities. The remaining three participants' individual section and overall impact rating scores indicated more differences than similarities between participants for the impact of stuttering on daily communicative situations.

Table 5

*Section IV: Quality of Life*

| Impact Scores | Mild | Mild/Moderate | Moderate | Moderate/Severe | Severe |
|:---:|:---:|:---:|:---:|:---:|:---:|
| P1 | | 1.72 | | | |
| P2 | | | 2.26 | | |
| P3 | 1.4 | | | | |
| P4 | | 1.8 | | | |
| P5 | | | 2.88 | | |

More similarities were identified among three out of five participants for Section IV: Quality of Life. While the participants had varying experiences of stuttering and its impact on their lives, similar section scores of 33, 34, and 35 were received by three participants. These three individuals marked responses ranging from "not at all" to "a little" for the majority of section items, and "some" for only three section items between the three sections when asked questions about how much stuttering interferes with their overall quality of life, satisfaction with communication, relationships, career abilities and success, and sense of self-worth and well-being. Responses revealing the closest match were indicated on items related to relationships, self-confidence, and overall health, physical and spiritual well-being.

The following table presents participants' responses of traumatic life events and associated emotions on the TLEQ.

Table 6

*Summary of TLEQ scores*

| Participants | Count of Events (CE) | Count of Events Associated with Fear or Helplessness (CFH) | Number of Occurrences (OC) |
|:---:|:---:|:---:|:---:|
| P1 | 0 | 0 | 0 |
| P2 | 0 | 0 | 0 |
| P3 | 1 | 0 | 1 |
| P4 | 0 | 0 | 0 |
| P5 | 9 | 5 | 14 |

The Traumatic Life Events Questionnaire is a measure designed to analyze and assess the "PTSD symptomatology in response to the most distressing experience event, as identified on the TLEQ" (Kubany et al., 2000). Two of the five participants maintained a score of 1 or more for the Count of (Traumatic) Events (CE) occurring at some point in their lifetime. Of those two participants, one participant provided the highest scores, noting 9 total Count of Events (CE), 5 total Count of Events associated with Fear or Helplessness (CFH), and 14 total Number of Occurrences (OC). CE is simply the number of different traumatic life events experienced. CFH is the number of traumatic life events that produced feelings of fear or helplessness as a result of the event. Lastly, OC is the total number of discrete traumatic events experienced. The only similarity between the two participants who received scores were that they both responded to Item 24, which probed which one event caused the most distress, when did the event occur, and how much distress did it cause. The events they experienced were different in nature, occurred at different times, and caused differing levels of distress. This was the only mention of a distressing

event by the second participant. To summarize, two participants received scores on the TLEQ, while the other three mentioned no CE, CFH, nor OC. Of the events reported, the two individuals showed no similarities. Of each of the 3 scales and interview, the TLEQ provided the least amount and the least helpful information on the occurrence of distressing events and its impact on the participants' stuttering, of which there was no mention in the TLEQ either.

**Section 3: Commonalities among Interview Themes and Scores on the MLC, OASES, and TLEQ**

MLC responses and scores were found to be associated with the Interview Themes A, Stressful Events and Stuttering, and Theme C, Situations and Stuttering. Attitudes of feeling personal control over one's life reflected in the MLC matched well with interview statements regarding beliefs of one's ability to succeed and overcome obstacles. Such interview statements included: "...right now I think I'm pretty good at managing it (stuttering), so it doesn't hinder me as much it used to," "It's (stuttering) never really stopped me from doing anything," and, "What I get out of these stressful events is realizing that I can get through them and that they don't have to stop me from living my life." Participants' feelings that they have power over the outcome of their actions were reflected well in the more internally-focused LOC scores from the MLC Scale.

OASES responses and scores revealed congruencies with all of the Interview Themes except Theme 6, Self-Help and Stuttering, and Theme 2, Earliest Memories of Stuttering. Responses on Section II: Reactions to Stuttering and Section IV: Quality of Life of the OASES were well-reflected in the content of the participant interviews. In Section II, emotional reactions to stuttering, avoidance behaviors and belief statements were more frequently mentioned in the interviews, as well as indicated on the OASES. The types of belief statements of this section were similar to the belief and attitude statements indicated on the MLC Scale, of which the

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participants' responses were adequately reflected in both scales. In addition, Section IV on Quality of Life allowed the participants to indicate how much they believed stuttering interfered with overall health, self-confidence and self-worth. Their responses matched well with the MLC Internal, Powerful Others and Chance Scale scores.

