

Abstract

Purpose: Self-efficacy has emerged as a potential predictor of quality of life for adults who stutter. Research has focused primarily on the positive relationship self-efficacy has to treatment outcomes, but little is known about the relationship between self-efficacy and quality of life for adults who stutter. The purpose of this mixed-methods study is to determine the strength and direction of the relationship between self-efficacy, quality of life, and stuttered speech frequency for adults who stutter.

Method: The Self-Efficacy Scale for Adult Stutterers and the Overall Assessment of the Speaker's Experience with Stuttering were administered to 39 adults who stutter, aged 18 to 77. Percentage of syllables stuttered was calculated from a conversational speech sample as a measure of stuttered speech frequency. Qualitative interviews with semi-structured probes were conducted with 10 adults and analyzed using thematic analysis to explore the lived experience of adults who stutter.

Results: A strong, positive correlation was revealed between self-efficacy and quality of life for adults who stutter. A moderate, negative correlation was also revealed between self-efficacy and stuttered speech frequency. Major qualitative themes identified from the interviews with the participants were: encumbrance, self-concept, confidence, acceptance, life-long journey, treatment, and support.

Conclusion: Results highlight the relationship between self-efficacy, quality of life, and stuttered speech frequency in adults who stutter. Overall, these findings highlight that the unique life experiences of adults who stutter require a multidimensional approach to the assessment and treatment of childhood-onset stuttering.

Key words: stuttering, self-efficacy, quality of life, severity, qualitative enquiry

1. Introduction

Stuttering is a multifaceted disorder that presents unique emotional, environmental, and physical experiences for individuals who stutter (Beilby, 2014; Smith & Weber, 2016; Yaruss & Quesal, 2004). Historically, Sheehan's (1970) iceberg analogy has been used to highlight aspects of childhood-onset stuttering beyond the surface presentation, including the speaker's thoughts, feelings, and reactions to stuttering (Beilby, 2014; Manning, 2010). The focus of assessment and treatment in childhood-onset stuttering typically centers on the motor speech aspects (Manning, 2010; Speech Pathology Australia, 2016), while the equally important features beyond the traditional typography are often overlooked. Recent research supports the need for a multifactorial perspective in the assessment and treatment of childhood-onset stuttering (Smith & Weber, 2016). Stuttering has been found to have a negative impact upon the individual's overall vitality and emotional, social, and mental health, potentially culminating in reduced quality of life for adults who stutter (Craig, Blumgart, & Tran, 2009; Yaruss, 2010). This substantive negative impact warrants further investigation to understand the relevant factors that may remediate the adverse impacts of stuttering on quality of life (Craig et al., 2009). Recently, self-efficacy has been identified as a construct that may diminish the impact of stuttering through the protective mechanism of resilience (Craig, Blumgart, & Tran, 2011); however, research directly examining the way in which self-efficacy might help is needed.

Self-efficacy refers to an individual's internal appraisal of their ability to execute an action successfully in order to achieve a desired outcome (Bandura, 1977). Self-efficacy differs from the construct of locus of control in that self-efficacy is concerned with an individual's beliefs about whether they can perform a particular behavior, whereas locus of control is concerned only with an individual's perception of whether an outcome is achieved as a result of internal or external forces (Maibach & Murphy, 1995). Self-efficacy is considered a dynamic, easy to influence, and situation-specific characteristic, whereas locus of control is considered a generalized personality trait (Maibach & Murphy, 1995).

Bandura's (1977) model of self-efficacy comprises three major constructs: magnitude, generality, and strength. Magnitude refers to the level of difficulty assigned by an individual to the performance of a particular behavior (Bandura, 1977). Generality refers to the degree of positive relation between self-efficacy beliefs across contexts or time (Maibach & Murphy 1995), whereas strength refers to an individual's level of confidence in the performance of a specific behavior (Bandura, 1977). Individuals with a high magnitude and strength of self-efficacy beliefs will persevere with a behavior, even in the absence of a positive outcome. By contrast, individuals with a low magnitude and strength of self-efficacy beliefs may confine their confidence to behaviors that they perceive as easy to accomplish. An individual's self-efficacy beliefs are variable across different behaviors, contexts, and time. In this way, self-efficacy beliefs can influence an individual's choice of activity and setting, by limiting activities and restricting participation when a situation is perceived to exceed their coping skills (Bandura, 1977). Considering the major constructs of Bandura's (1977) model of self-efficacy in childhood-onset stuttering, an adult who stutters with low self-efficacy may avoid activities perceived as intimidating (e.g., giving a speech or presentation), withdraw from social situations where communication is perceived to be difficult (e.g., speaking in front of an audience), and choose not to engage in behaviors where a perceived positive result is lacking (e.g., experiential avoidance of the telephone). In order to truly appreciate

the way that self-efficacy beliefs impact upon an individual's activities and participation, we must consider childhood-onset stuttering in light of the biopsychosocial model.

