

Copyright  
by  
Erin Jo Stergiou  
2014

**The Thesis Committee for Erin Jo Stergiou  
Certifies that this is the approved version of the following thesis:**

**Voluntary Stuttering and the Covert Stutterer**

**APPROVED BY  
SUPERVISING COMMITTEE:**

**Supervisor:**

---

Courtney T. Byrd

---

Elizabeth Hampton

**Voluntary Stuttering and the Covert Stutterer**

**by**

**Erin Jo Stergiou, B.A.**

**Thesis**

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

**Master of Arts**

**The University of Texas at Austin**

**May 2014**

## **Dedication**

First and foremost, this thesis is dedicated to my mother, Vickie, and to my late grandmother, Josephine. You are the two most important people in my life, and I owe you more gratitude than words can express. Thank you, and I love you. In addition, this thesis is dedicated to all those who stutter. My greatest wish in life is to continue to support you as both a clinician and researcher. Thank you for inspiring me to do more.

## **Acknowledgements**

I would like to acknowledge Courtney Byrd for giving me the opportunity to complete this project under her tutelage. Your endless support and guidance has been nothing short of amazing. Also, I would like to thank Zoi Gkalitsiou for being an integral part of the larger research study on which this thesis was based and Elizabeth Hampton for taking the time to provide me with insightful comments and edits. In addition, I would like to thank the two people who stutter who piloted the survey used in this research. Your recommendations were spot on. Finally, I would like to thank the people who stutter who were associated with the University of Texas Speech and Hearing Center and the National Stuttering Association (NSA) listserv that participated in this research. With your support, our knowledge of stuttering will continue to grow.

## **Abstract**

### **Voluntary Stuttering and the Covert Stutterer**

Erin Jo Stergiou, M.A.

The University of Texas at Austin, 2014

Supervisor: Courtney T. Byrd

The purpose of the present study was to investigate the use of voluntary stuttering among individuals who self-identify as covert stutterers. Specifically, this study explored the perceived thoughts and feelings of covert stutterers regarding the impact of this strategy on their speech and on their lives overall. Further, the present study touches on the seemingly paradoxical relationship of initial discomfort but greater benefit that covert stutterers may perceive with the use of voluntary stuttering. Data for this research was compiled from an on-line survey distributed to members of the National Stuttering Association listserv and clients of the University of Texas Speech and Hearing Center. Results from this study suggest that covert stutterers presented with less aversion towards voluntary stuttering than had been predicted. Furthermore, present data points to the general lack of use by many participants as one of the potential reasons for their expressed neutrality regarding this tool. The results from this study, however, should be considered in light of the large, but potentially homogenous pool of participants reached via survey distribution methods.

## Table of Contents

<b>INTRODUCTION .....</b>	<b>1</b>
<b>PURPOSE .....</b>	<b>3</b>
<b>BACKGROUND .....</b>	<b>4</b>
Covert stuttering defined.....	4
Evidence based practice: Beyond syllables stuttered.....	5
Hidden challenges .....	7
Intangibles.....	8
Technology, survey research and the covert stutterer.....	9
Voluntary stuttering defined .....	10
Implications for use.....	11
Voluntary stuttering in research .....	11
Voluntary stuttering and the covert stutterer .....	15
<b>METHOD .....</b>	<b>17</b>
<b>PARTICIPANT DEMOGRAPHICS .....</b>	<b>19</b>
<b>RESULTS.....</b>	<b>20</b>
Exposure .....	20
Initial perceptions.....	20
Use... ..	21
Perceived benefits .....	22
Techniques .....	22
Awareness .....	22
Tension.....	23
Situational .....	23
Fear reduction .....	23
Advertisement/Self-disclosure .....	23
Overall impact.....	24

Other considerations .....	24
<b>DISCUSSION.....</b>	<b>25</b>
Demographics .....	25
Exposure .....	27
Initial perceptions.....	28
Use....	30
Perceived benefits .....	31
Frequency of use .....	31
Techniques .....	31
Awareness .....	32
Tension.....	33
Situational .....	33
Fear reduction .....	33
Advertisement/Self-disclosure .....	33
Overall impact.....	34
Other considerations .....	34
<b>FUTURE RESEARCH .....</b>	<b>36</b>
<b>CONCLUSION .....</b>	<b>37</b>
Appendix: Survey Items .....	38
References .....	47



## INTRODUCTION

Stuttering is a complicated speech disorder, which can be defined as “an abnormally high frequency and/or duration of stoppages in the forward flow of speech” (Guitar, 2013, p. 7). Stuttering-like disfluencies can be categorized as whole word repetitions (we-we-we-we), sound syllable repetitions (w-w-w-where), and audible as well as inaudible sound prolongations (Ssssaturday, S---aturday). In addition to speech disfluencies, a person who stutters (PWS) may exhibit secondary behaviors such as eye blinking, jaw tension, finger tapping, and/or gaze aversion. Initially, these behaviors may be used to successfully escape from and/or avoid stuttered speech. Over time, however, these behaviors can and often do lose their novelty. Thus, their positive effect on fluency no longer exists and these behaviors remain, secondary to the primary behavior of stuttering (Guitar, 2013).

To date, the exact cause of stuttering is unknown, but research suggests that it is likely the expression of a heritable genetic component. The typical onset of developmental stuttering occurs prior to age 7. For some, stuttering may persist into adolescence and adulthood (American-Speech-Language-Hearing Association [ASHA], 2014). The overt speech behaviors characteristic of stuttering are often at the forefront of research in fluency disorders, but the observable manifestations are merely the tip of the iceberg (Sheehan, 1970). As Sheehan (1970) noted, the visible features of stuttering are a small portion of the larger, and potentially more detrimental, impact stuttering can have on the thoughts and feelings of a PWS.

Thus, in addition to the behavioral components that can be used to define stuttering, research investigating the affective and cognitive correlates of stuttering is critical to understanding what lies beneath the surface of this multifaceted disorder. The following thesis is a distinct part of a larger ongoing research project that was completed at The University of Texas at Austin.

## **PURPOSE**

The purpose of this study is to explore the use of voluntary stuttering among individuals who self-identify as covert stutterers, a “subset” of the stuttering population that is under researched (Douglas, 2011, p. 7). In specific, the present study will examine covert stutterers’ exposure to this strategy and the perceived benefits of its use, including the overall impact it has had on their lives. We hope that our empirical data will lend support to our clinical anecdotal data that suggests this seemingly contradictory practice of stuttering on purpose can be uniquely effective for covert stutterers.

## **BACKGROUND**

### **Covert stuttering defined**

Douglass and Quarrington (1952) discussed covert stuttering in terms of masked or interiorized stuttering, which was different from exteriorized stuttering (i.e., “overt verbal and motor manifestations”) (p. 378). Murphy, Quesal and Gulker (2007) defined covert stutterers as people who show “little or no overt stuttering behavior and appear to talk normally most of the time” (p. 4). The survey by Byrd, Gkalitsiou, and Stergiou (2014) asked research participants to identify themselves as covert stutterers (yes/no) by posing the question “Do you actively try to avoid or conceal your stuttering by substituting words, etc.?” (See Appendix for survey items). Although these definitions may appear to easily distinguish a relatively distinct group of individuals who stutter, this subset of the population is ambiguous at best. For example, a person who stutters may self-identify as being covert although unfamiliar listeners may be able to identify their stuttered speech. It can be argued then that many, if not most, PWS seek to hide their disfluency to varying degrees, and thus a large number likely consider themselves to be covert.