No commonalities were revealed between TLEQ responses and Interview Themes. One of two participants who reported multiple, specific traumatic life events on the TLEQ and associated feelings of fear and helplessness did not verbalize any reference to these life events in his interview, nor did he discuss the emotional impact the events had on him. Due to no mention of these stressful life events between the TLEQ and the Interview Themes, the TLEQ did not provide an adequate reflection of this participant's stressful life experiences as it relates to the development and maintenance of his stuttering behaviors.

**Chapter 5: Discussion**

The results of the study reveal three key findings related to stuttering and its impact on the PWS' quality of life. Key findings are as follows: 1) an increase in negative emotions is related to an increase in stuttering due to situational and environmental stressors, 2) a consistent positive attitude was expressed despite negative reactions brought on by stressful events, 3) and the benefits of local and national support groups offered support and facilitate close friendships. The results of this study cautiously support this study's research hypothesis, stating the existence of a possible relationship between stressful life events and the development and maintenance of stuttering. The results reveal that stuttering is a contributor to an increase in negative emotions (e.g., anxiety and fear) and has persisted during difficult, sometimes stressful, speaking situations. This study found no association between stressful life events as measured by the TLEQ and the development and maintenance of stuttering, probably because the TLEQ was developed to measure post-traumatic stress disorder (PTSD).

**Areas of the Most Congruence in the Literature**

Previous work has suggested that distinct stressful life events may be related to the onset and development of stuttering behaviors (Guitar, 2006; Rotter, 1944). Among those, family visits, and starting school (i.e., in adulthood) were events mentioned by two participants that they felt played a role in the persistence of their stuttering patterns. Regarding negative emotions associated with stuttering, previous authors (Davis, Shisca, & Howell, 2006; Klompas & Ross, 2004; Treon, Dempster, & Blaesing, 2006) highlighted anxiety-fearfulness, sensitivity to stressors, low self-confidence and self-value, and frustration as common feelings experienced by many PWS and that have been shown to increase stuttering. Of all these emotions, the emotion

of frustration was reported as being the most common feeling experienced by this sample of participants.

The majority of participants indicated that general stress, anxiety, and various speaking situations (in front of large groups and audiences) were significant factors contributing to heightened stuttering. Likewise, Howard and Kubala (2005) reported that stress, fatigue and such environmental situations (e.g., speaking to large groups, audiences, and on the telephone) were revealed to exacerbate stuttering behaviors for a sample of 15 adult people who stutter. Given these similar findings, implementation of therapy plans addressing and overcoming situational fears within and outside of the clinical setting would appear beneficial for decreasing stuttering behaviors for PWS.

**Areas of the Most Incongruence in the Literature**

Prior studies identified psychosocial emotional disorders as a reasonable explanation for the development of stuttering (Treon, Dempster, & Blaesing, 2006).  The current study's findings are not congruent with the outcome of this prior work. The MLC and OASES scales of the present study were not designed to assess the existence of mental health disorders with the participants. The TLEQ was designed to assess PTSD symptomatology in clients experiencing distressing life events; however, as indicated earlier, the TLEQ responses by the participants do not provide sufficient, relevant information related to the impact of such events on one's stuttering.

Communication attitudes, temperament, shame, self-consciousness, quality of life and locus of control were variables measured within prior studies to investigate what impact stuttering had on the expression of these variables within a PWS. Such research themes were not consistent with the findings of this study.

Poorer communication attitudes of PWS, as reported by Lewis (1997) were not consistently referred to by the participants of this study. Two of five participants briefly mentioned feeling "less communicative" and "less effective" (as a communicator) in response to the impact stuttering has had on their ability to communicate. The relationship between temperament, stuttering, and anxiety were not identified as factors influencing the onset or persistence of stuttering for this sample of participants. One individual mentioned having a more sensitive nature, which may have caused an increase in his stuttering, but his response was inconclusive and uncertain. In addition, shame and self-consciousness were themes from previous work which did not corroborate with the current findings. Participants did not report having increased shame or feelings of self-conscious as a result of the experience of stuttering. (Patraka, 1998). While the interview questions were designed to be open-ended so as to allow for a variety of responses, this group of participants did not mention shame or self-consciousness as contributors to increased negative feelings or stuttering.

Prior studies hypothesized that stuttering negatively impacts one's quality of life due to increased feelings of "anxiety, shame, loss of control and avoidance" during and after a stuttering moment" (Bleek et al., 2012, p. 326). While this study's participants did mention having similar negative emotions associated with their own stuttering experience within various settings; their quality of life in all work, social, home, and personal settings was not reported as being adversely affected.