1.1. *The Biopsychosocial Model of Stuttering*

The biopsychosocial model decrees that "clinical problems have multiple interacting causes and contributing factors" (Rees, Breen, Cusack, & Hegney, 2015, p.3). In 2004, Yaruss and Quesal adapted the World Health Organization's International Classification of Functioning and Disability (WHO, 2002) to describe the multidimensional nature of stuttering from an integrated biopsychosocial viewpoint, whereby the surface characteristics of the disorder are considered alongside features below the traditional typography (Beilby, Byrnes, & Yaruss, 2012). This contemporary model underpinning stuttering posits that well-being is influenced by a combination of biological, psychological, and social factors (Yaruss & Quesal, 2004), thus providing a context within which to consider how self-efficacy, a major component of psychological resilience, affects an individual's quality of life. By considering the varied and complex interaction between biological, psychological, and social factors, the overall impact that a clinical problem can have on the individual's health and quality of life can be appreciated (Beilby et al., 2012; Rees et al., 2015). The interaction between biological (i.e., stuttering) and psychosocial (i.e., self-efficacy) factors is highlighted in childhood-onset stuttering by the way in which stuttering limits communication activities and restricts participation in daily life, producing a potentially detrimental impact upon an individual's overall well-being and quality of life (Beilby et al., 2012; Boyle, 2016; Craig et al., 2009; Yaruss & Quesal, 2004).

Within the biopsychosocial model, quality of life is conceptualized as a construct that encompasses overall personal well-being (Craig et al., 2009). Quality of life is a priority for speech-language pathologists who have an articulated role in addressing their clients' quality of life by incorporating the best available evidence from research and other external sources (American Speech-Language-Hearing Association, 2016; Speech Pathology Association of Australia, 2010). In a recent study, Boyle (2016) identified self-efficacy as a potential predictor of quality of life for adults who stutter, highlighting the need for us to understand further how self-efficacy and stuttering interact.

1.2. *Self-efficacy and quality of life in childhood-onset stuttering*

Specific aspects of quality of life in stuttering disorders have garnered increased attention in recent literature. Research has shown that adults who stutter experience a reduced quality of life in the domains of social and emotional functioning and mental health, compared to fluent counterparts (Craig et al., 2009). In addition, qualitative research in this area suggests that adults who stutter experience feelings of sufferance, helplessness, fear, social anxiety, avoidance, embarrassment, and frustration (Beilby, Byrnes, Meagher, & Yaruss, 2013; Corcoran & Stewart, 1998). Childhood-onset stuttering has also been revealed to have a holistic impact on the environmental and personal-life domains of adults who stutter and their partners (Beilby et al., 2013).

Further research has highlighted the positive nature of support group participation and group identification for adults who stutter. The specific benefits of social support and resultant empowerment as measured in terms of an individual's self-efficacy/self-esteem have been identified. Increased levels of self-efficacy, self-esteem and social support have predicted better quality of life, highlighting how self-efficacy is a

protective factor likely to buffer the negative impacts of stuttering on an individual's psychological well-being and quality of life (Boyle, 2015, Craig et al., 2011; Craig, Blumgart, & Tran, 2015).

Allied health research has emphasized the importance of self-efficacy on positive treatment outcomes for voice disorders (Van Leer, Hapner, & Conner, 2008), aphasia (Babbitt & Cherney, 2010), hearing impairment (Laplante-Levesque et al., 2011), and chronic motor impairment (Eccles & Simpson, 2011). The need to evaluate the role of self-efficacy in stuttering disorders is warranted to understand the prognostic potential it may have in treatment outcomes and improvement in the overall quality of life for adults who stutter. In recent years, research has associated severe social anxiety and related social impairment with lower levels of self-efficacy, resulting in situational and social avoidance (Iverach & Rapee, 2014; Thomasson & Psouni, 2010). Adults who stutter may avoid speaking situations where communication is perceived as difficult, due to fear of humiliation and negative evaluation by others (Iverach, Menzies, O'Brian, Packman, & Onslow, 2011). In addition, research has demonstrated adults who stutter to be significantly less confident about engaging with, and maintaining fluency within, a range of speaking situations when compared to their fluent counterparts (Ornstein & Manning, 1985).

These findings support Bandura's (1977) model of self-efficacy, whereby individuals with increased self-efficacy for verbal fluency engage more readily in social situations that require verbal communication, ultimately strengthening their self-efficacy beliefs. Similarly, adolescents who stutter differ from normally fluent peers with respect to self-efficacy for verbal fluency, highlighting that self-efficacy may be important in the promotion of treatment gains and maintenance of skills post-therapy (Bray, Kehle, Lawless, & Theodore, 2003). Further results endorsing high levels of self-efficacy with durability of fluency treatment gains are reported in outcome studies examining long-term treatment success (Blood, 1995; Langevin et al., 2006). In these studies, self-efficacy was measured pre- and post-intervention, with significant improvements in measures of both fluency and self-efficacy noted post-intervention and maintained at follow-up.

Evaluation of factors that protect an individual from the negative impacts imposed by stuttering has found resilience to be significantly associated with higher levels of self-efficacy. Specifically, self-efficacy and resilience may act as a buffer against distress, protecting individuals from psychopathology and improving their quality of life (Craig et al., 2011; Cummins, 2010). Adults who stutter who made more external causal attributions for stuttering reported lower levels of self-esteem/self-efficacy, compared to those who reported higher levels of personal control and the experience of greater levels of self-esteem/self-efficacy (Boyle, 2016). Therefore, self-efficacy is assumed to relate to psychological resilience, which may safeguard against adverse impacts associated with living with a stuttering disorder (Craig et al., 2011).

1.3. Self-efficacy and stuttered speech frequency in childhood-onset stuttering

In recent years, research has correlated stuttering severity with various psychological constructs. Stuttered speech frequency has been found to correlate positively with the child temperament domain of effortful control, suggesting that such control may be an underlying mechanism that influences stuttering severity (Kraft, Ambrose, & Chon, 2014). Further, the relationship between stuttered speech frequency and the impact on adolescents who stutter has demonstrated that even mild stuttered speech frequency can

impact significantly on the individual's anxiety levels and communication difficulties overall (Mulcahy, Hennessey, Beilby, & Byrnes, 2008).