In 1952 Douglass and Quarrington completed a qualitative investigation of the interiorized nature of stuttering. From the findings, they rejected a “symptomatic” view of stuttering based on the observation of change over the course of a lifetime (p. 377). Although the notion that stuttering develops in a “fairly orderly sequence” has not been upheld, Douglass and Quarrington’s (1952) report on the intangible aspects of stuttering, specifically covert (interiorized) stuttering, remains relevant today (p. 377). In their

article, they insightfully described covert stutterers as being vigilantly aware of their speech to the point where any unanticipated speaking opportunity was considered alarming (Douglass & Quarrington, 1952, p. 379). Moreover, they noted the discrepancy between the behavior of stuttering and the covert stutterer's reaction to it (Douglass & Quarrington, 1952). They surmised that a covert stutterer may react to any overt disfluency catastrophically, a response seemingly in excess of the stuttering act (Douglass & Quarrington, 1952, p. 382). Douglass and Quarrington's (1952) study laid the foundation for future research into the underlying characteristics of stuttering, however, only recently have concerted efforts been made to measure these features quantitatively.

### **Evidence based practice: Beyond syllables stuttered**

The hidden nature of covert stuttering poses a unique challenge to medical model protocols used in the assessment, diagnosis and treatment of speech disorders. Wendell Johnson and other early founders of the field were committed to a perceptually based model of research that offered quantifiable scientific results (Perkins, 1990, p. 374). This method of measurement, however, is ill suited to the research and treatment of stuttering, as the features of this speech disorder cannot be adequately captured by a disfluency count. Covert stutterers present an even greater challenge to quantitative research methods. In order to account for these discrepancies, some researchers have proposed alternative definitions of stuttering. Perkins (1990), for example, defined stuttering as "the involuntary disruption of a continuing attempt to produce a spoken utterance" (p. 376). For Perkins, this description of stuttering more accurately encompassed the extent of the disorder from the involuntary "feeling of anticipated disruption to complete

blockage” (Perkins, 1990, p. 376). Perkins’ attempt at describing the nature of this complex disorder was a critical step towards the clinical acknowledgement and measurement of stuttering’s intangible features, which may be the primary features a covert stutterer experiences.

As Douglas (2011) pointed out, some professionals in the field of speech-language pathology (e.g., Ingham, 2003; Ingham & Cordes 1998) continue to firmly adhere to the medical model practice and maintain that “valid” research be based on empirical evidence, but, some critical changes have been made to the way in which the medical community considers disability (p. 12). In 2001, the World Health Organization (WHO) created the *International Classification of Functioning, Disability and Health* (ICF; WHO 2001), which redefined the way disabilities are considered (World Health Organization [WHO], 2014). Specifically, the ICF allowed for a universal method of judging the impact that a disability had on an individual’s daily functioning and overall quality of life. Consideration of these factors is especially important for those suffering from “invisible” or hidden disorders (e.g., chronic pain symptoms, covert stuttering, etc.). The ICF accounted for the measurement of physical/bodily deficits, life participation, and environmental (e.g., family, work, etc.) and personal factors (e.g., race, gender, age, education, etc.) influencing overall function (ASHA, 2014). With the inclusion of intangible factors in the ICF, other measures of quality of life and functioning specific to stuttering were developed.

The *Overall Assessment of the Speaker’s Experience of Stuttering (OASES)* is a standardized assessment used to capture the perceived impact that stuttering has on an

individual's life via a framework that aligns with the WHO classification of functioning (Yaruss & Quesal, 2006). The movement from a purely quantitative approach in the assessment and treatment of fluency disorders to what Tetnowski and Damico (2001) term a "constructivist" approach, or one that includes the affective and cognitive correlates of stuttering underscores a shift in focus from the listener's perspective to the speaker's (as cited in Douglas, 2011, p. 13). In her doctoral dissertation, Douglas (2011) reported on an in depth, but small, qualitative study from the individual perspective of six covert stutterers through their respective journey from attempting to conceal their stuttering to being more open about their speech. Although quantitative measures continue to be an important part in the research of stuttering, qualitative methods, like Douglas's, are on the rise, and may result in a more comprehensive understanding of this disorder. Subsets of the stuttering population, such as covert stutterers, stand to benefit greatly from the inclusion of this information.

### **Hidden challenges**

In his 1997 book, *Stuttering: A Life Bound Up in Words*, Marty Jezer wrote of the effect stuttering had on his life,

I would then feel shamed, embarrassed, stupid, scared. Not only for my stutter, but also because of how easy it was for me to lie. The truthful answer was that my stuttering was the defining fact of my life. It was my shadow, a ghost, the darkness within. (p. 83)

From this passage, it is apparent that Jezer endured a great deal of anguish because of stuttering. He also shared that in some way, he felt "lucky" that his stuttering

was prevalent enough that he was unable punish himself for every disfluent moment he experienced (p. 83-84). Thus, from Jezer's perspective, having to analyze and monitor his speech to such a stringent degree, as a covert stutterer might, would be unfortunate, to say the least. Jezer's discerning insight into his struggle with more overt stuttering is informative and speaks to the hidden challenges a covert stutterer may face.

To further understand covert stuttering, it is important to identify the elements beneath the water's surface, or those that comprise 90% of Sheehan's (1970) iceberg. In 1995, Cooper and Cooper put forth a way of categorizing the correlates of stuttering by breaking them down into affective (emotion), behavioral and cognitive (thoughts) components, or the ABCs of stuttering. Douglas's (2011) qualitative investigation into the transition of stutterers from more covert to overt provided in-depth information on these intrinsic correlates.

### **Intangibles**

According to Menzies, Onslow, and Packman, anxiety is one of the most well researched correlates of stuttering (as cited in Douglas, 2011, p. 21). Although anxiety is commonly considered in the research and treatment of people who stutter, the challenges associated with this concomitant symptom may prove even greater for a covert stutterer, creating an "additional layer of psychological distress" (Douglas, 2011, p. 22). In addition to an overall increase in anxiety, covert stutterers may experience debilitating social anxiety. Douglas (2011) pointed out that, "social phobia has largely gone undiagnosed and untreated within the population of PWS" (p. 23), and the social phobia experienced by a covert stutterer may be magnified, as they desperately seek to "pass" as



fluent. For covert stutterers then, anxiety related to social situations can manifest in extreme avoidance behaviors related to speaking, as these speakers find it difficult to feel secure due to the variable nature of their fluency (Murphy et al., 2007, p. 5). Moreover, avoidance type behaviors may integrate themselves into situations in which no speaking is required (Murphy et al., 2007, p. 6). Ultimately, the propensity to avoid could become a behavior so far embedded in the covert stutterers' self-image, that they have difficulty recalling and/or analyzing repressed events, behaviors, thoughts and feelings related to speaking (Murphy et al., 2007, p. 6). Overtime, a covert stutterer may experience these and other intangible correlates of stuttering over and over again, causing them to become an integral part of their daily life, self-perception, and societal persona. Although a covert stutterer may typically avoid discussing the impact stuttering has on his or her life, the Internet (e.g., web based blogs, chat rooms, podcasts, support groups, etc.) may support further dialogue about this disorder. As Douglas (2011) discovered, there is a heightened presence of covert stutterers interacting in various ways via the Internet (p. 41).

### **Technology, survey research and the covert stutterer**

Research reveals that the worldwide web is useful in reaching covert stutterers (Douglas, 2011, p. 49). In their study, Byrd et al. (2014) emailed surveys to former and current clients of the University of Texas Speech and Hearing Center (UTSHC) and other members of the stuttering community who were part of the National Stuttering Association (NSA) database. Their use of a survey research method allowed for ease of dissemination and garnered a number of valid participant responses. Survey research is also well suited to investigating populations such as covert stutterers who are minimally

understood, as it can provide firsthand knowledge of a speaker's, in this case the person who stutters, perspective by collecting quantifiable data that can then be generalized to larger populations. Although the advantages of survey research are many, this tool is not without drawbacks. Alternative qualitative types of research, such as semi-structured interviews, can provide more comprehensive information on the affective, behavioral and cognitive correlates of stuttering, whereas survey research limits participant responses to a set of pre-determined answers with fewer opportunities to comment freely.