Previous studies focused on the effect of an internal or external Locus of Control on the subjects' feelings and attitudes related to stuttering (Patraka, 1998). The participants of the present study did not express a strongly held belief that their stuttering was the consequence of some external event, others' behaviors, fate, or chance. They did mention other external

circumstances (i.e., stress, fatigue, speaking to large groups and audiences) as factors which increased their stuttering temporarily. However, they did not see these external factors as the sole and consistent contributors to the onset and persistence of their stuttering behaviors. Findings from Table B, C, and D displaying the Multidimensional Locus of Control Scales scores, portray scores which fall within a normal range on the LOC continuum. Thus, none of the participants were identified as having a more external locus of control.

**Chapter 6: Conclusions**

The data analysis of the present study has revealed themes of increased feelings of fear, anxiety, frustration, stress, and/or confidence and inner strength as a result of persistent stuttering over time. The participants commented on how such stressful life events played a role in either the decrease or increase of negative or positive emotions. The participants did not, however, implicate these major life events in directly triggering, increasing or decreasing their stuttering.

The participants reported several specific daily communication situations (i.e., speaking on the telephone, in large groups, at family gatherings, in presentations, reading aloud in class, and blatant stress) which are common to all PWS, and during which they experienced more stuttering. However, there was no mention of these events contributing to the onset or development of their stuttering behaviors. The participants referred to a general time frame during early school years as the earliest memory of the time they began stuttering; however, no participant reported that a traumatic or stressful life event occurred at that time that caused or maintained any stuttering behaviors.

The participants revealed six common themes perceived to occur before or as a result of their overall experience with stuttering, and as a result of their involvement in self-help organizations and therapy services. The themes addressing Stressful Life Events, Beliefs, Thoughts and Emotions, and Situations and Stuttering, were the most relevant and salient commonalities identified among the participants. Of the six themes, the commonalities expressed within these three themes were the most useful in finding additional commonalities when cross-referenced with the responses on the OASES, MLC, and TLEQ scales.

The data and interviews obtained in this study reveal a desire by individuals who stutter to create meaningful friendships within a supportive, safe environment of people who stutter.

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Four of five participants indicated the benefits of increased friendships, feelings of support from others, feelings of acceptance and a more positive outlook on their stuttering and its impact on their lives. Two participants reported speech therapy as being mostly ineffective, and one participant mentioned traditional speech therapy for him was moderately helpful. The positive and hopeful remarks expressed by these four participants suggest a greater need for recommending and encouraging clients to consider attending local and national support groups to increase feelings of confidence, connection, and acceptance. Additionally, the common theme of reporting frustration and anxiety as a result of the stuttering experience suggests the need to investigate an individual's emotions, attitudes, and beliefs around stuttering for future clinical implications.

The findings of this study cautiously support the researcher's initial hypothesis of an existing relationship between stressful life events and the development and maintenance of stuttering. While the findings do not fully support the researcher's hypothesis, participants' responses suggested that an increase in negative emotions at the time of a stressful situation was related to increases in stuttering. More research should be done into how stressful situations may become stressful life events for people who stutter over time. Additionally, an investigation into whether the impact of stressful life events on the quality of lives of those who stutter who are associated with self-help groups is the same for those who are not involved in any support groups.

**Limitations of the Study**

The present design is a qualitative study. While qualitative research provides a detailed account of personal experiences and events of an individual or group, the findings cannot be generalized to a broader audience or the public arena ("Qualitative Research Methods," n.d.). Further, due to the open-ended nature of the interview questions, the participants' responses were not easily quantifiable and objective (Whorton, 2009).

The limited number of participants who were self-selected and not randomly chosen, the uneven allocation/distribution of ages, and the restricted range of varying demographic information, are all limiting factors of this study. Participants consisted of five male adults who stutter ranging in age from 27 to 44 years of age (M= 33.8, SD = 6.97).

A weakness of this present study is the participant population consisted primarily of people involved in self-help groups such as local NSA chapter support groups, NSA conferences, NSA online support groups. The responses from one participant who was receiving speech therapy services from the present study's Principal Investigator at the time of the study may have been biased due to a perceived desire to impress or please his therapist with the "correct" responses.

Two of the measures used in this study (MLC, OASES) provided some insights for the purposes and intentions of this study; however, the design of the TLEQ did not appear to be an appropriate scale to measure relevant experiences of the participants. Rather, this measure was intended to measure the impact of specific traumatic events not related to stuttering on one's psychosocial functioning. The lack of participants' responses on the TLEQ indicates that this measure was not specific enough to yield any information about participants' stress life events. Additionally, while Section I of the OASES (Section I: General Knowledge) provided interesting

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information to the researchers, the responses provided were not meaningful for the purposes of

the study.  The following section provides a direction for further investigation of topics related to

assessment and treatment of stuttering disorders.

