Exploring the Therapy Experience of Adults Who Stutter as it Relates to Inclusion of
Cognitive Therapy Components in Stuttering Therapy

By

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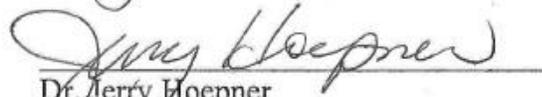University of Wisconsin-Eau Claire

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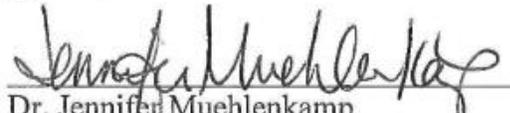
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In understanding the complexity of the experience of adults who stutter, it is essential to acknowledge that stuttering is present regardless of whether or not disfluencies are produced. Many adults who stutter often experience underlying anxiety, social avoidance, and depression related to their stuttering. Current therapy for adults who stutter relies on speech restructuring techniques alone and fails to provide adults who stutter with the opportunity to address the cognitive and affective components of stuttering, something valued by adults who stutter. Utilizing the principles of cognitive therapy approaches used in counseling psychology, such as Acceptance Commitment Therapy (ACT) and Cognitive Behavioral Therapy (CBT), to address these cognitive and affective components of stuttering has been explored in therapy for adults who stutter, but the research-base is limited. This study worked to add to the limited research base surrounding the use of ACT and or CBT in therapy for AWS by further exploring the impact of inclusion of cognitive therapy components on the therapy experience of adults who stutter. Four adults who stutter participated in this survey-based study examining their experience with stuttering and stuttering therapy. Data obtained from survey dissemination were interpreted as four individual case vignettes. Trends in the data

presented in each of the four individual case vignettes suggest that adults who stutter reporting involvement in ACT and or CBT experience a lower impact of stuttering on quality of life, low application of the stigma associated with stuttering, and high therapy satisfaction as it relates to knowledge gained about stuttering. Despite limitations due to the small sample size, these trends are consistent with the limited research base supporting the use of ACT and or CBT in therapy for adults who stutter. The promise found in the results of this study suggests a need to explore further this critical area of research that explores therapy techniques valued by adults who stutter.

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Introduction

Disfluencies, or disruptions in the forward flow of speech, are a prevalent feature

of speech for all speakers (Shriberg et al., 2001). Speakers of all languages and cultures

produce disfluencies consisting of revisions, interjections, phrase repetitions, whole word

repetitions, part word repetitions, audible prolongations, and inaudible prolongations

(Bloodstein & Bernstein Ratner, 2008). While all speakers produce all types of

disfluencies, in some cases, specific patterns of disfluencies, specifically disfluencies

occurring within a word (part word repetitions, audible and inaudible prolongations), are

more prevalent in a particular group. Developmental stuttering begins in childhood and

can be distinguished from everyday speech disfluency by both the number and type of

disfluencies. The disfluency profile commonly exhibited by adults who stutter (AWS) is

characterized by a high number of within word disfluencies occurring at the beginnings

and middle of words (Bloodstein & Bernstein Ratner, 2008; Guitar, 2013; Yairi et al.,

1993). In severe cases, observable and excessive physical tension and strain when

producing words are common (Bloodstein & Bernstein Ratner, 2008; Guitar, 2013). In

addition to these primary characteristics, individuals may experience secondary

characteristics of stuttering such as eye blinks, facial grimacing, negative reactions, or

avoidance behaviors (Bloodstein & Bernstein Ratner, 2008; Yaruss, 1998).

Adults Who Stutter

Looking at stuttering through the World Health Organization's International

Classification of Functioning, Disability, and Health (WHO-ICF) framework provides

information on how to best conceptualize stuttering and its impact on an AWS's life

(Chan et al., 2009). The framework, as seen in *Figure 1,* acknowledges the impact of a

disorder or health condition on an individual's body functions and structure, engagement

and participation in chosen activities or activities of daily living, and different contextual

factors, such as personal factors and environment, that impact the experience with a

health condition. As it relates to stuttering, this framework considers the observable

behavior of stuttering, or the production of disfluencies, as well as the negative cognitive

and affective aspects of stuttering. By moving beyond the observable characteristics and

instead focusing on contextual factors, the WHO-ICF framework leads to a more

comprehensive understanding of stuttering.

Figure 1.

World Health Organization- International Classification of Functioning, Disability and

Health (ICF).
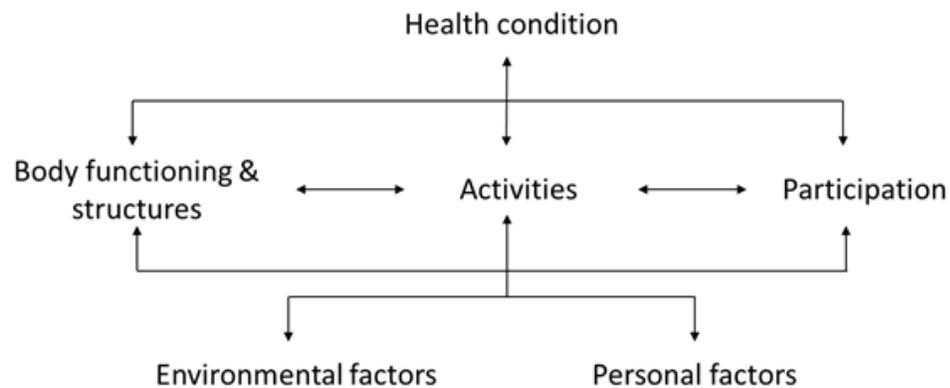
Note. The image is a graphical representation of the WHO-ICF framework (Chan et al.,

2009).

Body Functioning and Structures

Despite their frequent occurrence, disfluencies are a complex feature of stuttering. Theories of stuttering suggest that disfluencies are the result of an incomplete motor plan (Howell et al., 2006), an erroneous motor plan (Postma & Kolk, 1993), or a disrupted motor plan (Max et al., 2004), the kinematics of disfluencies are complicated. Frequently, audible and inaudible prolongations involve simultaneous agonist and antagonist muscle activity, sometimes occurring reciprocally to the point of tremor (McClean et al., 1984). Tremor is a commonly noted feature of severe stuttering. However, unlike tremors associated with neurological damage, tremors in stuttering do not reflect a disordered motor system and are not observed in young children (Walsh & Smith, 2013), suggesting that tremor associated with stuttering does not arise from a frank abnormality in muscle activation. Tremor, instead, may arise as a learned attempt to manage the disfluency. This is consistent with secondary behaviors, non-speech movements that are frequently coincident with a disfluency but involve non-speech movements of the face, extremities, and in severe cases, the torso (Bloodstein & Bernstein Ratner, 2008). Despite these differences in body functioning, stuttering does not appear to impact any other system beyond communication: beyond the production of disfluencies and secondary behaviors, stuttering does not appear to impact body function and structure in substantial ways.

Activities and Participation

While body function is largely preserved in stuttering, the impact of stuttering can have deleterious effects on the mental health of AWS in ways that can cause AWS to limit their engagement in activities and participation. Many AWS report increased rates of anxiety and depression compared to unaffected peers in response to stuttering. While

depression is not an essential feature of stuttering (Miller & Watson, 1992), AWS report depression and suicidal ideation at a higher rate than unaffected peers (Briley et al., 2021). Similarly, AWS appear to show higher trait and social anxiety than matched peers (Craig & Tran, 2014). However, a causal explanation to higher depression and anxiety rates is unclear, but increased anxiety and depression among AWS may be a rationale response to negative communication experiences. The frequency of negative communicative experiences leads some AWS to avoid speaking situations, communication partners, and words.

These avoidance behaviors have the potential to severely limit one's participation in both preferred and essential activities. AWS report that stuttering negatively impacts their educational and economic opportunities, often due to feelings of reduced self-worth and reduced capacity (Blumgart et al., 2010b, 2010a; Klein & Hood, 2004; O'Brian et al., 2011). Additionally, speech is necessary for social networks and relationships (Messenger et al., 2004), and because stuttering impacts speech, this, in turn, impacts emotional functioning, quality of life, and mental health as it relates to participation in social relationships (Craig et al., 2009).

Contextual Factors

Stuttering is deeply connected to individual experiences and impacts each AWS in a unique way. Despite differences, there are common trends in AWS fall under personal factors as defined by the WHO-ICF framework. Estimates of the concomitance of stuttering and anxiety vary; however, AWS experience both trait and social anxiety at higher rates than unaffected peers (Craig & Tran, 2014). Socially, AWS often experience high levels of anxiety, social embarrassment, and fear of scrutiny in social contexts

(Blumgart et al., 2010a). Additionally, stuttering is associated with social harm, fear of negative evaluation, social isolation, self-consciousness (Iverach et al., 2009). The impact of stuttering on the social experience of AWS is further complicated as the presence of anxiety or multiple mental health diagnoses, which in turn impacts self-reported avoidance of speaking situations (Iverach et al., 2011).

Depression is a common trend in AWS (Briley et al., 2021). Both male and female AWS report higher rates of depression. Male AWS, unlike females AWS, are more likely to report suicidal ideation than gender-matched peers who do not stutter. However, depressive symptoms appear to be stable for male AWS across age but appear to increase as female AWS age (Briley et al., 2021). AWS can feel the commonly associated negative impact on their social and emotional health (Blumgart et al., 2010b). They can experience loss of control, uncertainty, lack of confidence, fear in various communication settings, and co-occurring anxiety and social avoidance behaviors (Lindsay & Langevin, 2017; Tichenor & Yaruss, 2018). Although the adverse cognitive and affective reactions to stuttering are not experienced by every individual who stutters, it is evident that personal reactions to stuttering are present and can impact the severity of the observable behavior of stuttering (Yaruss & Quesal, 2004).