With greater emphasis placed on the challenges and needs of covert stutterers in the field of Speech-Language Pathology and increased access to information and research via the Internet, the assessment, diagnosis and treatment of this complex clinical population can remain at the forefront of future investigations. Furthering the dialogue between researchers, clinicians and covert stutterers can improve evidence-based practice (EBP) used in the treatment of this disorder. To that end, Byrd et al. (2014) sought to explore the use of voluntary stuttering in PWS.

### **Voluntary stuttering defined**

Voluntary stuttering (VS) (also called pseudostuttering or negative practice) is the act of purposely producing stuttered speech, which can vary in manner. Voluntary stuttering can be produced to imitate a person who stutters' (PWS) actual stutter, or it can take the form of "bouncing" (easy, sound, syllable repetition) or "sliding" (easy, prolongation of sound) (Sheehan & Voas, 1957, p. 715). It can be used in the clinic setting and in a variety of other speaking situations. Voluntary stuttering has been

suggested for use by researchers and anecdotally by clinicians as a way to effect change on both the observable and hidden features of stuttering (Meissner, 1946).

### **Implications for use**

Voluntary stuttering has been used in the treatment of PWS since the 1930's. Bryngelson proposed it be used to reduce a PWS fear of stuttering and the tension felt during a disfluent moment, and Johnson supported its use in a tension free form (i.e. "bounce") to decrease avoidance behaviors (as cited in Grossman, 2008, p.18-19; Meissner, 1946, p.13). In *Speech Corrections, Principles and Methods* (1939), Van Riper discusses the use of voluntary stuttering or "faking spasms" as a way for a PWS to improve their "mental hygiene" (p. 365). Like Johnson, Van Riper (1939) suggested VS be produced without tension. By engaging in VS, Van Riper (1939) believed a PWS could develop a more objective view of their speech and a greater sense of self-confidence, and that these positive effects could be transferred to actual stuttering moments. To achieve these benefits, Van Riper (1939) proposed a rigorous course of daily VS practice in a variety of situations. Sheehan and Voas (1957) promoted the use of tension free VS based on its ability to support a PWS in feeling more comfortable with stuttering and approach future speaking situations with less anxiety (p. 721). Although it is apparent that researchers disagree about the purpose of VS and the way in which it should be produced, all advocate for its use with clients who stutter.

### **Voluntary stuttering in research**

Few studies investigating the effects of voluntary stuttering on observable behaviors have been completed. Fishman (1937) researched the use of VS ("negative

practice”) in the form of imitation of actual stutters in five participants (p. 67). Findings from this study revealed that participants whose actual stutters consisted of the repetition of words and/or sounds showed improvement in fluency during oral reading tasks with negative practice, but that the participants whose stuttering was characterized by blocks showed an increase in stuttering frequency.

Meissner (1946) investigated the use of VS in the form of “bouncing” (i.e. VS without tension) on stuttering frequency during oral reading tasks (p. 15). In this study, 24 PWS participated in reading passages produced with predetermined, varying amounts of VS. Researchers found the greatest decrease in stuttering occurred when participants voluntarily stuttered on twenty-five or fifty percent of words in a passage. This same effect was not seen in passages marked for zero or five percent VS. Furthermore, control passage (did not require VS) readings had the greatest decrease in stuttering frequency when read after an experimental passage requiring 50 percent VS. Although Meissner’s study appears to support the notion that VS can lead to a decrease in the frequency of stuttering within a reading exercise, it remains unclear how experimental (marked for VS) and control passages (no VS) were compared with regard to the frequency of stuttering on non-marked words.

In 1957, Sheehan and Voas researched the differences in stuttering occurrences in the first and last of 6 oral reading passages across three experimental groups that each employed a different type of VS (imitation, bouncing and sliding) and a control group. Although the bouncing and sliding groups were initially faster at adapting to the oral

reading passages, on the sixth reading trial, the control group exhibited the largest decrease in stuttering frequency.

Saltuklaroglou, Kalinowski, Stuart, and Rastatter (2004) investigated the fluency benefits of producing and perceiving easy, syllabic repetitions in PWS. This study included 10 adult participants engaging in oral reading tasks in four experimental conditions. Findings revealed that for the active and passive conditions in which syllabic repetition was either heard or produced, there was a decrease in stuttering.

Each of the aforementioned studies investigated whether the use of VS decreases the frequency of stuttering behavior. Although these studies were based, in part, on the theoretical belief that VS can help to desensitize a PWS to their stuttering, they did not qualitatively assess participant gains related to the use of VS on the affective and cognitive correlates of stuttering.

In contrast to previous research, Grossman (2008) employed a mixed methods design to investigate the effects of VS on the overt and underlying factors related to stuttering. Most notably, Grossman (2008) explored the feelings and attitudes of PWS regarding their use of VS. This focus on the perspective of PWS regarding their feelings, attitudes and thoughts about their speech is sorely lacking in the field of speech-language pathology, as observable behaviors of fluency may be considered more clinically relevant or in line with EBP. In the experimental portion of Grossman's (2008) study, 10 participants completed a narrative task; watching and retelling one of three different cartoon stories in one of three different conditions. Conditions included a) baseline task, b) VS (in the form of bouncing) when prompted by the blinking of a light, and c) retelling

the cartoon without VS but with blinking light stimulus present (p.43). Findings of the experimental portion showed that VS (bouncing) significantly reduced stuttering frequency and observable secondary behaviors in all participants (p. 115). For the qualitative portion of the study, Grossman (2008) utilized a semi-structured interview format to investigate the perspectives of six PWS who had either used VS or who had been introduced to it (p. 53). Participant responses were then recorded and interpreted for analysis by Grossman (p. 80). Findings of these interviews were found to center around six major themes: changes in speech behavior, use of VS as it relates to other parts of therapy, effect on listener reactions, resulting affective changes, and cognitive changes regarding stuttering, and other terms used to describe VS. Although some basic themes were discussed, participants expressed a variety of different notions about how VS should be produced and the perceived benefits of its use (p. 85).

Grossman (2008) found that varied types of VS (i.e., tension free sound repetitions/prolongations or imitation/negative practice) and the frequency with which participants used them affected their perceived benefits of this strategy (p. 84). For example, one participant who did not use VS in the form of syllable repetition reported that VS helped him to use other techniques, which may have indirectly decreased his stuttering frequency (p. 83-84). In addition, the participant who reported having very little experience using VS was found to have received the fewest personal benefits (p. 93). Participants reported that VS was useful in learning therapy techniques, in feeling a sense of control over their speech and in producing their stuttering with decreased tension (p. 82). Participants also commented on their success at producing VS, its use in specific

speaking situations such as phone calls, and the frequency of use that was believed to garner the most benefits (p. 87).

With regards to behavioral changes associated with the use of VS, all participants reported that VS was beneficial for coping with the overt characteristics of stuttering (i.e., frequency and visible tension) (p. 88). Furthermore, participants stated that VS supported their ability to be desensitized to stuttering and become more aware of their own stuttered speech (p. 90). Some participants reported using VS as a “repair” strategy for getting out of blocks and managing their speech in everyday and stressful speaking situations (p. 92-94). In addition, participants found that VS supported their ability to maintain eye contact, improved their listening skills and had a positive impact on their ability to focus on speech targets (p. 96). Participants also indicated that VS be used outside the clinic setting, even after the course of therapy had ended (p. 100).