To date, there is limited research addressing the relationship between the psychological construct of self-efficacy and stuttering severity as measured by stuttered speech frequency. One previous, unpublished study by Saltuklaroglu and Kully (1998) found a significant negative correlation between self-efficacy and stuttered speech frequency in a population of adults who stutter; that is, individuals who presented with higher stuttered speech frequency tended to have lower self-efficacy ratings (Manning, 2010, p. 193). A multitude of factors are likely involved in determining an individual's level of both stuttered speech frequency and self-efficacy, though a discussion of such factors is outside of the scope of this paper. However, the relationship between stuttered speech frequency and self-efficacy, and the resultant impact of this relationship on quality of life for adults who stutter, warrants further investigation.

1.4. Purpose

Much of the recent research on self-efficacy for adults who stutter has focused on successful treatment outcomes and performance in speaking situations (Bray et al., 2003; Langevin et al., 2006; Ornstein & Manning, 1985). Few studies have investigated the impact of self-efficacy on the quality of life of adults who stutter. Those that have explored self-efficacy and quality of life suggest higher levels of self-efficacy to be associated with an increased level of psychological resilience. This may serve to offset some of the adverse impacts of living with a stuttering disorder and ultimately lead to improved quality of life (Boyle, 2016; Craig et al., 2011). The challenge is to ascertain how much of a predictor self-efficacy may be on improved quality of life for adults who stutter (Boyle, 2015).

A broader understanding of stuttering disorders (i.e., childhood-onset stuttering) and client experiences has the potential to enhance decision-making and improve service delivery and treatment outcomes (Beilby, 2014; Gatzonis & Fabus, 2015; Smith & Weber, 2016). In line with Bandura's (1977) model of self-efficacy, avoidance behaviors, which ultimately reduce social participation, are demonstrated as significant challenges for adults who stutter (Beilby et al., 2013; Iverach et al., 2011). Qualitative research, which addresses the nature of these challenges and extends beyond pre-determined categories of many quantitative measures, allows the individual to describe their life experiences more fully (Boyle, 2016; Craig, 2010). In this way, the lived experience of the individual who stutters can be discovered by exploring the personal meanings afforded to these experiences and elucidating how self-efficacy may interact with quality of life (Beilby et al., 2013).

The present study aimed to explore the relationship between self-efficacy, quality of life, and stuttered speech frequency for adults who stutter from a multidimensional perspective using a mixed-methods design, in order to tease out the potential clinical ramifications for the assessment and treatment of adults who stutter. The following research questions were proposed:

1. Is the construct of self-efficacy for verbal communication significantly correlated with the construct of quality of life for adults who stutter?
2. Is stuttered speech frequency significantly correlated with the construct of self-efficacy for verbal communication for adults who stutter?

3. What are the most prevalent themes regarding self-efficacy and quality of life for adults who stutter?

Based on the previous research summarized above, we hypothesized that self-efficacy would positively correlate with quality of life and that stuttered speech frequency would negatively correlate with self-efficacy.

2. Method

2.1. Research design

A sequential, explanatory, mixed-methods design (Hanson, Creswell, Clark, Petska, & Creswell, 2004) was adopted. In this type of design, priority is typically afforded to the quantitative data which are collected and analyzed prior to the qualitative data. Qualitative data are then collected and analyzed in order to augment the quantitative findings (Hanson et al., 2005). In the present study, quantitative data, in the form of questionnaires and stuttered speech frequency ratings, were collected to explore the relationship between self-efficacy, quality of life, and stuttered speech frequency. Qualitative data were then collected through semi-structured interviews to enhance the key quantitative findings, in order to provide a broader understanding of the lived experience of adults who stutter (Creswell, 2009).

2.2. Participants

Participants were 39 adults who stutter (8 females, 31 males) ranging in age from 18 to 77 years ($M = 42.15$, $SD = 16.87$). Of these 39 adults, 38 had received some form of formal fluency treatment, and 8 had participated in some form of support group specific to adults who stutter, at some point in their lifetime. Participants were recruited from a specialist metropolitan-based stuttering treatment center and a national consumer self-help group for adults who stutter. All adults included in the study had a confirmed clinical diagnosis of stuttering, no additional reported speech, language, or hearing impairment, and verbal and written English skills to allow written understanding and completion of the questionnaires and oral participation in an interview.

2.3. Measures

Maibach and Murphy (1995) suggest that assessment of an individual's self-efficacy beliefs calls for a scale that allows individuals to make two judgments: 1) a judgment regarding whether or not they can accomplish a specific behaviour by indicating 'yes' or 'no', and 2) a judgment regarding their confidence that they can perform a specific behaviour by indicating a rating on a scale. The Self-Efficacy Scale for Adult Stutterers (SESAS; Ornstein & Manning, 1985) allows participants to make such judgments and was administered to each participant. Measures of reliability and validity have been reported for the SESAS (Ornstein & Manning, 1985; Saltuklaroglu & Kully, as cited in Manning, 2010, p. 193). The second author of the SESAS provided clinical guidance and permission to use the scale. The second author also advised that the 'Approach' scale of the SESAS would be sufficient to meet the aims of this research based on their pilot data. The SESAS-Approach scale required participants to indicate whether or not they believe they could enter into each of 50 specific speaking situations by marking each situation with a tick or cross. Participants were then required to rate their confidence in their belief on a decile scale from 10 to 100, where 10 is "Quite Uncertain" and 100 is "Quite Certain". The instructions provided to participants requested that they make judgments based on their present ability, not their desired ability or what they think they should do (Manning, 2010).