Additionally, stuttering is complicated by the individual's environment and its impact on the presence of disfluencies. Major situational stressors and life events can impact the presence of disfluencies (Bloodstein & Bernstein Ratner, 2008; Tichenor & Yaruss, 2018), just as varying communication environments impact the experience of stuttering on AWS (Bloodstein & Bernstein Ratner, 2008). Similarly, communication

partners, their reactions to disfluencies, and their relationship to speaking partners can influence the behavior of stuttering (Tichenor & Yaruss, 2018).

In conceptualizing stuttering through the WHO-ICF framework, the complexity of stuttering is better understood. The stuttering experience includes both the behavior of stuttering and the cognitive and affective components associated with stuttering. To address the behavior of stuttering and its impact on the lives of AWS, many seek out therapy to address stuttering.

Current Therapy for AWS

Decision-making regarding stuttering treatment relies heavily on two main approaches of speech restructuring with empirical support. Fluency Shaping and, to a lesser degree, Stuttering Modification have robust literature documenting their efficacy (Bothe Marcotte & Santus, 2015; Connery et al., 2021; Herder et al., 2006; Ingham, 2003). Fluency Shaping is a term used to describe behavioral strategies used to reduce physical tension, maintain phonation and reduce speech rate during speech. There is no one agreed-upon definition for the component skills included in Fluency Shaping; it generally consists of a series of techniques that help the client initiate and maintain controlled fluency during speech throughout the utterance. In contrast, Stuttering Modification is more clearly defined (Van Riper, 1982). Stuttering modification primarily consists of three techniques. These three techniques modify the moment of stuttering at one of three different times: after the disfluency, during the disfluency, and before the disfluency. During a Cancellation, the person immediately reproduces a disfluent word with less muscular tension. During a Pull Out, the person reduces muscular tension during the disfluency, allowing them to quickly move out of the disfluency and on with

their utterance. During a Preparatory Set, when a person notices the expectancy of a disfluency, they can prepare for the disfluency and begin the word in a controlled-fluency manner. Both Fluency Shaping and Stuttering Modification work to change the manner of speech production with the hope that as the frequency and severity of disfluencies decreases, the experience of stuttering and speaking, in general, will improve (Bothe et al., 2006). Fluency Shaping and Stuttering Modification's success is routinely measured by the reduction in frequency and severity of disfluencies (Both Marcotte & Santus, 2015; Tichenor & Yaruss, 2018). More broadly, these therapies' success can be observed by an overall reduction in effort of speaking, reduced sound, word, and situation avoidance, and a decrease in secondary behaviors. These two therapy approaches have been studied at large, and studies to assess their efficacy provide insight into the role they play in addressing the behavior of stuttering.

Fluency Shaping

As stated above, Fluency Shaping aims to increase the likelihood of fluency by reducing tension and speech rate, accomplished by teaching AWS to used new speech patterns characterized by stretched syllables, slow speech rate, and continuous voicing (Prins & Ingham, 2009). This provides the AWS with the skills necessary to reduce tension, thus allowing for more fluent speech. Several well-developed programs provide insight into the effectiveness of fluency shaping in therapy for AWS.

The Hollins Fluency System III, developed by the Hollins Communications Research Institute, teaches AWS to stretch syllables, use gentle phonatory onset, and reduced articulatory pressure. The program aims to increase fluency through fluency shaping techniques, paired with full breath, smooth articulatory change, continuous

phonation, and full articulatory movement. This 12-day program allows AWS to work closely with trained clinicians to master these various techniques to reduce tension in muscles and articulators associated with disfluencies. Although this specific approach has not been trialed in research, the techniques it was built upon have been. Following its creation in 1972, several meta-analyses have demonstrated the effectiveness of fluency shaping (G. Andrews et al., 1980; Medina et al., 2019; Nye et al., 2013).

The Camperdown Program capitalizes on the success of prolonged-speech in therapy for AWS. When exhibiting the use of prolonged speech, AWS prolong syllables to encourage fluent speech. The Camperdown Program is a 20-hour intensive treatment program completed over 2-3 weeks and consists of four stages. The first is individual teaching sessions where participants learn the prolonged-speech pattern through observation and imitation. Participants are simultaneously taught how to self-evaluate stuttering severity as well. The participant has 3-5 sessions with a clinician with individualized feedback to encourage learning and use of prolonged-speech and accurate self-evaluation. Participants then use prolonged-speech to control their stuttering in a group practice day, allowing participants to control speech in a more natural setting. Additionally, problem-solving sessions are utilized throughout the program to aid participants in developing strategies for stutter-free speech in all environments. Following the completion of the program, participants monitor their performance in the performance-contingent maintenance stage. As assessed in O'Brian et al.'s 2003 study, participants displayed decreased stuttering and exhibited minimal stuttering in natural conversation settings for up to 12 months after the maintenance program. This program

suggests that the use of prolonged-speech, a fluency shaping technique, allows for successful management in therapy for AWS (O'Brian et al., 2003).

Similarly, the Easy Relaxed Approach-Smooth Movement (ERA-SM) addresses disfluencies through fluency shaping techniques (Gregory & Campbell, 1988). Individuals are instructed to produce the first two sounds of a word with an easier, relaxed approach. This is accomplished through a prolonged vowel, a common fluency shaping technique. Following this easy onset, individuals are instructed to produce the rest of the word or phrase with smooth movements and continuous phonation. This pattern of easy, relaxed onset followed by smooth movement and continuous phonation follow the principles of fluency shaping and is repeated each time a speaker pauses at the end of a phrase.

Stuttering Modification

While Fluency Shaping works to increase fluency enhancing conditions, Stuttering Modification works to allow the individual to increase fluency in a moment of stutter (Van Riper, 1982) through desensitization of stuttering. During productions, individuals are asked to modify the moment of stuttering before, after, or during a disfluency. The preparatory set approach asks the individual to systematically reduce tension before a moment of disfluency, whereas the pullout approach asks the individual to reduce tension during a moment of disfluency. Lastly, the cancellation approach requires an individual to produce a word or phrase with less tension following a disfluent production. Through these three techniques, clinicians hope to improve the AWS's experience with stuttering through consistent, systematic tension reduction. Much of the research supporting these techniques is dated, but these techniques are widely used in therapy (Bothe et al., 2006).

One common intensive program is the Successful Stuttering Management Program (SSMP), developed by Breitenfeldt and Lorenze (1989), which assumes Stuttering Modification techniques' success. The program has been offered yearly at Eastern Washington University since the 1960s and hopes to provide its participants with the skills to manage their stuttering rather than achieve total fluency. The three-week residential program focuses on desensitization to stuttering and stuttering modification techniques. Individual sessions are used to encourage avoidance reduction and stuttering modification. Although research regarding its efficacy is outdated, Tsiamtsiouris and Krieger (2010) explore the success of the SSMP in a modern study assessing its efficacy. Outcomes of this study suggest that completion of the SSMP program results in a significant reduction of stuttering severity as well as a decreased impact of stuttering on participants' lives. This program is initially successful, yet maintenance of these gains is questioned due to difficulty with generalization outside of the intensive program. Difficulty with maintenance is a problem associated with both Fluency Shaping and Stuttering Modification, suggesting that something is missing from both of these approaches.

The Problem of Relapse

Despite significant empirical support for these two main speech restructuring approaches to stuttering therapy, there are frequent reports of relapse among adults who stutter, suggesting these therapies miss an essential component to support the longevity of effectiveness (Blomgren, 2010). The Locus of Control Battery (Craig et al., 1984) was developed, in part, to help quantify gains not related to increased speech fluency as a result of stuttering therapy. It significantly predicted who might experience relapse: in a

longitudinal study, those who showed a trend towards more internality were less likely to relapse than those who remained stable or trended towards externality (Craig et al., 1984). Despite this promising data, the LCB has been infrequently used in treatment research—this is confounded by the fact that, at present, there is a striking dearth of publications evaluating the available treatment for stuttering, particularly for adults. A recent meta-analysis of stuttering treatment, excluding pharmacologic treatments, found nine randomized clinical trials that clearly defined their participants, intervention, comparison, and outcome (Connery et al., 2021). The LCB was not reported as a measure used to evaluate any of these randomized control trials.

Despite the availability of a tool that might help predict relapse, it remains under-utilized. One potential reason for this is that understanding the problem of relapse lies in the idea that the impact stuttering has on an individual is not necessarily tied to the presence of disfluencies (Yaruss & Quesal, 2004). Using a multidimensional approach to conceptualizing stuttering acknowledges that stuttering is both the behavior of stuttering as well as the emotions and perceptions that accompany it. This suggests that stuttering is both its "surface" elements and its "below the surface" elements (Blomgren, 2010), thus calling to mind Sheehan's (1970) frequently used "stuttering iceberg" analogy: the surface features of stuttering comprise the minority share of the disorder. Only assessing the "surface" elements of stuttering to judge the success of therapy fails to acknowledge a crucial part of the experience of stuttering. The principles of evidence-based practice (EBP) provide insight into what could be missing from FS and SM, the two main approaches commonly used.

Evidence-Based Practice for the Treatment of Stuttering

Evidence-based practice suggests that it is essential to consider the research base, client values, and clinical expertise (Bernstein Ratner, 2005). As stated by the American Speech-Language-Hearing Association's (ASHA) position statement on Evidence-Based Practice (EBP), EBP is accomplished when "high-quality research evidence is integrated with practitioner expertise and client preferences and values into the process of making clinical decisions" (American Speech-Language-Hearing Association, 2005). In ideal practice, clinical skills and techniques would develop alongside the production and consumption of literature and research, all while considering client values. Research would be used as a guiding principle for better understanding a disorder and how to develop a therapy plan to remediate it. In practice, however, there are discrepancies in how to use research effectively in EBP.