With regard to affecting listener reactions, participants reported that VS reduced the anticipation of negative reactions on the part of their listener and that the act of VS required less tension than their actual stutters (p. 101). Participants also perceived that VS served to further develop trust in the clinician/client relationship when clinicians were willing to model its use (p. 99).

### **Voluntary stuttering and the covert stutterer**

Clinical anecdotal data and objective measures have shown that the use of VS can have beneficial effects on the lives of PWS. However, clinicians also commonly report that clients are initially hesitant to purposely engage in the very behavior they seek to avoid. It is logical then, to assume, that those PWS who self-identify as covert may

experience even greater aversion toward the use of VS, as they spend a good deal of time avoiding overt disfluent behaviors. Ironically, however, although a covert stutterer may initially experience more anxiety regarding the use of VS, they may ultimately receive the most benefit. As covert stutterers engage in more severe avoidance behaviors, they may face intensified negative thoughts and feelings regarding their speech. For this reason, VS may play an even greater role in the treatment and lives of covert stutterers. In order to best determine the impact of VS on this subset of the stuttering population, the present study's purpose is to report on the use of VS from the perspective of the covert stutterer. Specifically, the present study will explore the covert stutterers' exposure to this strategy as well as perceived benefits, and the overall impact covert stutterers feel VS has had on their lives. Finally, clinical implications of these findings and future areas of research related to the use of VS will be discussed.



## **METHOD**

The method described below is the method used in a larger scale research study completed by Byrd et al. (2014) at the University of Texas at Austin. The survey used to gather data for this study was created by an Associate Professor at the University of Texas at Austin, Dr. Courtney Byrd, PhD, CCC-SLP, doctoral student Zoi Gkalitsiou, MS, CCC-SLP and graduate student Erin Stergiou, BA. A pilot survey containing 56 items was administered to two people who stutter, a doctoral student in Communication Sciences and Disorders and a doctoral student in Government. Pilot participants reported having received speech therapy services in the past. Based on the feedback provided by these participants, the survey tool was revised to include a total of 46 items (see Appendix for survey items).

The final set of survey items was then entered into Qualtrics, a web based survey research tool offered to University faculty and students at no cost. The survey contained multiple choice, fill-in and open-ended items. Items 1-14 requested demographic information about participants, including age, gender, and stuttering symptoms. Item 10 asked participants to report on any cognitive, neurological, or physical impairment that may have contributed to their stuttering. Items 15-27 were designed to assess a participant's familiarity with VS, including a participant's use of VS and initial feelings regarding its use. If participants indicated that they were not familiar with VS, they were not asked to provide any further information and directed to the end of the survey. Items 28-45 were devised to elicit information regarding the affective, behavioral and cognitive

correlates of participants who reported familiarity with VS. The final survey item (46) was open ended and allowed participants to include any additional comments.

To participate in the survey, respondents had to be at least 18 years of age, a person who stutters and not report any prior cognitive, neurological or physical impairment that may have contributed to their stuttering. If participants provided a response indicating that they did not fulfill this set of inclusionary criteria, they were automatically directed to the end of the survey and asked no further questions.

Inclusionary criteria were also presented in the email containing the survey link that was distributed to potential participants. This email served as a cover letter and was approved by the Internal Review Board (IRB) at the University of Texas at Austin and the National Stuttering Association (NSA). In addition, the email explained the study's purpose, participant eligibility and right to anonymity. No survey items asked participants to provide identifying information and Qualtrics assigned each survey a random identification code, which could not be traced back to participant email addresses. The email containing the survey link was distributed to former and current UTSHC clients, members of the NSA listserv database, and indirectly, by participants forwarding the email on to others.

Overall, a total of 397 surveys were returned. Of these, 206 surveys were included for analysis in the larger study of Byrd et al. (2014) and 191 were excluded for not meeting the inclusionary criteria discussed above. The current study is based on the responses of 117 of the 206 participants in Byrd et al. (2014) who reported being covert stutterers.

## **PARTICIPANT DEMOGRAPHICS**

The 117 participants who self-identified as being covert are included in the following analysis. The data presented for each survey item is based on the total number of participants who chose to respond to that specific item. Thus, the total number of participant responses for each survey item varies accordingly. The participants who met the inclusionary criteria reported an age range of 18 to 70 years, with a mean age of 38 years. Approximately 64% (75 of 117) were males and 36% (42 of 117) females. Of the 113 participants who reported the severity of their stuttering, 42% (47 of 113) indicated mild severity, 35% (40 of 113) moderate, 22% (25 of 114) moderate to severe, and <1% (1 of 113) severe. One hundred and three participants (88%; 103 of 117) reported experiencing secondary behaviors.

## RESULTS

To enhance our understanding of the impact of VS on the covert stutterer, the results will first present findings on the covert stutterer's exposure to and use of VS. These data will then be followed by information on the perceived benefits of VS as indicated by participants and considered in terms of technique use, the development of awareness, reduction in tension and fear, and situational use. Furthermore, the benefits of VS will be explored as they relate to advertising or self-disclosing as a PWS, overall impact on participants' lives, and their thoughts on the use of VS in treatment.

### **Exposure**

Ninety-three percent of participants (109 of 117) reported having speech therapy in the past, with 80% (94 of 117) responding that they had not participated in speech therapy in the last 12 months. On average, participants last reported receiving speech therapy approximately 12 years ago. When asked how they first learned about VS, 61% (71 of 116) of participants reported that they learned of it in speech therapy, 4% (5 of 116) from another PWS, 15% (17 of 116) from text/on-line resources, 12% (14 of 116) in a support group for people who stutter and 8% (9 of 116) reported from "other" resources.

*Initial perceptions.* One hundred and sixteen participants responded to the survey item regarding initial feelings about VS. Of these participants, 4% (4 of 116) reported being comfortable with VS initially, 9% (10 of 116) somewhat comfortable, 14% (16 of 116) neutral, 30% (35 of 116) somewhat uncomfortable, and 44% (51 of 116) were uncomfortable with VS initially. When first learning about VS, 74% (78 of 106) of

participants reported thinking that it would be too difficult to do in everyday situations and 14% (15 of 106) responded that it would be too difficult to do in therapy and everyday situations. No participants (0%; 0 of 106) thought VS would be too difficult to do in speech therapy and 12% (13 of 106) did not think it was difficult to do at all. In addition, when asked if VS was initially too *physically* difficult to use, 32% (33 of 104) of participants answered that it was not difficult to do. Similarly, when asked to if VS was initially too *emotionally* difficult to do, 62% (64 of 103) agreed that it was emotionally too difficult to do in everyday situations, but just under 3% (3 of 103) found it to be too difficult to do in speech therapy. About 15% (15 of 103) of participants reported that VS was not emotionally difficult to do.

## **Use**

Regarding the type of VS used, a majority (62%; 69 of 111) of participants reported that their VS did not sound like their real stutters, with the remainder (38%; 41 of 111) responding that their VS did sound like their real stutters. Of those reporting that their VS did not sound like their real stutters, 52% (35 of 67) indicated that their VS included sound/syllable repetitions without tension, 11% (7 of 67) produced VS as prolongations/blocks without tension, 15% (10 of 67) responded that their stuttering sounded like both sound/syllable repetitions and prolongations/blocks with no tension. The remaining participants (22%; 15 of 67) marked “other” for this item. Twenty-six percent (30 of 115) of participants reported that they have used VS inside the therapy room only, 10% (12 of 115) outside the therapy room only, 34% (39 of 115) both inside and outside the therapy room, and 30% (34 of 115) reported that they have not used VS

anywhere. When asked how often they used VS, 3% (3 of 101) of participants reported using it daily, 7% (7 of 101) used it 2-3 times a week, 8% (8 of 101) once a week, 10% (10 of 101) 2-3 times a month, 4% (4 of 101) once a month, 12% (11 of 101) less than once a year, and 56% (57 of 101) reported that they never used VS. Two percent (2 of 101) of participants reported that they used VS frequently, 4% (4 of 101) only in feared speaking situations, 13% (13 of 101) only when they thought they might stutter, 14% (14 of 101) in feared speaking situations and when they thought they might stutter, and a majority (67%; 68 of 101) reported that they do not use VS at all.