SESAS-Approach scores were calculated by taking the sum of responses and dividing by 50 to determine an overall score, where higher scores indicate a greater degree of self-efficacy (Ornstein & Manning, 1985).

The Overall Assessment of the Speaker's Experience of Stuttering – Adult (OASES-A; Yaruss & Quesal, 2010) was also completed by each participant. The OASES-A is a valid and reliable tool with sound psychometric properties, comprising four sections and an overall impact rating (Yaruss & Quesal 2006). Section I (General Information) comprises 20 items to measure the speaker's self-assessment of their impairment and knowledge of stuttering disorders. Section II (Reactions to Stuttering) comprises 30 items to measure the speaker's affective, behavioral, and cognitive reactions to stuttering. Section III (Communication in Daily Situations) comprises 25 items to measure the difficulties experienced by the speaker in communicative situations. Section IV (Quality of Life) comprises 25 items to measure the overall impact of stuttering. Whilst we were particularly interested in Section IV to examine specific constructs related to quality of life, we were also interested in information pertaining to the overall impact of childhood-onset stuttering. Being cautious to avoid defining quality of life in a narrow fashion, we chose to administer the OASES-A in its entirety in order to capture the broader issues related to quality of life (i.e., how an individual reacts to stuttering, their communication in everyday activities, and the overall impact in various life domains). Items are scored on a Likert-type scale from 1-5. Impact ratings ranging 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) were calculated for each section by dividing the scores by the number of responses (Yaruss & Quesal, 2006).

To measure stuttered speech frequency, percentage of syllables-stuttered (%SS) was calculated. This calculation involves taking the total number of syllables stuttered in a speech sample and dividing this by the total number of syllables produced in the same sample (Guitar, 2014). This measure was chosen as the frequency of stuttered speech is often the most obvious aspect of childhood-onset stuttering and can be tabulated quickly and easily (Mirawdeli & Howell, 2016). This measure also captures instances where the speaker stutters on more than one syllable of a multisyllabic word, which is otherwise not represented (Guitar, 2014). Two hundred syllables are deemed sufficient to calculate %SS during reading; however, a larger number of syllables is recommended in a conversational context (Guitar, 2014). As such, %SS ratings were calculated from 500-syllables in the middle ten minutes of the conversation exchange.

Semi-structured interviews were conducted with 29 adults who stutter. Interview questions (see examples in Appendix A) were informed by a qualitative study that examined the narratives of adults who stutter (Corcoran & Stewart, 1998) and adapted from the SESAS and OASES-A. Questions were structured in order to facilitate exploration of the key life experiences of adults who stutter and their general perceptions of self-efficacy and quality of life. Questions were open-ended and supplemented with planned prompts if responses required further exploration. In keeping with Corcoran and Stewart's (1998) approach, the interview began with non-directive, introductory questions such as "Let's talk about stuttering, what is your story?" and progressed into more specific questions such as "Talk to me in general about how confident you feel in speaking situations?"

2.4. Procedure

Forty adults who stutter were provided with copies of the SESAS-Approach Scale and the OASES-A with instructions to complete and return to the first author. Thirty-nine sets of questionnaires were received and analyzed, yielding a response rate of 97.5%. Interviews were established with a convenience sample of 29 participants who agreed to take part in an interview (6 female, 23 male) and took place with the first author at a quiet location of the person's choosing or over the telephone. It was not possible to interview all participants due to geographic, time, and scheduling constraints. Interviews typically lasted 25 minutes and were audio-recorded on an Olympus-VN-732PC digital recorder.

2.5. Data analysis

2.5.1. Quantitative

A SESAS-Approach score and impact rating for each scale of the OASES-A was calculated for all participants to measure self-efficacy and quality of life respectively. To obtain measures of stuttered speech frequency, %SS ratings were taken from a conversational sample face-to-face at the commencement of the participants semi-structured interview ($n = 20$) or over the telephone during the participants semi-structured interview or general conversation ($n = 15$). The remaining four participants' %SS ratings were obtained from speech samples in their most recent treatment session as they either did not partake in an interview or could not be contacted by telephone. Reliability checks for %SS ratings were conducted on 10% of the sample by the second author. Pearson's product-moment correlation (Pearson's r) determined there to be a very high level of inter-rater reliability, $r(2) = .99, p < .001$.

Pearson's r was calculated to determine the size and direction of the linear relationship between scores on measures of self-efficacy (SESAS-Approach), quality of life (OASES-A-IV) and stuttered speech frequency (%SS). As participants completed the OASES-A in its entirety, all sub-tests were included in the analysis. The assumptions of normality, linearity, and homoscedasticity were assessed prior to calculating r . All variables were found to be normally distributed, with the exception of stuttered speech frequency (%SS). The histogram and skewness statistic for stuttered speech frequency indicated a severe positive skew. A log transformation was applied accordingly, which resulted in normal distribution of scores. Quality of life and self-efficacy scores were assessed to have a mild-to-moderate positive and negative skew respectively (Allen & Bennet, 2012), though correlation coefficients for transformed and untransformed scores did not differ significantly. Therefore, normality was assumed for these variables. Mahalanobis distances were calculated to identify bivariate outliers, none of which was significant (Tabachnick & Fidell, 2007).

2.5.2. Qualitative

Interviews were conducted and transcribed verbatim by the first author. Interviews, maximally varied in terms of age, gender, ethnicity, %SS, and self-efficacy scores, were selected for analysis to ensure adequate diversity in the sample (Patton, 1990). Common themes found in a maximally varied sample are more likely to relate to the phenomenon of interest rather than other common factors (Patton, 1990). Data were thematically analyzed in line with Braun and Clarke's (2006) protocol.