The research base is often relied upon more heavily than the other two pillars to guide the decision-making process for developing therapy. As a result, research is often too narrowly defined to apply to populations other than that of the research study or is not easily applied clinically (Dodd, 2007; Dollaghan, 2004). The current gold standard of research is often thought to be randomized controlled trials (RCT), which aim to remove bias to assess a therapeutic technique's true efficacy. However, in removing all subjectivity and suggesting that RCT is the gold standard of research, the current literature base fails to acknowledge the individual client's experience with the technique, which is just as important as its effectiveness (Kovarsky, 2008).

An overreliance on various therapy techniques' efficacy results in discrepancies between the research base and what is relevant to clinical practice (Dollaghan, 2004). This is especially essential in assessing the efficacy of therapy techniques for AWS as the

cognitive and emotional aspects of stuttering, as explored using the WHO-ICF model, influence the experience of stuttering just as much as the physical production of disfluencies itself. In summary, although it is essential to consider science to help understand the nature of a communication disorder, the disorder itself is only truly understood by the individual's lived experience (Beecham, 2004).

Looking towards the lived experience of AWS and how they understand stuttering helps to provide insight into client values. In a phenomenological analysis of AWS' experience, Tichenor and Yaruss discovered that many AWS consider both the stuttering event and the non-stuttering impact when a disfluency is produced to be significant (2018). When AWS experience "the stuttery feeling" associated with stuttering anticipation, there are two critical responses: the action response and the nonaction response. The action response consists of the voluntary and involuntary reactions to the anticipation of an upcoming disfluency, while the nonaction response calls attention to the cognitive and affective experiences associated with the anticipation (Tichenor & Yaruss, 2018).

Additionally, the experience of stuttering can be influenced by various environmental factors, thus impacting the presence of disfluencies, creating natural periods of waxing and waning. Although the impact different communication situations and partners have on an individual is unique to each person, the variability of impact suggests there is more to understanding stuttering than simply looking at the behavior (Yaruss & Quesal, 2004). In understanding the complexity of stuttering as experienced by AWS, it becomes clear that all aspects of stuttering must be addressed in stuttering interventions because to address one, all must be addressed (Plexico et al., 2005). The

need to focus on the behavior of stuttering and the internal cognitive experience, and the cognitive effort required to manage the psychological result of stuttering is essential in designing therapy for AWS (Tichenor & Yaruss, 2018).

Lindsay and Langevin (2017) explored the inclusion of psychological counseling in addition to speech restructuring therapy to address the behavior of stuttering to provide AWS with a more complete and impactful therapy experience. In exploring AWS's perspectives on what they value in therapy, although the cognitive and affective impact of stuttering on an individual varies, the opportunity to acknowledge and address the genuine emotional aspect of stuttering is valued by AWS. Many AWS desire therapy to accomplish self-acceptance and fear reduction, two common experiences of adults who stutter, to mitigate the negative cognitive and affective impact stuttering has on their lives. Many hope to accomplish a sense of freedom from their stuttering resulting in unrestricted social interactions (Plexico et al., 2005). In order to do so, the behavior of stuttering and the cognitive and affective aspects of stuttering must be addressed in therapy, as stuttering cannot be neatly separated into its components.

If truly viewing client values as an essential component in designing therapy for AWS as suggested by EBP, it becomes clear that addressing the cognitive and affective components of stuttering, in addition to speech restructuring therapy, is essential. Addressing both could create a more complete therapy experience for AWS and provides space to address the negative cognitions, emotions, and behaviors, such as commonly associated anxiety and social avoidance, associated with stuttering. Therapy to address negative thoughts and emotions associated with anxiety and depression has been explored in counseling psychology therapy approaches.

Counseling Techniques

  Psychological disorders are often perpetuated by maladaptive cognitions, which can be mitigated through cognitive and behavioral techniques (Hofmann & Smits, 2008). In exploring techniques used by clinical psychologists, two common treatment approaches used to address negative thoughts and emotions, such as those experienced by AWS, related to anxiety and depression are Cognitive Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT). CBT and ACT are both parts of a broader classification of cognitive therapies (Forman & Herbert, 2009). Each approach attempts to achieve similar goals through differing methodologies. CBT was first developed in 1967 for the treatment of depression (Beck, 1967). According to CBT's assumptions, patients identify desired goals that are most important to them and work to overcome obstacles that impede progress towards their goals. Much of the work to overcome obstacles focuses on identifying patterns of automatic (negative) thinking, behaviors, and emotional states that are maladaptive or incongruent with objective observations. Once identified, the patient and professional then challenge the veracity of those negative thoughts, behaviors, and emotional states by contrasting them with the objective observations.

  While CBT has robust empirical support, particularly for psychological disorders (Butler et al., 2006; Hofmann & Smits, 2008), one criticism leveled against CBT is its inability to identify the relationship between the patient's automatic thoughts and subsequent emotions and behaviors (Hayes et al., 2013). This critique was, in part, the impetus for the development of ACT (Zettle & Hayes, 1982). In particular, proponents of ACT argue that identifying life goals may inadvertently lock patients into an excessive

reliance on rules for living. This over-reliance on structured reason-giving and problem

solving, frequently present in CBT, may lead to the fusion of thoughts and behavior.

Thus, paradoxically, the attempts to alter negative patterns of thinking may increase their

importance (Hayes et al., 2013). Rather than changing negative thinking patterns, ACT

aims to promote psychological flexibility by combining six skills: contact with the

present moment, identification of values, committed action, self as concept, acceptance

without the need for change, and defusing thoughts from reality. Together, these two

cognitive therapies provide the basis of therapy for several psychological disorders. In the

coming pages, we briefly review the extant evidence for CBT and ACT.

Cognitive Behavioral Therapy

CBT works to address negative emotions through changing negative patterns of

thinking and associated behaviors and assessing the accuracy of thought and emotions

(Harley, 2015). In addressing their negative emotions, the individual learns how their

negative emotions, cognitions, and beliefs affect their current and future behavior (Barth

et al., 2016). By analyzing and evaluating negative cognitions, changes in dysfunctional

thinking can hopefully increase the individual's quality of experience and potentially

lessen the impact the specific psychological disorder has on the individual (Bruijniks et

al., 2019). To accomplish this, CBT requires the individual to make significant changes

in their behaviors, cognitions, and lifestyle (Kazantzis et al., 2017), and while challenging

to implement, it leads to significant behavior change when done effectively. In addition

to significant changes, CBT requires the individual to have the capacity to learn, which

allows them to build critical skills as they relate to cognitive restructuring (Bruijniks et

al., 2019; Olatunji et al., 2010). By making these changes and building skills, CBT is

efficacious in helping individuals with depression and anxiety-related disorders (Butler et al., 2006).

Various meta-analyses have been used to support the idea that CBT is often considered to be the "gold standard" in psychotherapy as it relates to anxiety and depression, both of which AWS report with higher frequency than unaffected peers (Briley et al., 2021; Craig & Tran, 2014). Hofmann and Smits' meta-analysis analyzed the efficacy of CBT when compared to placebo and control groups (2008). CBT was found to have a smaller to medium overall effect size (g=.45), a large effect size for Acute Stress Disorder (g=1.37), a medium effect size for Social Anxiety Disorder (g=.62) and Generalized Anxiety Disorder (g=.51), and a small effect size Panic disorder (g=.35). These results suggest that for these four disorder types, when compared to a placebo condition, CBT is efficacious in addressing the negative cognitions and behaviors related to these disorders (Hofmann & Smits, 2008).

Steward and Chambless's (2009) meta-analysis exploring the role of CBT in clinical practice for adults with anxiety disorders revealed a large effect across anxiety disorder types in clinically representative conditions. This meta-analysis revealed a large effect size in reducing generalized anxiety and depression symptoms related to anxiety disorder types (Stewart & Chambless, 2009). CBT's success for anxiety disorders continued beyond post-test testing in various studies analyzed by this meta-analysis, which suggests that CBT is successful in its ability to restructure cognitions in a way that lessens the impact of anxiety both during a clinical trial and after.

An additional meta-analysis suggests similar efficacy as it analyzed 16 different meta-analyses with a collective 9995 subjects and 332 studies and analyzes a large

variety of disorder types (Butler et al., 2006). This meta-analysis focused on exploring

CBT as a whole revealed that for depression, Generalized Anxiety Disorder (GAD),

Panic Disorder, and Social Phobia, CBT is superior to a waitlist or no-treatment control.

Compared to antidepressants alone, CBT as the primary form of treatment was

significantly more efficacious and led to lower relapse rates. CBT's positive impact on

GAD was maintained at least six months after post-treatment measures were taken, and

other disorders had similar maintenance trends (Butler et al., 2006). The results of these

meta-analyses suggest that CBT effectively addresses the negative thoughts and emotions

associated with different psychological disorders related to anxiety and depression.

Acceptance and Commitment Therapy

In addition to CBT, ACT is a common method of cognitive restructuring found in

clinical psychology. ACT works to change the context in which maladaptive cognitions,

emotions, and beliefs, such as those experienced by AWS, are viewed rather than

changing their content (Howell & Passmore, 2019). The idea of changing the context

relates to functional contextualism. Rather than focusing on the thoughts themselves, the

focus is on changing an individual's reactions to their thoughts and emotions, changing

how they influence their behavior (Twohig & Levin, 2017). To do so, ACT suggests that

an individual must develop cognitive flexibility, which is accomplished through

acceptance, cognitive diffusion, being present in the moment, discovering values, and

engaging in committed action related to values (Hayes et al., 2012). In doing so, ACT is

thought to promote mental health management, relieve depressive symptoms, and

improve quality of life through engagement in meaningful experiences (Bai et al., 2020;

Twohig & Levin, 2017).