### **Perceived benefits**

*Techniques.* Of those participants who reported using VS to practice fluency shaping and/or modification techniques, a majority (55%; 26 of 47) reported that it was helpful or very helpful, 23% (11 of 47) were undecided, and 21% (10 of 47) indicated that it was not very helpful or not helpful at all. In addition 30% (31 of 102) of participants reported using VS to get out of an actual stutter. Of those who reported using VS to get out of an actual stutter, almost 87% (27 of 31) indicated that it really helped or somewhat helped them to do this and 14% (4 of 31) that it did not help them or made their stutter worse.

*Awareness.* Thirty-nine percent (40 of 103) of participants reported being neutral about whether VS was helpful in making them aware of how they stuttered. Twenty-seven percent (27 of 103) indicated that it was very helpful or helpful and 35% (36 of 103) that it was not very helpful or not helpful at all. Participants provided similar responses when asked if VS made them aware of any non-speech related, secondary

behaviors they experienced in a moment of stuttering. Thirty-seven percent (38 of 102) of participants reported being neutral with regards to this aspect of VS, 30% (30 of 102) found it very helpful or helpful, and 34% (34 of 102) found it to be not very helpful or not helpful at all in making them aware of secondary behaviors.

*Tension.* Forty-percent (40 of 101) of participants indicated that they strongly agreed or agreed that VS decreased the physical tension they typically felt during speech, 31% (31 of 101) neither agreed nor disagreed and 29% (30 of 101) disagreed or strongly disagreed.

*Situational.* With regards to situational use, 16% (16 of 130) of participants reported finding VS useful when speaking on the phone, 21% (21 of 130) when public speaking, 34% (34 of 130) when saying feared words and/or sounds, 15% (15 of 130) reported “other” and 44% (44 of 130) responded that they have not found VS useful.

*Fear reduction.* When asked about the impact of VS on their fear of stuttering, 0% (0 of 97) reported that it eliminated their fear, 37% (36 of 97) that it reduced their fear, 7% (7 of 97) that it increased their fear, 4% (4 of 97) that it significantly increased their fear, and 52% (50 of 97) of participants indicated that it had no impact on their fear of stuttering.

*Advertisement/Self-disclosure.* When asked if VS was a good way to advertise (or self-disclose) being a PWS, 41% (39 of 96) of participants strongly agreed or agreed, 38% (36 of 96) neither agreed nor disagreed, and 22% (21 of 96) disagreed or strongly disagreed.

*Overall impact.* When asked to indicate whether or not VS had a positive long-term impact on the severity of their stuttering, 20% (19 of 96) of participants strongly agreed or agreed, 47% (45 of 96) neither agreed nor disagreed, and 34% (32 of 96) disagreed or strongly disagreed. Furthermore, when asked if VS improved their overall quality of life, 23% (22 of 96) of participants strongly agreed or agreed, 45% (43 of 96) neither agreed nor disagreed, and 33% disagreed or strongly disagreed.

### **Other considerations**

Forty-eight percent (46 of 96) of participants reported that they strongly agreed or agreed that VS was an important part of speech therapy, with 33% (32 of 96) neither agreeing nor disagreeing, and 19% (18 of 96) disagreeing or strongly disagreeing with this statement.



## **DISCUSSION**

To review, as noted in Byrd et al. (2014), there is limited research regarding covert stutterers, a subset of the stuttering population. In addition, minimal data exist regarding the use of VS, such as the manner in which this strategy should be used (i.e. type of VS) and the location and frequency of use. The purpose of this study was to gather foundational descriptive data from the perspective of the covert stutterer on their exposure to and use of VS. A secondary purpose was to explore their perceived benefits of the use of this tool with respect to the following considerations: 1) ease with which VS helps them to learn fluency shaping and modification techniques, 2) whether use of VS facilitates the development of awareness, 3) if use of VS leads to fear and tension reduction, and 4) the benefits of VS use in specific communication situations. We also explored whether covert stutterers view VS as a form of advertisement/self-disclosure and the overall impact that the use of this technique has had on their lives.

### **Demographics**

A majority of participants indicated mild or moderate stuttering severity. Reports of more mild to moderate (and thus potentially less apparent) stuttering appears in-line with participants' identification as covert. Interestingly, however, most participants reported experiencing secondary behaviors in a moment of stuttering. For this survey item, participants were provided examples of secondary behaviors, including eye blinking, jaw tension, looking away, and finger tapping. A basic understanding of these behaviors lead researchers to presume that many covert stutterers engage in overt physical behaviors that are likely apparent to their listeners. This finding seems

inconsistent with a majority of participants who indicated a mild or moderate stuttering severity coupled with an attempt to hide their stuttering. Moreover, this finding underscores the difficulty in defining covert stuttering. Thus, a participant's self-identification as a covert stutterer may be incongruent with their success at hiding their stuttering. For some covert stutterers, the discrepancy between their reported stuttering severity and secondary behaviors may stem from a limited insight into the degree with which their physical behaviors are apparent to their listeners. Subsequently, although covert stutterers are aware that they engage in these behaviors, they may be unable to perceive the degree of their visibility to others. Furthermore, if engaging in secondary behaviors causes covert stutterers to have a diminished ability to hide their stuttering, is it not reasonable to assume that they would attempt to limit their use of (or avoid) these behaviors as well? Perhaps, answers to these questions would vary drastically from one participant to the next.

That being said, one consideration for this seemingly contradictory occurrence, is that participants who self-identify as covert view non-speech related secondary behaviors as having greater social acceptability (i.e. less noticeable), making them more likely to use these secondaries. In order to shed light on the discrepancy between speaker and listener perceptions, future research should seek to understand how these two perspectives are correlated. This relationship, or lack thereof, can then more readily be considered in terms of how it impacts the covert stutterer, especially in relation to the use of VS.

## **Exposure**

Almost all participants who identified as being covert reported receiving speech therapy for stuttering. If, as put forth in Murphy et al. (2007), covert stutterers are adequately defined as those who experience minimal to no overt stuttering behavior, it seems unlikely that such a large percentage of these participants would report receiving speech therapy (p. 1). As Murphy et al. (2007) intimated, covert stutterers may not self-report stuttering, and if they do, a speech therapist may not have the familiarity to appropriately diagnose and/or treat them (p. 6). These unexpected results may serve to refute the previously held assumption that covert stutterers are undertreated, due in part, to choosing not to seek help. It is important to note, however, that some survey items limited participants to a predefined set of responses. Moreover, the population to whom the survey was distributed consisted of members who presumably had some experience with speech therapy at UTSHC and/or with stuttering support organizations such as the NSA. Thus, participant data included in this study were confined by the limits of survey-based research and the chosen method of distribution.