The research team comprised the first author, a speech pathologist clinician, and three senior researchers – two speech pathologists with extensive experience in the assessment and treatment of fluency

disorders, and a psychologist with expertise in qualitative research methodology. The research team made a conscious effort to identify and set aside any personal and professional biases regarding stuttering, in order to understand better the lived experiences of the participants (Patton, 1990). The first author read each transcript twice as a discrete data set to ensure immersion in the data and familiarity with the content (Braun & Clarke, 2006). Significant statements were highlighted on the second read, before open coding took place to identify salient categories of information to characterize the phenomena of interest, and statements of interest were given an initial code (Braun & Clarke, 2006; Creswell, 2007). Initial codes were collated into potential themes during subsequent reads and axial coding took place in order to review the database and identify sub-themes related to the phenomena of interest (Braun & Clarke, 2006; Creswell, 2007). Analysis continued in this manner until all major themes were identified and the first author was satisfied that saturation had been reached (Braun & Clarke, 2006). Saturation occurs when analysis of subsequent qualitative data does not yield additional perspectives or new information (Creswell, 2007). Typical of interview data, saturation was reached at 10 interviews (Creswell, 2007; Guest, Bunce, & Johnson, 2006). The saturation point of 10 interviews was more than sufficient to answer the research question, and thus rendered the process of analyzing the remaining interviews redundant. Participant characteristics of the 10 interviewees included in the final analysis are displayed in Table 1. The second and fourth authors each read and coded 10 percent of the transcripts ($n = 1$) to ensure accurate coding of themes and inter-rater reliability (Mays & Pope, 1995). A high level of reliability (90.1% agreement) was obtained. The process of analysis and the preliminary findings was discussed in-depth to ensure adequate analysis and interpretation of the data set.

3. Results

3.1. Quantitative results

Descriptive statistics were computed for all variables. These are displayed in Table 2. All OASES-A subtests were included in the analysis. The correlation coefficients between all measured variables are displayed in Table 3.

3.1.1. Self-efficacy for verbal communication and quality of life.

A significant, large, negative correlation was found between self-efficacy and quality of life scores as measured by the SESAS-Approach scale and the OASES-IV impact rating, $r(37) = -.83, p < .001$. This negative relationship highlights that as SESAS-Approach scores increased, OASES-IV impact ratings decreased (Figure 1). In other words, because greater SESAS-Approach scores indicate greater self-efficacy and lower OASES-IV impact ratings indicate greater quality of life, we can say that the construct of self-efficacy is positively correlated with the construct of quality of life (i.e., greater self-efficacy is associated with greater quality of life). Partial correlation analysis to control for age and stuttered speech frequency revealed a significant, large, negative correlation between self-efficacy and quality of life, $r(35) = -.76, p < .001$. The co-efficient of determination suggests that a moderate-large portion (58%) of the variability in quality of life scores was explained by variability in self-efficacy scores.

3.1.2. Stuttered speech frequency and self-efficacy for verbal communication.

A significant, moderate, negative correlation was found between self-efficacy and stuttered speech frequency, $r(37) = -.32, p < .05$. Partial correlation analysis to control for age revealed a significant, moderate,

negative correlation between self-efficacy and stuttered speech frequency, $r(36) = -.34, p < .05$. The coefficient of determination suggests that just 11% of the variability in self-efficacy scores was explained by variability in stuttered speech frequency.

3.1.3. *Age, self-efficacy for verbal communication, and quality of life.*

A significant, moderate, positive correlation was found between the construct of self-efficacy (as measured by the SESAS-Approach scale) and age, $r(37) = .42, p < .001$. A significant, moderate, negative correlation was found between the construct of quality of life (as measured by the OASES-A) and age, $r(37) = -.45, p < .001$. Significant correlations were also found between age and reactions to stuttering, communication in daily situations, and overall impact as measured by the OASES-A (see Table 3). Given that lower OASES-A impact ratings indicate a lesser degree of negative impairment, we can say that age is positively correlated with reactions to stuttering, communication in daily situations, quality of life, and the total impact of stuttering (i.e., greater age is associated with improvement across these domains).

3.2. *Qualitative results*

Thematic analysis of the interview transcripts resulted in seven major themes and 27 sub-themes. These, along with the number of participants who endorsed each theme and exemplar responses with participant code, are presented in Table 4.

3.2.1. *Encumbrance*

The adults we spoke with discussed the burden and cumulative impact of living with a stuttering disorder over time. Many participants discussed feelings of living a life that is not authentic, with Participant 4 remarking “... *the first 40 years I didn't live the life I should have.*” Participants spoke of these feelings contributing to missed opportunities in personal, professional, and social domains, and the resultant impact on their engagement and quality of life.

3.2.2. *Confidence*

Confidence was discussed differently for individuals with high self-efficacy scores compared to those with low self-efficacy scores. Participants described how their confidence varied across different situations and different listeners.

3.2.3. *Self-concept*

Self-concept was discussed in light of how self-esteem, self-limiting beliefs, the reaction of others, and comparison to others impact upon the speaker's perception of themselves. Participants also reflected on how their perceptions of themselves changed over time, as demonstrated by Participant 4:

... I was my own worst enemy, by putting those self-limiting beliefs and those constraints about what I could do and what I couldn't do, for fear of being found out or for fear of looking silly... Because I am a person who stutters, my stutter does not control me or determine what I can do.