ACT is supported in the clinical world, but it is important to analyze research to support this claim critically. In a meta-analysis focused on determining the efficacy of ACT in RCTs focused on treating individuals with a psychiatric, a somatic disorder, or stress reactions in work situations, its efficacy is not yet understood. This meta-analysis suggested that ACT is considered to be possibly efficacious for individuals with depression, mixed anxiety, and stress at work. The results of this meta-analysis suggest that ACT is not yet a well-established treatment for any disorder (Öst, 2014). Despite its efficacy in individual studies, more work to understand ACT is needed.

A meta-analysis of 18 articles looking at the effectiveness of ACT with mental and physical health disorders found that ACT was not significantly more effective than established treatments, yet it was found to be superior to control conditions in RCTs (Powers et al., 2009). When used with depression and other mental health conditions, ACT has a medium effect size, which suggests that although ACT is not superior to other established treatments, it is still effective compared to control groups (Powers et al., 2009).

French et al.'s (2017) meta-analysis designed to understand better the efficacy of self-help ACT on depression, anxiety, and psychological flexibility reveals a possible reason for ACT's lack of empirical support in RCTs. Although the meta-analysis revealed small effect sizes, the study argues that ACT does not claim to reduce symptoms but instead claims to increase acceptance of symptoms, suggesting that measuring symptoms would not measure the therapy's actual effect. Because the treatment approach's true intent cannot be measured, the meta-analysis suggests that potentially the studies are not effectively measuring ACT's true success (French et al., 2017).

Similar to ACT, Mindfulness and Acceptance-Based Interventions (MABIs) employ the principles of ACT to encourage individuals to diffuse from the literal words in their thoughts and instead view thoughts from a different context. A meta-analysis focused on MABIs as a treatment for anxiety disorders explored the efficacy of interventions that aim to observe and identify symptomatic processes without reacting to them (Vøllestad et al., 2012). MABIs work to teach individuals to identify these processes and thoughts without reacting to them in ways that further distress. In analyzing therapies like ACT, the meta-analysis found large effect sizes between pre- and post-treatment for anxiety and a medium effect size between pre- and post-treatment for depression, suggesting that programs that focus on mindfulness and acceptance, such as ACT, are effective in reducing distress associated with depression and anxiety (Vøllestad et al., 2012).

In examining the research support for ACT and CBT, the success of both of these cognitive restructuring techniques in their ability to improve the quality of life as it relates to disorders of anxiety and depression. Although the two treatment approaches look to improve symptoms in different ways, both have shown success in addressing anxiety and depression, two common comorbid disorders often associated with a diagnosis of stuttering.

Stuttering Treatment: Borrowing from Cognitive Therapy

CBT in Therapy for AWS

It is essential to look towards the research base to explore studies implementing ACT and or CBT in therapy for AWS to understand the potential benefits of cognitive therapy components such as ACT and or CBT. In looking towards the theoretical research base,

CBT in stuttering therapy most often focuses on cognitive restructuring, exposure, and behavioral experiments (Menzies et al., 2008). To address cognitive restructuring, therapists could utilize problem-solving and assertiveness training (Reddy et al., 2010). Additionally, worksheets to challenge negative beliefs and thoughts associated with stuttering, and the inclusion of mindfulness principles, such as deep breathing, could be used (Menzies et al., 2009).

Exposure and behavior experiments are common aspects of CBT that can be incorporated into therapy for AWS. Scheurich et al. (2018) explored the use of exposure therapy as it relates to Social Anxiety Disorder in AWS. Participants were provided opportunities to speak in front of audiences using a script provided at the beginning of therapy sessions. In addition to speaking, participants were provided prompts and asked to respond to those prompts in front of the audience. This type of exposure therapy addressed common sources of anxiety experienced by AWS, such as speaking in front of audiences, pronouncing their name, and targeting avoidance of words and sounds by utilizing script (Scheurich et al., 2019). In addition to exposure therapy, utilizing behavior experiments such as voluntary stuttering in various social situations could challenge fear of negative evaluation (Menzies et al., 2009).

The use of CBT alone in AWS has been explored using the Internet CBT treatment therapy for social anxiety in AWS, CBTpsych, (Helgadottir et al., 2014; Menzies et al., 2016). CBTpsych utilizes the principles of CBT and is an online computer program. The program uses pretreatment assessment to develop individualized treatment across seven sections. Individuals first learn about the principles of CBT. Participants then complete the Unhelpful Thoughts and Beliefs about Stuttering Scale (UTBAS) to

identify specific unhelpful thoughts for each user to target and identify avoided

situations. The program then utilizes this information to create behavioral experiments

and opportunities to challenge the fear of negative evaluation. The use of CBTpsych

alone is associated with improvements in the experience with social anxiety disorder in

some AWS (Helgadottir et al., 2014; Menzies et al., 2016), but it is important to note that

this program does not utilize speech restructuring techniques, such as FS and SM, in

addition to CBT.

Despite theoretical research supporting the benefits of CBT in therapy for AWS,

the research base supporting the efficacy of CBT in therapy for AWS is limited. Two

primary research studies support its use. In 1995, a behavioral-cognitive therapy program

was integrated into a treatment program for adults who stutter (Blood, 1995). Participants

received 42-60 hours of an intensive intervention designed to change speech motor

behaviors. Following intensive treatment, participants received 51-64 hours of extended

treatment using the POWER2 program to address relapse, counseling and changing

attitudes about stuttering. Participants additionally utilized daily diaries to record the use

of coping and problem-solving strategies, self-control, and self-responsibility. With the

added focus on stuttering's cognitive and affective aspects, a decreased emphasis on

observable behaviors, and positive changes in attitudes regarding participants'

apprehension about speaking to others, social boldness and general attitude towards

stuttering were present (Blood, 1995).

A 2008 experimental trial also explored using a CBT Program in therapy for AWS

(Menzies et al., 2008). Participants were separated into two groups, speech restructuring

with CBT and speech restructuring only. Participants receiving the CBT Program

attended ten weekly, individual sessions totaling 15 hours. The program worked to target

cognitive restructuring, graded exposures, and behavioral experiments. In order to

address cognitive restructuring, participants were asked to identify and change irrational

thoughts related to anxiety associated with stuttering. Participants additionally addressed

speech-related anxiety through progressively confronting anxiety-provoking situations.

Lastly, participants took part in behavioral experiments to assess adverse outcomes

predicted by participants. In addition to the CBT package, speech restructuring treatment

was provided as well. Compared to those not receiving the CBT package, results

suggested that the added component of CBT resulted in increased psychological well-

being, less avoidance in social situations, and decreased unhealthy beliefs about stuttering

(Menzies et al., 2008).

ACT in Therapy for AWS

Like CBT, the theoretical research base supporting the use of ACT in therapy for

AWS explores potential methods of addressing anxiety and depression as it relates to

stuttering. Implementation of ACT in stuttering therapy could include work with each of

the six core processes associated with cognitive flexibility—acceptance, cognitive

defusion, being present in the moment, discovering values, and engaging in committed

action related to values. One aspect of ACT includes addressing the self-as-context, or

the way that people perceive themselves. In looking towards how that relates to AWS,

addressing the self-as-context could include work to explore how a person connects with

the thought, "I am a person who stutters," and the potential emotions associated with that

statement (Beilby & Byrnes, 2012). In working to explore and separate the emotions

associated with the experience of stuttering, an AWS can potentially begin to view

themselves in a more objective lens, less connected to their emotional biases associated with being an AWS (Beilby & Yaruss, 2018).

Defusion explores an AWS' experience and connection to their thoughts. When addressing defusion in therapy for AWS, ACT encourages individuals to notice their thoughts, specifically exploring the negative thoughts associated with stuttering (Beilby & Byrnes, 2012). By doing so, individuals can begin to view thoughts as a "thought" rather than reality, helping to manage reactions to their own thoughts and their perception of others' thoughts as they relate to stuttering (Beilby & Yaruss, 2018). In addressing acceptance through ACT, techniques work to address the idea that avoidance of unwanted emotions is not associated with their disappearance. AWS are encouraged to accept the unavoidable negative emotional and cognitive aspects of stuttering (Beilby & Yaruss, 2018). One specific technique to accomplish this is for AWS to writing negative thoughts related to stuttering down on paper and physically carrying it with them. This encourages AWS to accept thoughts related to stuttering and potentially accept stuttering as a piece of who they are as a person (Palasik & Hannan, 2013). In looking at mindfulness in therapy for AWS, techniques can be used to help AWS make contact with the present moment to decrease avoidance of speaking situations, such as the use of meditation and deep breathing (Beilby & Byrnes, 2012; Beilby & Yaruss, 2018; Plexico & Sandage, 2011).

The last two ACT components often work together by first identifying values and creating a plan for committed action towards those values. In including ACT in therapy for AWS, AWS can discover values by identifying what aspects of life are most meaningful. This is beneficial when working with AWS as exploring life values can help

individuals understand how improved fluence does or does not relate to living their values (Beilby & Byrnes, 2012; Beilby & Yaruss, 2018; Palasik & Hannan, 2013). Following the identification of values, individuals are asked to explore and set goals to allow them to live their lives according to their values. By addressing all core processes of ACT in therapy for AWS, the potential benefits to satisfaction with therapy and improved quality of life related to stuttering point to the inclusion of ACT in therapy for AWS.

Similar to CBT in therapy for AWS, despite theoretical research supporting its potential benefits, limited studies assessing its efficacy have been conducted. Two primary research studies explore the use of ACT in therapy for AWS. Inclusion of all six core components of ACT was suggested by Beilby et al. (2012) in a study exploring the inclusion of ACT in a group therapy program for AWS. This program consisted of eight two-hour group therapy sessions. Each week, participants explored and completed activities related to identification of therapeutic goals and how those relate to values, increasing awareness of emotional control and the related consequences of effort to control emotions, identification of private thoughts and events to encourage defusion and acceptance work, increasing mindfulness-based principles to connect to the present moment, and work towards committed action towards personal goals were used. In addition to implementing ACT principles, participants were encouraged to utilize various speech modification and fluency shaping techniques. As explored in this study, results suggested that participants benefited in managing their perceptions of their stuttering, and their experience of stuttering improved (Beilby et al., 2012).