Just over half of survey participants reported being familiar with VS. As almost all participants reported having had speech therapy in the past, this number is somewhat surprising and disconcerting. If most received speech therapy in the past, why did so few report being familiar with VS? Survey terminology may have impacted participant responses. Some participants may have been unfamiliar with the term “voluntary stuttering”. Instead, respondents could have been introduced to this tool in terms such as bouncing, sliding, and/or pseudostuttering. Consequently, participant responses regarding

these questions should be considered with these and other limitations in mind. It may be the case, however, that the speech therapists treating these participants were not familiar, and/or comfortable with VS. Additionally, they may have feared the covert client's rejection of this tool. Thus, uncertainty with regards to the tool itself and/or their client's aversion to it could have prevented them from using it in treatment. This reasoning, however, calls into question the degree of "covertiness" these clients presented with and their clinician's ability to address a (potentially) minimal number of true disfluencies.

For clients who exhibit little overt disfluency, VS can be used as a tool for teaching the use of fluency shaping and modification techniques. Survey item 16 (see Appendix for survey items) shed some light on these questions, as it asked participants to indicate how they first learned about VS. For this item, a majority of participants reported learning about VS in therapy. Thus, although most participants had some history of therapy, slightly more than half reported learning about VS in treatment. Many reported learning VS elsewhere, including from text and/or online resources and in a support group for people who stutter.

*Initial perceptions.* Approximately three fourths of participants initially felt uncomfortable or somewhat uncomfortable with VS. Based on clinical anecdotal reports, researchers predicted that covert stutterers would have reservations about stuttering on purpose. When first learning about voluntary stuttering, a majority of participants reported that they thought it would be too difficult to do in everyday situations. Although this result seems to align with the profile of covert stutterers, it is important to note, that no participant thought VS would be too difficult to do in speech therapy and some did not

think it would be difficult to do at all. In addition, when asked if VS was initially too *physically* difficult to use, more than a quarter of participants answered that it was not difficult to do. Similarly, when asked to denote if VS was initially too *emotionally* difficult to do, a majority agreed that it was too emotionally difficult to use in everyday situations, but very few found it too difficult to do in speech therapy. Moreover, about fifteen percent of participants reported that it was not emotionally difficult to do.

Taken together, these responses contradict the notion that covert stutterers have a general and/or far reaching aversion to VS, especially as it relates to the clinical setting. This is particularly important, as a majority of them learned about VS in speech therapy, but more than a quarter reported they had not used it anywhere. Several questions arise when considering participant responses to these items, with the most glaring being the discrepancy between participant knowledge of VS and their use of it. Many participants gained knowledge of this tool in speech therapy and none of them thought it would be too difficult to do, so why did over a quarter of them report not having used it anywhere?

Perhaps, speech-language pathologists are more apt to provide covert clients with information regarding VS, but are less inclined to ask them to produce it. A clinician may experience a heightened sense discomfort and overall hesitancy in asking covert clients to engage in this exercise. Moreover, these practitioners may erroneously believe that covert clients would be averse to using VS under any circumstances, and may draw the line at educating these clients regarding this treatment tool and stressing its importance or potential benefits without actually requiring them to use it.

## Use

In addition to the manner in which they first learned about VS, participants were asked to indicate whether their VS was produced like their real stutters. A majority reported that their VS did *not* sound like their real stutters. These participants were given the opportunity to describe what their VS sounded like. Over half of these participants indicated that their VS sounded like sound and/or syllable repetitions (also called bouncing) without tension, with fewer reporting that it sounded like prolongations/blocks (with or without sound) without tension, and some reporting that they produced both of types of VS without tension. Thus, a large majority of participants whose VS did not imitate their actual stutters produced VS without tension.

Researchers surmise that participants' use of different types of VS without tension underscores the variability with which VS is purported to be useful. Previous studies such as Fishman (1937), Saltuklaroglou et al. (2004) and Grossman (2008) reported benefits of VS production types without tension. However, only Fishman (1937) compared the use of VS with and without tension, and only Grossman (2008) gathered information on the affective and cognitive correlates of VS. None of these studies exclusively examined the impact of VS on covert stutterers. It is possible, even likely, that future studies investigating the use of VS in covert stutterers would yield a wide range of results, as challenges in defining, researching and analyzing this subset of the stuttering population persist.

## **Perceived benefits**

The “covert” of participants may serve to complicate the client/clinician understanding of the perceived benefits of VS. Thus, in an effort to circumvent the difficulty in finding congruence between these perspectives, this study only sought to explore the speaker’s experience with and perceived benefits regarding the use of VS.

*Frequency of use.* A majority of participants reported that they never use VS outside of therapy, and more than half answered that they do not choose to use VS at all. These findings may be due, in part, to the few benefits covert stutterers perceive regarding the use of VS, as less than a quarter of participants strongly agreed or agreed that VS helped them to stutter less and just under half neither agreed nor disagreed that VS helped them to stutter less. The conundrum, however, is that in order to experience the benefits of VS, a client has to consistently engage in it both inside and outside of therapy. Therefore, perceived benefits are critically compromised by the reported frequency and location of use of VS.

*Techniques.* Of those participants who reported using VS to practice fluency shaping and/or modification techniques, the majority reported that it was helpful or very helpful. In addition, some participants indicated that they used VS to “get out of an actual stutter”. Moreover, of those who reported using it to get out of an actual stutter, almost all indicated that it really helped or somewhat helped them. Although a relatively small number of participants reported using VS for this purpose, more than half of those who did found it beneficial. In the future, these findings can be used to further support the covert client’s use of VS in a variety of speaking situations.

*Awareness.* Slightly fewer than half of participants reported being neutral about whether VS was helpful in making them aware of how they stuttered, with over a quarter reporting that it was very helpful or helpful, and even more indicating that it was not very helpful or not helpful at all. These findings are in-line with participant responses to item 23 (see Appendix for survey items) regarding whether their VS sounded like their real stutters, with a majority reporting that they did not. Participants may not have found VS beneficial in making them aware of how they stutter because their VS was not produced to sound (and presumably feel) like their actual stuttering. It is important to point out, however, that just under half of participants were neutral regarding the benefit of VS. Thus, it is possible that participants reporting neutrality for this item would find VS in the form of imitation beneficial.

Data from this survey suggests that many participants may not have enough information and/or experience with the use of VS to accurately assess the associated benefits in gaining awareness of their stuttering. For instance, participants provided similar responses when asked if VS made them aware of any non-speech related, secondary behaviors they experienced in a moment of stuttering, with many being neutral with regards to this function of VS. Again, as a majority of participants did not produce VS that imitated their actual stuttering, they were not afforded the opportunity to gain awareness of their speech and/or secondary behaviors. It is critical to remember, however, that most participants reported experiencing non-speech related secondary behaviors. For these participants, improved awareness with the use of VS may be of great value.



*Tension.* Nearly half of participants indicated that they strongly agreed or agreed that VS decreased the physical tension they typically felt during speech, whereas the remaining participants (almost equally divided) neither agreed nor disagreed or disagreed or strongly disagreed. Responses to this item may be due, in part, to the majority of participants reporting that their VS did not imitate their actual stutters and of these respondents, more than half producing VS without tension. Thus, participants who utilized tension free sound syllable or whole word repetitions and/or prolongations may have found that this type of VS production differed from their actual stuttering in that it contained less tension. Over a quarter of participants neither agreed nor disagreed with this item, suggesting, again, that changes in the production of VS for these participants may impact the physical tension that they typically feel during speech.

*Situational.* When asked to indicate a variety of instances in which they have found VS useful, less than half of participants reported that they did not find VS useful, with the remainder finding it useful on the phone, when speaking in public, when saying feared words and/or sounds, and in other situations.

*Fear reduction.* When asked if VS had an impact on their fear of stuttering, just over half of participants indicated that it had no impact. These findings are consistent with responses to other survey items, which indicated that participants have not used VS anywhere. For these participants, the usefulness of VS, including a reduction in fear, may be unknown.