**Directions for Future Study**

Table 10 outlines clinical implications related to each of the main themes expressed in the

interviews.

Table 10

*Clinical Implications from Emerging Themes*

| Study Theme | Participant Commonalities | Implications for Clinical Practice: Assessment and Intervention |
|---|---|---|
| Theme A: Stressful Life Events and Stuttering | "Basically it (stressful events) makes me stronger… I can get through them, and that they don't have to stop me from living my life."<br><br>"stress is totally connected to stuttering… and there's a correlation." | Investigate stressors for client; Address negative beliefs and emotions using CBT and mindfulness meditation; Openly share concerns within therapeutic and support group contexts |
| Theme B: Earliest Memories of Stuttering | Presenting before classmates and/or colleagues, speaking in class and in front of large groups | Attend to client's early life experiences in order to implement client-directed therapy |
| Theme C: Situations and Stuttering | "It (stuttering) all depends ...on my mood, …on the circumstances. If I have anxiety, or …I'm in a good mood, or …I have to speak in front of a large class …and I wasn't prepared, those are usually fairly difficult."<br><br>Fatigue, general stress, feeling like the "small person in the conversation." | Identify triggers for increased stuttering; Explore possible associated fears; Work up the hierarchy to desensitize client to feared situations |

| Theme D: Beliefs, Thoughts, Emotions and Stuttering | "The more anxiety you have, the more stressors, the less you can share with people." "Don't always say what I need to say, major way it affects me." | Evaluate locus of control using the MLC Scale; Directly address negative feelings, thoughts, and attitudes associated with stuttering within sessions |
|---|---|---|
| Theme E: Positive Outlook and Stuttering | Feeling more "confidence" and feeling "acceptance." "Just move forward with the tools that can help you." | Explore and discuss positive feelings towards stuttering; Create multiple successful communicative experiences |
| Theme F: Self-Help and Stuttering | Benefits of self-help support groups: <br> • Making new friends <br> • Finding successful role models <br> • Experiencing acceptance <br> • Being in a supportive environment <br> • Forming a positive mindset of stuttering | Provide information on self-help organizations and local support groups; Learn successes and failures of past therapy experiences; Establish a treatment plan based upon the client's wants and needs |

The results of this study have identified three key findings, which include 1) an increase in stuttering as a result of situational and environmental stressors is associated with an increase in negative emotions, 2) an optimistic attitude was expressed despite distressing feelings associated with stuttering, and 3) support groups at the local and national level are shown to be effective means for PWS to build meaningful relationships and openly share troubling emotions in a supportive environment. The analysis of the data from this study suggests that more directly addressing emotions, feelings and attitudes around stuttering throughout the assessment and intervention process would be most beneficial for the client. The way in which one can address these emotions and attitudes would be through a consideration of the implementation of CBT techniques and of discussions about the benefits of self-help support groups with clients.

As described by Jane Fry (2009), Cognitive Behavioral Therapy is:

> concerned with helping people to understand the way in which their thinking affects them on a day-to-day basis, and to cope with difficulties more effectively by being by being more flexible in how they look at and respond to situations, developing more effective problem-solving skills, maximising the use of more helpful self-talk, and developing life-enhancing core beliefs. (3)

Applying a cognitive and behavioral-based treatment approach such as CBT is suggested to be helpful in addressing and changing negative beliefs, thoughts and emotions for those struggling with troubling thoughts and feelings. Consideration of incorporating such techniques with clients who stutter may prove useful in reframing the negative mindset often accompanied in individuals who stutter.

Additionally, research has examined the positive benefits of mindfulness meditation for people who stutter, which include, "decreased avoidance, increased emotional regulation, and acceptance in addition to improved sensory-perceptual processing and attentional regulation skills" (Boyle, 2012). Brocklehurst (2013) indicated that mindfulness facilitates "development of a more realistic sense of self-esteem." Continuing to incorporate mindfulness meditation and CBT techniques into a client's therapy plan may be helpful.

The need for future research in the area of the impact of stuttering on one's quality of life and well-being is due to the positive comments made by the participants regarding therapy which focuses on exploring feelings and attitudes, and due to the mention of difficult emotions surrounding the subjects' stuttering experience. Since the participants commented more on their feelings and attitudes toward stuttering, and not so much on which techniques do or do not work,

a focus of future research exploring such feelings and attitudes in depth would be most sensible and relevant to the client.

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