Sønsterud et al. (2020) explored a therapy approach entitled *Multidimensional Individualized Stuttering Therapy* (MIST) that combined components of stuttering and speech modification invention approaches with the values and awareness-based elements of ACT. The MIST program provided opportunities for AWS to work to increase awareness of general breathing patterns and body tension at rest and during speech production, awareness of vocal features in speech production, and awareness of values and mindfulness strategies. As explored in this study, MIST, and integration of ACT principles, was found to decrease the impact of stuttering at 6- and 12-months post-therapy and had a moderate to very large effect size. Additionally, participant overall satisfaction with MIST and improved speaking abilities was strongly associated. Strong associations with speaking abilities, confidence in communication, reduction of avoidance behaviors, and improved quality of life were found (Sønsterud et al., 2020).

Despite studies exploring the theoretical efficacy of inclusion of ACT and CBT in stuttering therapy, the four primary research studies exploring the experimental efficacy of implementing either CBT or ACT in therapy for AWS point to potential benefits to improve therapy experience and overall experience of stuttering in AWS. Although the research base is limited, it points to inclusion and provides direction for the present study.

The Present Study

Although some would argue that in the field of stuttering, it is essential to use speech restructuring techniques supported by research such as Stuttering Modification and Fluency Shaping (Both Marcotte & Santus, 2015), it is equally important to move toward practice-based evidence (Coleman et al., 2015). Moving towards a research base that

adequately explores techniques related to clients' values and desires and works to assess the effectiveness of clinical expertise is essential. Wampold et al. (2005) argue that science should inform practice rather than dictate practice, with places increased value on therapies that address client desires, even if they are not yet supported by research. In continuing with this mentality, it is essential to be open to and explore conventional therapies that support client desires, even if they are not yet research-supported. This challenges the assumptions related to evidence-based practice and helps point towards a more person-centered direction for future research in stuttering therapy.

A focus on addressing the cognitive and affective aspects of stuttering is not new, yet it points to needed growth in the literature. The limited research base surrounding the use of cognitive restructuring techniques and the problem of relapse suggest that something is missing from traditional speech restructuring approaches to stuttering therapy that solely addresses the behavior of stuttering. The ability to assess the efficacy of two long-standing approaches to cognitive restructuring in counseling psychology in the context of stuttering therapy would help move the focus of research towards supporting what is desired by clients and known from clinical expertise. The present study intended to answer the following questions:

1. Do AWS who received cognitive therapy (ACT or CBT) in addition to speech restructuring therapy (Fluency Shaping or Stuttering Modification) report substantially different experiences from therapy than those who received speech restructuring alone?

2. Do AWS who received cognitive therapy (ACT or CBT) report a greater ability to successfully manage stuttering compared to AWS who did not received cognitive therapy?

The current study intended to answer these questions by assessing differences between individuals who have received therapy with a focus on cognitive therapy components, such as ACT or CBT, in addition to therapy techniques to address the behavior of stuttering and those who have not. Anxiety, depression, overall quality of life, stigma application and agreement, self-efficacy of management, locus of control, and individual conceptualization of stuttering severity were explored to address the success of the inclusion of cognitive therapy components. Through the successful exploration of these facets of stuttering management, this study adds to the research base to move towards practice-based evidence, supporting what is experienced by clinicians and valued by clients.

Methods

Participants

The original plan to obtain participants used a targeted approach to identify AWS with a history of cognitive therapy (such as ACT and or CBT) embedded within their stuttering therapy. The study planned to identify 30 AWS who were currently receiving or recently received therapy for stuttering. Fifteen of these were to be identified through SLPs known to the thesis advisor to provide ACT or CBT in therapy for AWS. The remaining 15 were to be identified through SLPs known to the thesis advisor to provide traditional stuttering therapy alone. Survey links were to be distributed to participants through the thesis chair's professional contacts, who would then distribute the survey to

their clients. The rationale for this survey dissemination method relates to an inability to confirm a diagnosis of stuttering as language samples were not to be collected from these clients. As such, it would not have been possible to confirm that the individual participants stutter. Similarly, the participants would likely be naïve to the type of treatment provided and likely would not have known their clinician's treatment objectives. Therefore, to ensure the accuracy of members in study group groups, responses were to be collected from speech-language pathologists currently providing services to people who stutter.

This initial recruitment plan provided no respondents. Therefore, the survey was posted to the ASHA's Special Interest Group 4 (Fluency and Fluency Disorders) and ASHA's Clinicians and Researchers Collaborating (CLARC) forum. Similarly, no respondents completed the survey. Therefore, the thesis advisor identified SLPs listed on the Stuttering Foundation's therapy referral's website (*Therapy Referrals*, n.d.) for survey dissemination. The thesis advisor distributed the survey to SLPs listed in Wisconsin and surrounding states. Using this method of distribution, four AWS responded.

Participants consist of three females and one male, ranging in age from 18-44. Participants experiences differing frequency and degree of stuttering severity. Three participants had stuttering therapy with cognitive therapy components, while one participant has not. Three participants have not been trained as an SLP, and none of the participants have been trained as a mental health practitioner. Information regarding the demographics of each participant is listed in Table 1.

Table 1

Participant Demographic Information

Demographic Information	Respondent 1	Respondent 2	Respondent 3	Respondent 4
Gender	Female	Male	Female	Female
Age	35-44	18-24	35-44	25-34
Severity of Stuttering	Mild	Profound	Mild	Mild
Frequency of Stuttering	"Stutter everyday, but not in every conversation."	"Every sentence."	"Stutter everyday, but not in every conversation."	"Stutter everyday, but not in every conversation."
Trained as SLP	No	No	No	Yes
Trained as Mental Health Practioner	No	No	No	No
Cognitive Therapy Components?	Yes	No	Yes	Yes

Procedures

Ethics approval for this study was obtained through The Institutional Review Board at the University of Wisconsin-Eau Claire. All participants completed a Qualtrics Survey comprised of 5 individually standardized subtests and questionnaires in addition to a brief questionnaire reporting demographics and therapy satisfaction. Survey links were distributed to participants through SLPs listed on The Stuttering Foundation database for Therapy Referrals in Wisconsin and other surrounding states (*Therapy Referrals*, n.d.), who then distributed the survey to their clients. Surveys were disseminated in this matter due to the inability to confirm a stuttering diagnosis as a language sample was not collected to confirm that participants had a stuttering diagnosis. Surveys contained a question where participants indicated if they have participated in CBT or ACT to the best of their knowledge. Responses to this question were used to separate participants into two groups, participants who have not received cognitive therapy components in stuttering

therapy and participants who have received cognitive therapy components in stuttering therapy.

Measures

Generalized Anxiety Disorder Scale-2

The *Generalized Anxiety Disorder Scale-2* (GAD-2) is an abbreviated version of the *Generalized Anxiety Disorder scale-7* (GAD-7) and is a standard screening tool for anxiety disorders used in the primary care setting. Scores greater than or equal to three further warrant evaluation for generalized anxiety disorder (Plummer et al., 2016). The GAD-2 displays a sensitivity of 76% and a specificity of 81% and retains the adequate psychometric properties of the GAD-7 (Plummer et al., 2016).

Patient Health Questionnaire 2

The Patient Health Questionnaire-2 (PHQ2) is a two-item depression questionnaire abbreviation of the *Patient Health Questionnaire-9* and is designed to screen for major depression in primary care settings. Scores greater than or equal to 3 alert physicians to conduction additional evaluation for significant depression (Kroenke et al., 2003). The PHQ2 has a sensitivity of 83% and a specificity of 92% for major depressive disorder when three is used as a cut-off (Kroenke et al., 2003). The validity of the PHQ2 has been explored in 3 studies, but further research is needed (Gilbody et al., 2007).

Overall Assessment of Speaker's Experience of Stuttering-Adult

The Overall Assessment of Speaker's Experience of Stuttering-Adult (OASES-A) assesses the overall impact stuttering has on AWS. The OASES-A is a 100-item questionnaire containing four sections: general information, reactions to stuttering,

communication in daily situations, and quality of life. The present study will use Section

IV, Quality of Life, to assess "how much stuttering interferes with speakers' satisfaction

with their ability to communicate, their relationships, their ability to participate in their

lives, and their overall sense of well-being" in AWS (Yaruss & Quesal, 2006, p. 101).

This 25 item-subscale is scored on a Likert scale ranging from 1 to 5, where a higher

score suggests a greater degree of the negative impact associated with stuttering and a

lower score suggests a lesser negative impact. An impact score can be obtained by

dividing scores by the number of responses, and ratings range from mild (1.00-1.49),

mild-to-moderate (1.50-2.24), moderate (2.25-2.99), moderate-to-severe (3.00-3.74), and

severe (3.75-5.00). The OASES-A has sound psychometric properties and adequate

reliability and validity (Yaruss & Quesal, 2006).

The Self-stigma of Stuttering Scale-Stigma Application subscale

The Self-Stigma of Stuttering Scale (4S) (Boyle, 2013a) is a 33-item scale

containing three subscales: stigma self-concurrence, stigma awareness, and stereotype

agreement. The subscales are used to explore internalized stigma in AWS further.