*Advertisement/Self-disclosure.* When asked if VS was a good way to advertise (or self-disclose) being a person who stutters, just under half of participants strongly agreed

or agreed, with the remainder neither agreeing or disagreeing or disagreeing or strongly disagreeing. This finding is not surprising, as it is logical that covert stutterers may be more willing to engage in a more implicit type of self-disclosure (such as VS) to explicitly stating that they are a PWS. Moreover, the participants who reported producing VS without tension may be more inclined to use VS to advertise being a PWS, as it is devoid of the tension that can accompany imitative VS. However, participants who engage in VS that is unlike their actual stuttering may not receive the intangible benefit of being more “open” and authentic with their listeners and/or explicitly self-disclosing that they are a PWS.

*Overall impact.* Slightly less than half of participants indicated that they neither agreed nor disagreed with regards to whether VS had a positive long-term impact on the severity of their stuttering. Participants reported similar feelings when asked if their VS had improved their overall quality of life, with just less than half neither agreeing nor disagreeing. Responses to these items further indicate a degree of indifference or neutrality on the part of participants who may or may not have used VS to a degree that would allow them to identify its overall benefits or lack thereof.

### **Other considerations**

The participants who indicated that VS was an important part of speech therapy (recall this was almost half of the participants) may have done so because they do not experience the degree of aversion to this tool, especially in therapy, that clinicians and researchers often ascribe. As seen in their responses to items 25, 26, and 27 (see Appendix for survey items), only small percentages of participants reported initially

thinking that VS would be too difficult to do (cognitively, physically, or emotionally). It should be pointed out, however, that these participants may have responded to these items based on their perception that VS of a certain type (i.e. without tension) and in a certain location (i.e. therapy) is what makes it important to include in treatment.

## **FUTURE RESEARCH**

Future research efforts related to this study should analyze various types of covert stutterers and their use of VS. Studies should compare participants who report using VS with a high degree of frequency and in a variety of situations both inside and outside clinic with those who experienced little exposure and use. Furthermore, they should consider the type of VS (imitation, bouncing, sliding, with or without tension) used by each participant to better understand which form offers the greatest benefits and for whom. Finally, further research should be done to improve our understanding of what it means to be a covert stutterer. Thus, efforts should be made to match the listener and speaker's perception of degrees of "covertiness" in order to determine how congruency between them can mediate the perceived benefits of VS.

## **CONCLUSION**

Findings from this study suggest despite having had speech therapy, many covert stutterers were unfamiliar with VS. Additionally, for those who had been exposed to this technique, a large majority reported not using it. It is probable, then, that participants were ill equipped to determine the true impact that VS had on their lives. Furthermore, the majority of participants reported producing VS without tension and never outside of therapy. Voluntary stuttering in the form of imitation may offer a more authentic application of this tool as a method for desensitization. In addition, many participants were neutral about whether or not VS had a positive long-term impact on their stuttering severity, which may be attributed to sheer lack of reported use. Finally, although clinicians often believe that “covert” stutterers will be averse to the use of VS, many survey participants reported that VS was an important part of speech therapy. This finding further underscores the importance of incorporating VS into the treatment of covert clients and of the need for its continued consideration in future research.

## Appendix: Survey Items

1. Are you age 18 or over?

☐ Yes

☐ No

If Yes Is Selected, Then Skip To What is your exact age in years? If No Is Selected, Then Skip To End of Survey

2. What is your exact age in years?

3. What is your gender?

☐ Male

☐ Female

4. Have you ever stuttered?

☐ Yes

☐ No

If Yes Is Selected, Then Skip To Do you currently stutter? If No Is Selected, Then Skip To End of Survey

5. Do you currently stutter?

☐ Yes

☐ No

6. What is the severity of your stuttering now?

☐ Mild

☐ Moderate

☐ Moderate to severe

☐ Severe

☐ I don't know

7. Do you experience any non-speech related, secondary behaviors in a moment of stuttering? (e.g. eye blinking, jaw tension, looking away, finger tapping)

☐ Yes

☐ No

If Yes Is Selected, Then Skip To The non-speech related, secondary beh...If No Is Selected, Then Skip To Do you consider yourself a cover stut...

8. The non-speech related, secondary behaviors I experience when I am stuttering include... (Choose all that apply)

- ☐ Eye blinking
- ☐ Jaw tension
- ☐ Looking away
- ☐ Finger tapping
- ☐ Other (please specify) \_\_\_\_\_

9. Do you consider yourself a covert stutterer? (i.e. Do you actively try to avoid or conceal your stuttering by substituting words, etc.?)

- ☐ Yes
- ☐ No

10. Do you have any cognitive, neurological or physical impairment and/or have you sustained any injuries that might uniquely contribute to your stuttering?

- ☐ Yes
- ☐ No

If Yes Is Selected, Then Skip To End of Survey. If No Is Selected, Then Skip To At what age did you first begin to st...

11. To the best of your knowledge, at what age did you first begin to stutter?

12. Over the course of your life, have you ever had speech therapy for stuttering?

- ☐ Yes
- ☐ No

13. Have you had speech therapy for stuttering at any time within the last 12 months?

- ☐ Yes
- ☐ No

If Yes Is Selected, Then Skip To End of Block. If No Is Selected, Then Skip To If it has been longer than 12 months,...

14. If it has been longer than 12 months, please indicate how long it has been (in years) since you had speech therapy for stuttering. (e.g. 3 years)

15. Are you familiar with voluntary stuttering?

- ☐ Yes
- ☐ No

If Yes Is Selected, Then Skip To How did you first learn about volunta...If No Is Selected, Then Skip To End of Survey

16. How did you first learn about voluntary stuttering?

- ☐ In speech therapy
- ☐ From another person who stutters
- ☐ From text and/or on-line resources
- ☐ In a support group for people who stutter
- ☐ Other (please specify) \_\_\_\_\_

17. What were your initial feelings about voluntary stuttering?

- ☐ I was comfortable
- ☐ I was somewhat comfortable
- ☐ Neutral
- ☐ I was somewhat uncomfortable
- ☐ I was uncomfortable

18. Where have you used voluntary stuttering?

- ☐ Inside the therapy room only
- ☐ Outside the therapy room only
- ☐ Both inside and outside the therapy room
- ☐ I have not used voluntary stuttering anywhere

19. Did you use voluntary stuttering to practice fluency shaping and/or modification techniques in therapy?

- ☐ Yes
- ☐ No
- ☐ I don't know

If Yes Is Selected, Then Skip To How helpful was voluntary stuttering ...If No Is Selected, Then Skip To Have you used voluntary stuttering to...If I don't know Is Selected, Then Skip To Have you used voluntary stuttering to...



20. How helpful was voluntary stuttering when practicing fluency shaping and/or modification techniques in therapy?

- ☐ Very helpful
- ☐ Helpful
- ☐ Undecided
- ☐ Not very helpful
- ☐ Not helpful at all

21. Have you used voluntary stuttering to get out of an actual stutter?

- ☐ Yes
- ☐ No
- ☐ I don't know

If Yes Is Selected, Then Skip To Voluntary stuttering...If No Is Selected, Then Skip To My voluntary stuttering sounded like ...If I don't know Is Selected, Then Skip To My voluntary stuttering sounded like ...

22. Voluntary stuttering...

- ☐ Really helped me get out of the stutter
- ☐ Somewhat helped me get out of the stutter
- ☐ Did not help me get out of the stutter
- ☐ Made my stutter worse

23. Did your voluntary stuttering sound like your real stutters?

- ☐ Yes
- ☐ No

If Yes Is Selected, Then Skip To When I first used voluntary stutterin...If No Is Selected, Then Skip To My voluntary stuttering sounded like\_...