3.2.4. *Life-long journey*

Participants discussed the notion of stuttering being a life-long journey, with Participant 2 remarking “... *Honestly it never goes away completely, it's there, and so you have to keep controlling it rather than curing it.*” Within this theme, participants discussed their quest for fluency and acceptance, as well as perseverance, resilience, and determination. Participants were encouraged to share the lessons they had learned from living

with a stutter, and many spoke of increased empathy, tolerance, and compassion, and offered positive advice for other people who stutter, such as *“Just be confident and don’t let it get in the way of what you want to do.”*
- Participant 3.

3.2.5. Acceptance

Acceptance also emerged in the majority of the participants’ narratives. Many endorsed self-acceptance as an important feature of their life-long journey, with Participant 9 remarking *“Acceptance! ... Acceptance is more important than like recovery I think.”* Participant 4 shared that they had perceived their quality of life to improve after they accepted their stutter - *“As I became more open about it, then my world opened up... The sooner you accept your stutter, and disclose, and be open, it becomes a lot easier.”* While the importance of self-acceptance was highlighted, many people described how this process may be hindered by a lack of acceptance from others in the community.

3.2.6. Treatment

Treatment was also revealed as a major theme in the narratives of the people we spoke with. People shared their perspectives on accessing treatment, the impact of treatment, and their motivation to attend treatment. Participant 1 shared the positive impact that treatment has had on multiple life domains - *“It’s had a dramatic improvement to my personal and professional career which is fantastic.”* Participant 4 shared their motivation to commence treatment after they were unsuccessful for a promotion at work - *“Finally, more pain, went to GP who gave me a referral and I started my smooth speech program. And that kind of just transformed me.”* The uniqueness of each individual’s treatment experience was also highlighted throughout this theme.

3.2.7. Support

The final theme revealed in participants’ narratives was that of support. Within this theme, the importance of having a personal and professional support network was highlighted. Participant 3 shared *“[Friends and family] they’re happy with how I am I think... my family are used to it so I can speak freely to them and I’m comfortable with them.”*

4. Discussion

The present study explored the relationship between self-efficacy, quality of life, and stuttered speech frequency in a cohort of adults who stutter. This study is unique in that it is the first to investigate the relationship between self-efficacy and quality of life with the addition of a qualitative investigative component, and the relationship between self-efficacy and stuttered speech frequency, with a view of providing a broader understanding of the life experiences of adults who stutter.

Significant quantitative results revealed a large, positive correlation between the constructs of self-efficacy and quality of life, supporting previous research demonstrating that improved quality of life may be predicted by higher levels of self-efficacy (Boyle, 2016; Craig et al., 2009). Even after controlling for age and stuttered speech frequency, a large proportion of the variation in quality of life may be explained by self-efficacy. Significant quantitative results also found a moderate, negative correlation between stuttered speech frequency and the construct of self-efficacy, supportive of previous research demonstrating greater stuttered speech frequency to be related to lower levels of self-efficacy (Saltuklaroglu & Kully, 1998, as cited in Manning,

2010, p. 193). After controlling for age, a small proportion of the variation in self-efficacy may be explained by stuttered speech frequency. This suggests that factors other than stuttered speech frequency may be responsible for shaping an individual's self-efficacy beliefs. Investigation of such factors is outside of the scope of this study; however, this is an important area for future research using a larger sample.

In addition, moderate-to-large negative correlations were revealed between scores on self-efficacy measures and scores on the speaker's general knowledge of stuttering, reactions to stuttering, communication in daily situations, and the overall impact of childhood-onset stuttering as measured by the OASES-A (Yaruss & Quesal, 2010). As self-efficacy scores on the SESAS-Approach scale increased, the impact ratings on the OASES-A decreased, indicating a positive relationship between these constructs. This suggests that adults who stutter with greater self-efficacy experience a lesser degree of negative impairment across multiple life domains, demonstrating that self-efficacy beliefs have the potential to impact upon all areas of the life of the adult who stutters. These findings provide further support for the clinical usefulness of the OASES-A as a broad-based tool to measure the totality of the stuttering experience in the adult population.

Moderate correlations were also revealed between age and self-efficacy, reactions to stuttering, communication in daily situations, quality of life, and the overall impact as measured by the OASES-A. These findings suggest that there is a general trend for an individual's self-efficacy beliefs to increase, and the degree of negative impairment caused by living with a stuttering disorder to decrease, as an individual becomes older. Age, however, is unlikely to be solely responsible for this trend. The cumulative impact of an individual's treatment experiences, support group participation, and general life experience must also be considered, and this presents an interesting avenue for future research.

Qualitative findings revealed encumbrance, or adverse impact, to be the most prevalent theme regarding the life experiences of adults who stutter. This supports previous research that has demonstrated sufferance to be a central theme in the narratives of adults who stutter, where adults experience feeling of avoidance, shame, fear, and embarrassment (Beilby et al., 2013; Corcoran & Stewart, 1998). Participants also highlighted the positive role of support groups, in keeping with previous findings indicating that social support may predict improved quality of life (Boyle, 2015; Yaruss et al., 2002). As might be expected, individuals with higher self-efficacy scores spoke of increased confidence for verbal communication, suggestive of a high magnitude and strength of self-efficacy beliefs in line with Bandura's (1977) model of self-efficacy. By contrast, individuals with lower self-efficacy scores spoke of a fear of verbal communication, variability in communicative confidence depending on the listener and context, and choosing not to engage in speaking situations where their confidence was low. This is suggestive of a low magnitude, strength, and generality of self-efficacy beliefs in line with Bandura's (1977) model of self-efficacy. The following quote from Participant 1 highlights the interaction of the three facets of Bandura's (1977) model:

... It's almost entirely dependent on who I'm talking to... If I have very fluent talking or I'm calm, I can talk with some extra confidence and self-control. If I just can't seem to say anything correctly, I will either reduce conversation input or just say very simple answers.