Participants use a 5-point application scale (1 = strongly disagree, 2 = somewhat agree, 3

= neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree) to respond to

statements. The present study used the stigma application subscale, which assesses the

degree to which the individual applies the stereotype of stuttering to themself. The 4S and

its subscales have internal consistency rating from acceptable to excellent: stigma

awareness (a= .81), stereotype agreement (a= .75), stigma application (a= .90) and the

overall scale (a= .89). The 4S is psychometrically sound and adequate for clinical and

research use. The interpretation of the 4S falls into three broad categories: disagreement

with stigma (scores below 3.0), moderate stigma (scores between 3.0 and 4.0), and high

stigma (scores greater than 4.0) (Boyle, 2013a).

Locus of Control of Behavior Scale

The Locus of Control of Behavior Scale (LCB) (Craig et al., 1984) assesses an

individual's perception of control and responsibility for problem behavior. The LCB

contains 17-items, and participants respond to statements using a Likert-type scale. This

scale demonstrates adequate internal reliability and is psychometrically sound (Craig et

al., 1984). The LCB was developed, in part, to predict an individual's likelihood of

relapse following a course of stuttering therapy. The LCB follows Rotter's Internal-

External Scale (Rotter, 1966), where higher scores reflect a more external locus of

control, suggesting that the individual feels as if they perceive events as outside of their

control. In the original study, participants completed the LCB at the beginning and end of

a 3-week stuttering therapy course. Ten months later, the researchers followed up with

the participants. Those whose LCB scores trended towards internality were more likely to

maintain reductions in stuttering severity compared to those whose LCB scores had

remained the same or increased. While the strongest use of the LCB is at the beginning

and end of a course of treatment, there is evidence to suggest that higher LCB (more

externality) at the onset of therapy is predictive of relapse (Craigs & Howie, 1982). To

aid in the interpretation of the LCB, it is helpful to know what people without stuttering

score. A group of 123 university undergraduates scored an average of 28.3 (8.5) on the

LCB. The 95% confidence interval for this group ranged from 28.6 - 29.8. A group of 53

nurses scored an average of 27.9 (8.1) on the LCB, and the 95% confidence interval for

this group ranged from 25.6 to 30.1. A group of 70 AWS awaiting treatment scored an

average of 31.0 (9.6) on the LCB. The 95% confidence interval for this group ranged

from 28.7 to 33.3. Taken together, to aid in the interpretation of the LCB, it can be

reasonably concluded that a score greater than 31 on the LCB would reflect a score that

demonstrates more externality, and a score less than 31 reflects more internality.

Stuttering Self-Rating Questionnaire

A questionnaire was developed to obtain information regarding the demographic

information of participants and gain a better understanding of their stuttering history.

Questions sought to obtain information about demographic information, stuttering

history, history with therapy, and a self-selected rating of stuttering severity.

Therapy Satisfaction Questionnaire

A therapy satisfaction questionnaire was developed to obtain information

regarding the respondent's experience with stuttering therapy and gain insight into their

satisfaction with the stuttering therapy they are receiving or recently received. Questions

sought to gain insight into overall therapy satisfaction related to techniques learned,

decreased fear of stuttering, lessened avoidance of speaking situations, and knowledge

gained of stuttering. Participants were asked to provide comments regarding overall

satisfaction with therapy and changes to improve their individual therapy experiences.

Data Analysis

Prior to data collection difficulties, data was to be examined using SPSS statistics

software. Scores on each portion of the Qualtrics survey would be obtained and recorded

for each participant. The primary independent variable would have group membership

separating individuals into one of two groups: AWS receiving behavioral stuttering

therapy (FS and SM) with cognitive therapy components such as ACT and or CBT, and

AWS receiving behavioral stuttering therapy (FS and SM) without cognitive therapy components. Dependent variables were to be OASES-A Quality of Life score, the three 4S component scores, LCB score, GAD-2 Score, and PHQ2 Score. A power analysis revealed that the minimum number of participants needed in each group was 37. Given the population of interest and the restricted recruitment method, this number likely would not have been feasible to obtain. This would have been deemed as appropriate, as this study would have been a pilot study for future treatment studies. As a result, studentized t-tests to examine group differences between all variables would have been used.

Due to limited data collection, statistical analysis could not be completed as expected. Comparisons could not be made between individuals who received behavioral stuttering therapy (FS and SM) without cognitive therapy components and those who received behavioral stuttering therapy with cognitive therapy components, such as ACT and or CBT, due to limited numbers of participants. In order to make meaning of the data, the data collected was interpreted as four individual case vignettes. It is important to note that the responses provided by the four respondents cannot be interpreted using a single-case methodology (Tate et al., 2013) as the research design displays low methodological rigor and high risk of bias, according to the algorithm derived from the Risk of Bias in N-of-1 Trials (RoBiNT) Scale (Perdices et al., 2019). The following results and discussion represent case vignettes for the purpose of thesis completion.

Results

A summary of respondents' scores on the five individually standardized subscales and questionnaires is reported in *Table 2* along with respondents' self-ratings of satisfaction within the four domains of therapy explored.

Table 2

Respondent Scores on Individual Measures and Self-Ratings of Satisfaction

Measure	Respondent 1	Respondent 2	Respondent 3	Respondent 4
Cognitive Therapy Components?	Yes	No	Yes	No
	Subscales and Questionnaires			
Generalized Anxiety Disorder Scale-2[a]	**4**	*2*	*1*	*1*
Patient Health Questionnaire-2[b]	*1*	*2*	*0*	*1*
Locus of Control of Behavior Scale[c]	**36**	**46**	*16*	*18*
4S: Stigma Application Subscale[d]	*2.5*	**4.09**	*1.17*	*1.17*
OASES: A Quality of Life Subscale[e]	1.98	**2.53**	*1.09*	*1.28*
	Satisfaction Ratings			
Techniques Learned	100	87	100	90
Decreased Fear of Stuttering	100	87	100	90
Lessened Avoidance	100	70	100	90
Knowledge of Stuttering	75	7	100	100

Note. Participants were asked to complete a survey containing five individually

standardized scales and subscales including the *Generalized Anxiety Disorder scale-2,*

The Patient Health Questionnaire 2, the Quality of Life subscale from the Overall

Assessment of Speaker's Experience Shuttering-Adult, the Self-Stigma of Stuttering

Stigma-Application Subscale and the *Locus of Control of Behavior Scale*. Additionally,

participants were asked to rate satisfaction with therapy in each of the four domains

above using a 100-point sliding scale with 0 indicating completely dissatisfied and 100

indicating most satisfied. Respondent scores on the individual measures are listed above

along with Satisfaction rating are listed above.

[a] Scores greater than or equal to three on the GAD-2 warrant further evaluation generalized anxiety disorder (Plummer et al., 2016). These scores are bolded in the table above.

[b] Scores greater than or equal to three on the PHQ2 warrant further evaluation for significant depression (Kroenke et al., 2003). These scores are bolded in the table above.

[c] Normative data created on AWS suggest scores greater than 31 on the LC suggest more externality of locus of control, while scores below 31 suggest more internality (Craigs & Howie, 1982). Scores indicating more externality of locus of control are bolded above, while scores indicating more internality of locus of control are italicized.

[d] Interpretation of the 4S falls into three broad categories: low (scores below 3.0), moderate stigma (scores between 3.0 and 4.0), and high stigma (scores greater than 4.0) (Boyle, 2013a). Scores indicating low stigma application are italicized while scores indicating high stigma application are bolded.

[e] Rating scores on the OASES-A Quality of Life Subscale range from mild (1.00-1.49), mild-to-moderate (1.50-2.24), moderate (2.25-2.99), moderate-to-severe (3.00-3.74), and severe (3.75-5.00). Scores indicating mild impact are italicized, scores indicating mild-to-moderate impact are not italicized nor bolded, and scores indicating moderate-to-severe impact are bolded.

Respondent 1

Respondent 1 reported that to the best of their knowledge, they have received CBT or ACT in stuttering therapy. Their score on the GAD-2 indicates a need for further diagnostic evaluation for generalized anxiety disorder, while their score of one on the

PHQ-2 does not indicate further need for diagnostic testing for major depressive disorder. Respondent 1 appears to have a more external locus of control (LCB = 36), does not appear to apply the stigma of stuttering to themself (4S = 2.5), and reports that stuttering affects their quality of life to a mild/moderate degree (OASES-A = 1.984).

Respondent 1 indicated they were highly satisfied with the therapy they received. They indicated the therapy techniques have benefitted them (100/100) and that they fear stuttering less than they did before therapy (100/100). They indicated they are avoiding fewer speaking situations than before therapy (100/100). They also indicated they had learned more about stuttering and the way they stutters when they speak (75/100).

When asked to provide commentary regarding their overall satisfaction with therapy at this time, they responded, "I'm doing one on one and group therapy currently. Together, I feel pretty good about where I'm at and my capability of handling stress." When asked if there was one thing that they could change to make their therapy experience better, what would it be, they responded, "a daily app designed for stuttering that I could practice with."

Respondent 2

Respondent 2 reported that to the best of their knowledge, they have not received CBT or ACT in stuttering therapy. Their scores of two and one on the GAD-2 and PHQ-2 respectively, indicate no further need for diagnostic testing for general anxiety disorder (Plummer et al., 2016) nor major depressive disorder is warranted. Respondent 2 appears to have a strongly externally focused locus of control (LCB = 46), a high degree of stigma application (4S = 4.08), and stuttering appears to impact their quality of life to a moderate degree (OASES-A = 2.528).

Respondent 2 indicated a mix of therapy satisfaction. They indicated the therapy techniques have benefitted them (87/100), that they fear stuttering less than they did before therapy (87/100), and that they are avoiding fewer speaking situations than before therapy (70/100). They did, however, indicate that they have not learned a great deal about stuttering and the way they stutters when they speak (7/100).

When asked to provide commentary regarding their overall satisfaction with therapy at this time, they responded, "I was already very knowledgeable about stuttering before I began this therapy." When asked if there was one thing that they could change to make their therapy experience better, what would it be, they did not respond.