24. My voluntary stuttering sounded like\_\_\_\_\_. (Answer this question only if your voluntary stuttering was not made to sound like your actual stutters)

- ☐ Sound and/or syllable repetition (also called “bouncing”) without tension
- ☐ Prolongations/blocks (with or without sound) and without tension
- ☐ Both
- ☐ Other (please specify) \_\_\_\_\_

25. When I first learned about voluntary stuttering, I thought it would be too difficult to do...

- ☐ In speech therapy
- ☐ In everyday situations
- ☐ In therapy and everyday situations
- ☐ Voluntary stuttering was not difficult to do

26. When I first used voluntary stuttering, it was too physically difficult to do...

- ☐ In speech therapy
- ☐ In everyday situations
- ☐ In therapy and everyday situations
- ☐ Voluntary stuttering was not difficult to do

27. When I first used voluntary stuttering, it was too emotionally difficult to do...

- ☐ In speech therapy
- ☐ In everyday situations
- ☐ In therapy and everyday situations
- ☐ Voluntary stuttering was not difficult to do

28. How helpful was voluntary stuttering in making you aware of how you stutter?

- ☐ Very Helpful
- ☐ Helpful
- ☐ Neutral
- ☐ Not very helpful
- ☐ Not helpful at all

29. How helpful was voluntary stuttering in making you aware of any non-speech related, secondary behaviors you experience in a moment of stuttering? (e.g. eye blinking, jaw tension, looking away, finger tapping)

- ☐ Very Helpful
- ☐ Helpful
- ☐ Neutral
- ☐ Not very helpful
- ☐ Not helpful at all

30. Voluntary stuttering has decreased any non-speech related, secondary behaviors I experience during moments of stuttering? (e.g. eye blinking, jaw tension, looking away, finger tapping)

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

31. Voluntary stuttering decreased the physical tension I typically felt during speech.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

32. How often do you use voluntary stuttering outside of therapy?

- ☐ Daily
- ☐ 2-3 Times a Week
- ☐ Once a Week
- ☐ 2-3 Times a Month
- ☐ Once a Month
- ☐ Less than Once a Month
- ☐ Never

33. When do you choose to use voluntary stuttering?

- ☐ Frequently
- ☐ Only in feared speaking situations
- ☐ Only when I thought I might stutter
- ☐ In feared speaking situations and when I thought I might stutter
- ☐ Not at all

34. The use of voluntary stuttering helped me to stutter less.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

35. Voluntary stuttering made me think differently about my stuttering.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

36. I have found voluntary stuttering useful... (Choose all that apply)

- ☐ When speaking on the telephone
- ☐ When public speaking
- ☐ When saying feared words and/or sounds
- ☐ Other (please specify) \_\_\_\_\_
- ☐ I have not found voluntary stuttering useful

37. The use of voluntary stuttering has...

- ☐ Eliminated my fear of stuttering
- ☐ Reduced my fear of stuttering
- ☐ Increased my fear of stuttering
- ☐ Significantly increased my fear of stuttering
- ☐ Had no impact on my fear of stuttering

38. The use of voluntary stuttering made me feel more confident in my speech.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

39. When I used voluntary stuttering, it helped make the person I was speaking with feel more comfortable.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

40. Voluntary stuttering was a good way to advertise (or self-disclose) that I am a person who stutters.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

41. Voluntary stuttering is an important part of speech therapy.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

42. Voluntary stuttering has reduced my avoidance of...

- ☐ Situations
- ☐ Sounds/Words
- ☐ Situations and sounds/word
- ☐ Other (please specify) \_\_\_\_\_
- ☐ It has not reduced my avoidance of anything

43. Voluntary stuttering has had a positive, long-term impact on the severity of my stuttering.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

44. Voluntary stuttering has improved my overall quality of life.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

45. Voluntary stuttering is something people should continue to use when not in speech therapy.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

46. Additional Comments:

--

## References

- American Speech-Language-Hearing Association (ASHA). (2014). *International classification of functioning, disability, and health (ICF)*. Retrieved from <http://www.asha.org/slp/icf/>
- American Speech-Language-Hearing Association (ASHA). (2014). *Stuttering*. Retrieved from <http://www.asha.org/public/speech/disorders/stuttering.htm#g>
- Byrd, C.T., Gkalitsiou, Z., Stergiou, E. (2014). *The impact of voluntary stuttering on the affective, behavioral, and cognitive correlates of stuttering*. Manuscript in preparation, Department of Communication Sciences and Disorders, University of Texas, Austin, Texas.
- Cooper, E.B., & Cooper, C.S. (1995). Treating fluency disorders in adolescents. *Journal of Communication Disorders*, 28, 125-142.
- Douglas, J.E. (2011). *An investigation of the transition process from covert stuttering to overt stuttering: An interpretive phenomenological analysis of individuals who stutter*. (Doctoral dissertation). Ann Arbor, MI: ProQuest LLC. (UMI Number 3459757)
- Douglass, E. & Quarrington, B. (1952). The differentiation of interiorized and exteriorized secondary stuttering. *Journal of Speech and Hearing Disorders*, 17, 377-385. doi:10.1044/jshd.1704.377
- Fishman, H.C. (1937). A study of the efficacy of negative practice as a corrective for stammering. *Journal of Speech Disorders*, 2, 67-72.

- Grossman, H. (2008). *Voluntary stuttering: A mixed-methods investigation*. (Doctoral dissertation). Ann Arbor, MI: ProQuest LLC. (UMI Number 3343421)
- Guitar, B. (2013). *Stuttering: An integrated approach to its nature and treatment (4<sup>th</sup> ed.)*. Baltimore, MD: Lippincott Williams & Wilkins.
- Ingham, J. C. (2003). Evidence-based treatment of stuttering: I. Definition and application. *Journal of Fluency Disorders*, 28, 197–208.
- Ingham, R. J., & Cordes, A. K. (1998). Treatment decisions for young children who stutter: Further concerns and complexities. *American Journal of Speech-Language Pathology*, 7(3), 10-19. doi:10.1044/1058-0360.0703.10
- Jezer, M. (1997). *Stuttering: A life bound up in words*. New York, NY: BasicBooks.
- Meissner, J.H. (1946). The relationship between voluntary non-fluency and stuttering. *Journal of Speech Disorders*, 11, 13-23.
- Murphy, B., Quesal, R.W., & Gulker, H. (2007). Covert stuttering. *SIG 4 Perspectives on Fluency and Fluency Disorders*, 17, 4-9. doi:10.1044/ffd17.2.4
- Perkins, W.H. (1990). What is stuttering? *Journal of Speech and Hearing Disorders*, 55(3), 370-382. doi:10.1044/jshd.5503.370
- Saltuklaroglou, T., Kalinowski, J., Stuart, A., & Rastatter, M. (2004). Voluntary stuttering suppresses true stuttering: A window on the speech perception-production link. *Perception & Psycholinguistics*, 66(2), 249-254.
- Sheehan, J.G., & Voas, R.B. (1957). Stuttering as a conflict: I. Comparison of therapy techniques involving approach and avoidance. *Journal of Speech and Hearing Disorders*, 22(5), 714-723.



Sheehan, J.G. (1970). *Stuttering: research and therapy*. New York: Harper & Row.

Van Riper, C. (1939). *Speech correction, principles and methods*. New York: Prentice-Hall.

World Health Organization. (2014). The international classification of functioning, disability & health. Retrieved from  
[http://www.who.int/classifications/icf/icf\\_more/en/](http://www.who.int/classifications/icf/icf_more/en/)

Yaruss, J.S., & Quesal, R.W. (2006). Overall assessment of the speaker's experience of stuttering (OASES): Documenting multiple outcomes in stuttering treatment. *Journal of Fluency Disorders*, 31, 90-115.