In summary, the quantitative findings of this study support previous research that has demonstrated a reduced quality of life and reduced confidence in speaking situations for adults who stutter (Craig et al.,

2009; Ornstein & Manning, 1985). As was hypothesized, self-efficacy was shown to be positively correlated with quality of life, while stuttered speech frequency was shown to be negatively correlated with self-efficacy in a population of adults who stutter. The qualitative component enhances these findings by shedding light on the perceptions of quality of life from the perspective of adults who stutter, highlighting how quality of life may be influenced by self-efficacy, self-concept, treatment, and support (Boyle, 2015). In addition, qualitative findings highlighted the challenges of living with childhood-onset stuttering and the highly individualized nature of the experiences of adults who stutter.

4.1. *Clinical implications*

This study elucidated how speech-language pathologists who assist adults who stutter to develop greater self-efficacy may also benefit their quality of life. As such, approaches to the clinical management of adults who stutter would benefit from including strategies to increase the magnitude and strength of their self-efficacy beliefs, particularly with respect to verbal communication. In addition to benefits in quality of life, increasing self-efficacy for verbal communication for adults who stutter may also improve reactions to stuttering and communication in daily situations, providing a buffer against some of the adverse impacts of living with childhood-onset stuttering.

Contemporary speech-language pathology services subscribe to the principles of evidence-based practice (American Speech-Language-Hearing Association, 2016). The adults who participated in this study shared powerful narratives regarding their experiences of living with childhood-onset stuttering. Many people commented on the therapeutic benefit of sharing their life experiences, especially stories that they had not discussed with anyone in the past. The experiences shared highlight the individual nature of stuttering. Given that client factors (and the individual life experiences that shape these) are one of the cornerstones of evidence-based practice, approaches to management for this complex disorder need to be individually tailored for each client.

In light of Sheehan's (1970) iceberg analogy, clinical decisions are typically made based on the observable, surface features of childhood-onset stuttering (i.e., stuttered speech frequency), with limited consideration afforded to the less observable features (i.e., self-efficacy and quality of life). The findings of this study provide support for an integrated, multifaceted approach to the assessment and treatment of adults who stutter, whereby speech-language pathologists address the whole person. A new wave of holistic and integrated treatment is called for to ensure that the overt and covert aspects of adults who stutter are addressed at all stages of their treatment journey.

In recent years, research conducted by Beilby et al. (2012) has investigated the effectiveness of a novel, multi-layered approach to the treatment of adults who stutter, by integrating Acceptance and Commitment Therapy (ACT) with speech fluency tasks. ACT encourages mindfulness and acceptance with a focus on values-guided living to reduce experiential avoidance and adverse psychosocial impacts, in contrast to Cognitive Behavioural Treatment programs which aim to eradicate negative thoughts and feelings through cognitive restructuring (Beilby et al., 2012). The integration of ACT with speech fluency tasks has been shown to facilitate improvement in psychosocial functioning, preparation for change and therapy, utilisation of mindfulness skills, and overall speech fluency, with these gains maintained at three-month follow-up (Beilby et

al., 2012). Given that part of the daily struggle faced by adults who stutter is defined by the value placed upon fluent communication, ACT married with speech fluency tasks appears to be a viable treatment option for improving psychosocial functioning for adults who stutter (Beilby et al., 2012).

4.2. *Limitations*

Several limitations pertained to the recruitment of participants by way of convenience sampling. There was limited variability in the stuttered speech frequency of the participants included in this study. Numerous participants were either currently receiving treatment, or had received treatment in the past, resulting in many participants with a clinical diagnosis of 'mild' stuttering. The life experiences of adults who stutter who have received treatment are likely to be different to those who have not sought formal treatment. Further to this, the individuals included in this study are likely to have received counselling and support, which may have influenced the results. Accordingly, the findings of this study cannot be generalized to all adults who stutter. Future research could replicate these findings in a larger sample of adults who stutter, with an aim to include a more varied sample, particularly in terms of treatment status and stuttered speech frequency. Similarly, future research could also consider correlating the number of years of treatment or support group attendance with self-efficacy and quality of life measures, in order to ascertain the impact of these variables on the relationship between self-efficacy and quality of life for adults who stutter.

The methods of obtaining participants %SS ratings in order to calculate stuttered speech frequency were not consistent across all participants. Due to availability and scheduling constraints, only 29 out of the total 39 participants were interviewed for this study. Of these 29 interviews, 20 were conducted face-to-face, and the remaining nine interviews were conducted over the telephone. Six participants (who did not take part in an interview) were contacted by telephone in order to obtain a conversational speech sample from which to calculate stuttered speech frequency. The remaining four participants stuttered speech frequency ratings were obtained from their most recent treatment session with another speech-language pathologist. Stuttered speech frequency can vary markedly dependent on the communication modality and context (Manning, 2010). Therefore, the measures obtained may not be truly representative of each individual's stuttered speech frequency.