Respondent 3

Respondent 3 reported that to the best of their knowledge, they have received CBT or ACT. They received a score of one on the GAD-2, and a score of zero on the PHQ-2, indicating no further need for diagnostic testing for general anxiety disorder (Plummer et al., 2016) nor major depressive disorder respectively (Kroenke et al., 2003). Respondent 3 appears to have a strongly internally focused locus of control (LCB = 16), appears to have low stigma application (4S = 1.17), and reports that stuttering impacts their quality of life only mildly (OASES-A = 1.088).

Respondent 3 indicated they were highly satisfied with the therapy they received. They indicated the therapy techniques have benefitted them (100/100), that they fear stuttering less than they did before therapy (100/100), and that they are avoiding fewer speaking situations than before therapy (100/100). They also indicated they had learned more about stuttering and the way they stutter when they speak (100/100).

When asked to provide comments about their overall satisfaction with therapy at this time, they responded "It has made a world of difference in my perspective of myself as a person and how I relate to my speech. Also has helped me to not project negative thoughts regarding how other people may be perceiving me as a result of a stuttering situation." When asked if there was one thing that they could change to make their therapy experience better, what would it be, they responded, "Closer to home and less expensive possibly, but I understand the reason for both and don't begrudge the cost or distance really."

Respondent 4

Respondent 4 reported that to the best of their knowledge, they have received CBT or ACT. Respondent 4 received a score of one on the GAD-2, and a score of one on the PHQ-2, indicating no further need for diagnostic testing for general anxiety disorder (Plummer et al., 2016) nor major depressive disorder respectively (Kroenke et al., 2003). They appear to have a strongly internally focused locus of control (LCB = 18), appear to display low stigma application (4S = 1.17) and stuttering appears to impact their quality of life only mildly (OASES-A = 1.28).

Respondent 3 indicated they was highly satisfied with the therapy they received. They indicated the therapy techniques have benefitted them (90/100), that they fear stuttering less than they did before therapy (90/100), and that they are avoiding fewer speaking situations than before therapy (90/100). They also indicated they had learned more about stuttering and the way they stutter when they speak (100/100).

When asked to provide comments about their overall satisfaction with therapy at this time, they responded, "My experience with therapy changed my life. I would not be

studying to be a speech-language pathologist if not for my experience with speech therapy. My speech therapist taught me a wide array of strategies and left it up to me to choose which worked the best for my functional communication. He also addressed covert aspects of stuttering using CBT; we specifically focused on changing my negative thoughts and feelings about stuttering. I still use all the techniques he taught me to this day." When asked if there was one thing that they could change to make their therapy experience better, what would it be, they responded, "I would have wanted more real world practice during my therapy. For example, I think it would have been helpful to practice talking on the phone or going on field trips during my therapy sessions."

Discussion

This study aimed to investigate the therapy experience of AWS and further explore the proposed benefits of the integration of cognitive therapy components, such as ACT and or CBT, in addition to speech restructuring approaches (Fluency Shaping and Stuttering Modification) in stuttering therapy for AWS. Although the data collection and analysis could not be completed as expected, information gained through viewing responses to surveys as individual case vignettes provides insight into four AWS therapy experiences.

Respondent 1

When looking for trends in Respondent 1's data profile, it is important to note that Respondent 1 is the only participant who displayed a score on the GAD-2 that would warrant further testing for GAD. AWS often report higher rates of trait and social anxiety than unaffected peers (Craig & Tran, 2014). This trend found in the literature is seen in Respondent 1's data as suggested by her elevated score on the GAD-2, and her score on

the OASES-A: Quality of Life subtest, which was consistent with a moderate impact of stuttering on quality of life (Yaruss & Quesal, 2006).

    In addition to scores being consistent with the literature surrounding anxiety in AWS, Respondent 1 indicated involvement in both group and individual therapy when asked to provide commentary on overall satisfaction. Respondent 1 reported that "i'm(sic) doing one on one and group therapy currently. together, i(sic) feel pretty good about where i'm(sic) at and my capability of handling stress." In looking to the research base, the efficacy and value of stuttering support groups have been explored. Support groups for AWS provide opportunities to improve communication skills with various communication partners, aiding in the generalization of skills learned in individual therapy sessions (Bradberry, 1997). Involvement in support groups is associated with higher self-esteem and life satisfaction compared to individuals not involved in support groups (Boyle, 2013b). Additionally, decreased internalized stigma levels are common in AWS involved in support groups (Boyle, 2013b). Respondent 1's low score on the 4S: Stigma-Application subscale score and mild-to-moderate impact of stuttering on QoL rating are consistent with the trends found in previous literature regarding use of group therapy. Although not directly related to the purpose of this study, it is important to acknowledge this respondent's statements as it provides insight as to what is valued by AWS in therapy and points to a potential direction to improve therapy for AWS.

Respondent 2

    In analyzing Respondent 2's data profile for potential trends, it is important to note that they are the only participant who reported that they had not received stuttering therapy that contained cognitive therapy components such as ACT and or CBT. In

exploring their qualitative data profile, they displayed the overall lowest satisfaction when compared to other participants. Respondent 2's low satisfaction as it relates to avoidance in social situations as a result of therapy and knowledge of stuttering prove to be especially interesting. High rates of avoidance of speaking situations is a common trend among AWS (Bloodstein & Bernstein Ratner, 2008). In order to address avoidance, use of CBT in therapy for AWS was explored and is associated with reduction of avoidance. Although it is not possible to definitely state that the lower satisfaction as it relates to lessened avoidance of social situation is the result of Respondent 2's therapy experience, it is a trend that proves to be interesting.

When looking at lower satisfaction related to learning more about stuttering and the way they stutter when they speak (7/100), their low rating is consistent with the commentary they provided when asked to write any comments regarding overall satisfaction with therapy. Respondent 2 reported that they were "already very knowledgeable about stuttering before they began therapy." It could be assumed that satisfaction was lower simply because they felt that they knew enough prior to therapy that therapy did not benefit them in this way, however, it is also possible that their therapy experience, which did not include cognitive therapy components, failed to address the cognitive/affective components of stuttering. Failure to address these components commonly addressed in stuttering therapy with cognitive therapy components such as ACT or CBT, could result in limited education regarding the true complexity of stuttering stuttering, thus lessening satisfaction as it relates to gaining knowledge of stuttering as a result of therapy.

If operating under the assumption that the use of speech restructuring techniques alone could have failed to address the cognitive/affective components of stuttering commonly experienced by AWS, Respondent 2's quantitative data profile proves to be interesting. Respondent 2's scores were consistent with a more externally focused locus of control, high application of the stigmas associated with stuttering, and a moderate-to-severe impact of stuttering on quality of life. Although these trends cannot be assumed to be the result of lack of inclusion of cognitive therapy components such as ACT and or CBT due to small sample size, it is important to note the differences in Respondent 2's quantitative data profile. In acknowledging proposed benefits of inclusion of ACT and/or CBT which include increased psychological well-being, decreased unhealthy beliefs about stuttering (Menzies et al., 2008), and increased overall experience of stuttering (Beilby et al., 2012), knowing that Respondent 2 is the only individual who did not receive stuttering therapy with ACT and or CBT components makes their elevated scores on survey measures interesting.

Respondent 3

Examining the qualitative data is essential in exploring trends in Respondent 3's experience with stuttering therapy. It is important to note that respondents were not primed to include ACT and or CBT components of therapy when asked to provide commentary regarding to overall satisfaction. Despite this, Respondent 3's response contains similar verbiage found in the literature surrounding ACT. Respondent 3 stated, "It has made a world of difference in my perspective of myself as a person and how I relate to my speech. Also has helped me to not project negative thoughts regarding how other people may be perceiving me as a result of a stuttering situation." In understanding

that tthe goal of ACT is to change the context in which maladaptive thoughts are viewed (Howell & Passmore, 2019), the verbiage used in describing their therapy experience, such as therapy making a "difference in my perspective of myself and how I relate to my speech," proves to be interesting.

One specific pillar of ACT used to accomplish this encourages a person to defuse from one's thoughts and separate themselves from the content of a maladaptive thought (Hayes et al., 2012). This appears to be reflected in this statement by Respondent 3, stating that therapy "helped me to not project negative thoughts regarding how other people may be perceiving me," suggesting that in therapy, the individual worked to acknowledge and detach from negative thoughts and emotions associated with different stuttering experiences, a common trend in ACT. This verbiage consistent with ACT and the potential benefits associated with it. This is reflected in Respondent 3's self-ratings of satisfaction with therapy, where they self-rated their satisfaction as high in all four domains (100/100). Within these domains, high ratings of satisfaction as they relate to decreased fear of stuttering and lessened avoidance, prove to be especially interesting. When paired with the proposed benefits associated with their statements containing similar verbiage associated with ACT, the trends found in Respondent 3's data profile prove to be interesting.

This is similarly seen in an analysis of Respondent 3's quantitative data profile as well. Scores on all measures suggest lower levels of anxiety and depression, a more internally focused locus of control, low application of the stigma associated with stuttering, and mild impact of stuttering on quality of life. These trends are consistent with the literature regarding proposed benefits associated with the inclusion of ACT and

or CBT in stuttering therapy including increased psychological well-being, decreased unhealthy beliefs about stuttering (Menzies et al., 2009), and increased overall experience of stuttering (Beilby et al., 2012).

Respondent 4

In looking at the last of the case vignettes, Respondent 4 displayed similar trends to Respondent 3's data profile. When asked to provide commentary regarding overall therapy satisfaction, Respondent 4 directly reported the use of CBT to "address covert aspects of stuttering." Covert stuttering is thought to be the experience of passing as fluent and is often associated with repressing one's true self to fit society's resistance in accepting AWS (Constantino et al., 2017). The pressure to mask is thought to be an elaborate avoidance strategy. In directly referencing CBT and how it was used by Respondent 4 to focus "on changing my negative thoughts and feelings about stuttering," this highlights how CBT can be used in therapy for AWS to address avoidance techniques by challenging negative thoughts and feelings (Kazantzis et al., 2017).

Respondent 4 also reported that "my speech therapist taught me a wide array of strategies and left it up to me to choose which worked the best for my functional communication." This response supports the idea that there is no single best approach to therapy and that providing opportunities to explore different techniques is valued by AWS (Lindsay & Langevin, 2017). The value in the opportunity to truly find what works best for each AWS is consistent in Respondent 4's self-reported high satisfaction with therapy as it relates to benefiting from the therapy techniques taught (90/100), and learning more about stuttering and the way they stutter when they speak (100/100). These high satisfaction ratings could suggest that the inclusion of CBT as a potential technique

in allowed the Respondent to gain a better understanding of potential techniques and ways of conceptualizing stuttering.

Similar to Respondent 3, Respondent 4's scores on individual measures were consistent with the literature surrounding the proposed benefits of ACT and or CBT (Beilby et al., 2012; Menzies et al., 2009). Although it is impossible to state that inclusion of CBT components directly correlated to improved satisfaction with therapy and lessened levels of anxiety, depression, stigma-application, and impact of stuttering on quality of life, the trend proves to be interesting.

Clinical Implications

In discussing trends found across respondents and comparisons between respondents and the potential clinical implications of these trends, it is first necessary to acknowledge limitations due to small sample size. Of the four respondents, three received stuttering therapy, including cognitive therapy components, while only one received stuttering therapy without cognitive therapy components. The one respondent that indicated that they had not received therapy with cognitive therapy components, Respondent 2, is the only male, is the youngest of the respondents, and has a higher self-rated severity and frequency of stuttering than the other three participants. Although these differences impact the way in which data can be compared across participants, it first important to explore the impact these confounding variables—gender, age and severity—have on the experience of AWS.

Within the research base, gender, age and severity are often considered to be personal factors, with limited research exploring the role of these personal characteristics and their direct impact on experience of stuttering. This implies that although there may

be trends found within the experiences of AWS as it relates to gender, age and severity, there is limited data suggesting direct correlations. In looking to what is known as it relates to gender and the experience of stuttering, stuttering is more common among males with research suggesting that the ratio of males to females who stutter is approximately 4:1 (Bloodstein & Bernstein Ratner, 2008; Craig et al., 2002). Research also suggests that females often experience higher rates of recovery than men (Yairi & Ambrose, 2005). Additionally, females often report higher levels of self-esteem than males (Silverman & Zimmer, 1979), and according to a study by Klein and Hood, it was found that females believed that stuttering had less of a negative impact on employment when compared to male participants (2004). Despite these trends, gender identity does not have direct implications on an individual's experience with stuttering and gender should be seen more as a personal factor, not a causal one.

Limited discussions regarding age and its impact on an individual's experience of stuttering have taken place. Additionally, this research regarding the impact of age on the experience of stuttering has been inconsistent. Some research suggests a positive impact of age on the self-perception of stuttering and overall well-being while other research suggests no impact of age on experience of stuttering (Blumgart et al., 2012; Yaruss & Quesal, 2010). When looking at severity of stuttering and its impact on experience of AWS, it appears that severity is more often impacted by personal factors and environmental factors, rather than severity impacting experience. Although the complexity of stuttering requires integration of all personal factors and environmental factors to create a complete conceptualization, in acknowledging the lack of causal

relationships related to the confounding variables identified in this study, comparisons can still be made with caution across participants.

Trends found among the respondents who reported use of CBT and or ACT in therapy for stuttering when compared to the individual who received speech restructuring alone are lower impact of stuttering on quality of life, low application of the stigma associated with stuttering, and high satisfaction as it relates to knowledge gained about stuttering. In the participants who had received both speech restructuring and cognitive therapy components, these three participants displayed scores that were consistent with mild, or mild to moderate impact of stuttering on OASES-A Quality of Life subscale. This trend fits into previous research regarding inclusion of ACT or CBT that associated with improved quality of life as it relates to stuttering (Beilby et al., 2012; Blood, 1995; Menzies et al., 2008; Sønsterud et al., 2020). This could aid AWS in accomplishing the "freedom from stuttering" desired as suggested by Plexico et al., (2005).

The second trend, low application of the stigma associated with stuttering, was found in the participants who had received both speech restructuring and cognitive therapy components. In identifying this trend, it is assuming that these individuals are aware of the stigmas associated with stuttering, but not applying that stigma to themselves. This is consistent with the proposed benefits of ACT which encourage an individual to defuse from negative thoughts and emotions, thus changing the power that those thoughts have over an individual. It also is consistent with the proposed benefits of CBT that encourage individuals to learn to identify and challenge maladaptive thoughts and emotions. As a whole, this decrease in application of stigmas associated with stuttering is consistent with the empirical research base that has explored use of ACT or

CBT in therapy for adults who stutter (Beilby et al., 2012; Blood, 1995; Menzies et al., 2008; Sønsterud et al., 2020).

The last trend found among the individuals who received both cognitive therapy and speech restructuring is that they display higher satisfaction as it relates to knowledge gained about stutter as compared to the respondent who received speech restructuring alone. These individuals appear to have learned more about their experience with stuttering. This is evidenced by trends in the therapy satisfaction ratings as well as Respondent 2's statements regarding not having learned much as a result of their therapy experience. This high satisfaction fits within the principles of Evidence-Based Practice, as it helps to show that this is a technique that is actually valued by clients, which helps to support its use in therapy for AWS. Additionally, this trend consistent with the findings of Lindsay and Langevin (2008) that suggest that the opportunity to acknowledge and address the genuine emotional aspect of stuttering is valued by AWS, and that although not every AWS would choose to utilize cognitive therapy components, the opportunity to do so is essential.

As a whole, the trends in the data listed above are consistent with the theoretical and limited empirical research base supporting inclusion of cognitive therapy components in addition to speech restructuring in therapy for AWS. In working towards creating a research base that assesses techniques that are valued by clients and used in practice, this study provides a small piece of evidence suggesting that some AWS value the use of cognitive therapy components in addition to speech restructuring techniques. Future research building off of the promise of this study can continue shifting towards a research

base that values practice-based evidence and aids in better understanding and designing

therapy for AWS related to client values.

Limitations

The methods and procedures used to answer the research questions proposed by

this study resulted in limitations that impacted the success of this study. The first

limitation identified is the use a targeted approach as it relates to limited data collection.

In order to obtain participants, the survey was first sent to participants of the thesis chair

as it was expected that this method of dissemination would produce an adequate number

of participants to complete statistical analysis. Following an unsuccessful period of data

collection, a more nationwide approach to survey distribution was utilized. To reach a

larger population of AWS, the survey was distributed using a list of individual therapists

for AWS as listed on The Stuttering Foundation database for Therapy Referrals in

Wisconsin and other surrounding states (*Therapy Referrals*, n.d.). In utilizing a less

targeted approach to survey distribution, improvements in data collection were observed.

Despite improvements, data collection proved to be difficult and provides insight into

areas of improvement. In designing future methods to complete survey research on this

small population of individuals, distribution to therapists and organizations not

immediately available to the researcher should take place. This will aid in more fruitful

data collection, so that statistical analysis assessing between group differences can take

place.

In addition to gaining more participants through a nation-wide approach,

expanding beyond professional contacts and convenient resources can help to address

limitations due to selection bias. In utilizing professional contacts who think similarly to

the researchers in this study and in utilizing a therapy referral data base from a foundation that readily supports the use of cognitive therapy components, it is possible that the individual participants that elected to participate in this study represent an extreme within the larger population of adults who stutter. As a result, data obtained in the study may not be representative of the larger population of AWS and would not adequately represent the therapy experience of AWS as it relates to use of cognitive therapy components, and instead only represent a small niche of AWS, females approaching middle age with mild self-ratings of stuttering severity. Use of a nation-wide approach would help to increase number of participants obtained as well as address selection bias so that data collection is more comprehensive and successful, thus improving exploration of the under-researched, yet critical therapy area of AWS.

The last limitation noted provide unique commentary regarding the use of surveys during a global pandemic. The COVID-19 pandemic, and specifically the requirements for social distancing recommended by the World Health organization and required by many national health organizations disrupted data collection globally (Barroga & Matanguihan, 2020; Saberi, 2020; Tesson et al., 2021). The disruption was particularly noted for people experiencing some marginalized status (Barroga & Matanguihan, 2020; Patel et al., 2020; Saberi, 2020; Strujo et al., 2020; Van Dorn et al., 2020). In order to maintain research progress many researchers shifted to digital formats, including increased survey data (Saberis 2020; Sturujo et al, 2020). This may likely have been the case in stuttering. While being a relatively common disorder, the number of adults who stutter involved in treatment is generally considered to be low. As such, there is relatively small population of people who stutter known to the research community. During the

pandemic it may be the case that these adults who stutter, already impacted by the pandemic in their personal life, were asked to participate in more survey data; but given the substantial disruption the pandemic caused globally, they may not have had the capacity to participate in research (Barroga & Matanguihan, 2020; Patel et al., 2020; Van Dorn et al, 2020).

Future research can build on the limitations found in this study's method of survey dissemination, such as using a targeted approach, to design studies that are better able to assess and represent the larger population of AWS's experience with therapy. Using a more nationwide approach can be used to gain more insight into the therapy experience of AWS as it relates to the efficacy of inclusion of cognitive therapy components in therapy for AWS. Additionally, a need to move beyond convenient resources immediately available to researchers will allow for more successful exploration of this under-researched yet critical therapy area for adults who stutter. Future research building off of the limitations of this study can continue shifting towards a research base that values practice-based evidence and aids in better understanding and designing therapy for AWS related to client values.

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