Cross-sectional research can demonstrate the relationship between two variables (e.g., self-efficacy and quality of life, self-efficacy and stuttered speech frequency) but cannot show causal relationships between these variables. In keeping with previous research, this study revealed a positive relationship between the constructs of self-efficacy and quality of life. However, the relationship between self-efficacy, quality of life, and stuttered speech frequency would benefit from further investigation in order to determine the true direction of this relationship, and which variable is responsible for influencing another. Even in the absence of data to suggest causation, implementation of strategies to increase the self-efficacy beliefs and quality of life for adults who stutter can do no harm. Future research in this area may test for changes in stuttered speech frequency and self-efficacy and quality of life scores pre- and post-therapy, using an intervention which indirectly trains self-efficacy.

5.0 Conclusion

The present study has demonstrated the importance of self-efficacy, quality of life, and the narratives of adults who stutter. Given that clinical decisions are often made based on stuttered speech frequency and not inclusive of self-efficacy and quality of life, these findings support a holistic, multilayered perspective in the approach to the assessment and treatment of adults living with childhood-onset stuttering. In addition, self-acceptance and self-concept emerged strongly in the narratives of the adults who participated in this study, which presents an avenue for future research to investigate the life experiences that shape this.

Acknowledgements

We thank all the participants who kindly gave up their time to take part in this research. We acknowledge the Curtin University Stuttering Treatment Clinic and the Speak Easy Association for their assistance with recruitment. Finally, we thank Kathy Viljoen and Dr Neville Hennessey for their assistance.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Bio Note

Alice K. Carter is a speech pathology graduate and research assistant from Curtin University, Perth, Western Australia. Her clinical and research interests include treatment of fluency disorders in both adult and paediatric populations, and quality of life for adults who stutter.

Lauren J. Breen is a registered psychologist and an associate professor at Curtin University, Perth, Western Australia. Her research interests are situated within health services research and she has particular expertise in qualitative and mixed methodologies.

J. Scott Yaruss is a Professor of Communicative Sciences and Disorders at Michigan State University. His research examines factors affecting the development and experience of stuttering and stuttering treatment. He has published approximately 70 peer-reviewed papers and more than 125 other works, including several books on stuttering treatment.

Janet M. Beilby is an Associate Professor in the School of Psychology and Speech Pathology at Curtin University, Perth, Western Australia. Her current research interests include parent-administered early treatment initiatives and the psychosocial impact of fluency disorders across the life-span including Acceptance and Commitment Therapy (ACT) for individuals living with stuttering.

References

- Allen, P., & Bennett, K. (2012). *SPSS A Practical Guide Version 20.0* (1st ed.). South Melbourne, Australia: Cengage Learning Australia
- American Speech-Language-Hearing Association. (2016). Scope of practice in Speech-Language Pathology [Scope of Practice]. Retrieved from www.asha.org/policy
- Babbitt, E., & Cherney, L. (2010). Communication confidence in persons with aphasia. *Topics in Stroke Rehabilitation, 17*(3), 214-223. doi: 10.1310/tsr1703-214
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. doi: 10.1037/0033-295X.84.2.191
- Beilby, J., Byrnes, M., & Yaruss, J. (2012). Acceptance and commitment therapy for adults who stutter: Psychosocial adjustment and speech fluency. *Journal of Fluency Disorders, 37*(4), 289-299. doi: 10.1016/j.jfludis.2012.05.003
- Beilby, J., Byrnes, M., Meagher, E., & Yaruss, J. (2013). The impact of stuttering on adults who stutter and their partners. *Journal of Fluency Disorders, 38*(1), 14-29. doi: 10.1016/j.jfludis.2012.12.001
- Beilby, J. (2014). Psychosocial impact of living with a stuttering disorder: Knowing is not enough. *Seminars in Speech and Language, 35*(2), 132-143. doi: <http://dx.doi.org/10.1055/s-0034-1371756>.
- Blood, G. (1995). A behavioral-cognitive therapy program for adults who stutter: Computers and counselling. *Journal of Communication Disorders, 28*(2), 165-180. doi: 10.1016/0021-9924(95)00008-2
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi: 10.1191/1478088706qp063oa
- Bray, M., Kehle, T., Lawless, K., & Theodore, L. (2003). The relationship of self-efficacy and depression to stuttering. *American Journal of Speech-Language Pathology, 12*(4), 425-431. Retrieved from <http://web.b.ebscohost.com.dbgw.lis.curtin.edu.au/ehost/pdfviewer/pdfviewer?sid=0b5f56b3-f68c-4bd8-a3e4-72350f5a1d9e%40sessionmgr102&vid=1&hid=107>
- Boyle, M. (2015). Relationships between psychosocial factors and quality of life for adults who stutter. *American Journal of Speech-Language Pathology, 24*(1), 1-12. doi: 10.1044/2014_AJSLP-14-0089
- Boyle, M. (2016). Relations between causal attributions for stuttering and psychological well-being in adults who stutter. *International Journal of Speech-Language Pathology, 18*(1), 1-10. doi: 10.3109/17549507.2015.1060529
- Corcoran, J., & Stewart, M. (1998). Stories of stuttering: A qualitative analysis of interview narratives. *Journal of Fluency Disorders, 23*(4), 247-264. doi: 10.1016/S0094-730X(98)00020-5
- Craig, A., Blumgart, E., & Tran, Y. (2009). The impact of stuttering on the quality of life in adults who stutter. *Journal of Fluency Disorders, 34*(2), 61-71. doi: 10.1016/j.jfludis.2009.05.002
- Craig, A., Blumgart, E., & Tran, Y. (2011). Resilience and stuttering: Factors that protect people from the adversity of chronic stuttering. *Journal of Speech, Language, and Hearing Research, 54*(6), 1485-1496. doi: 10.1044/1092-4388(2011/10-0304)

- Craig, A., Blumgart, E., & Tran, Y. (2015). A model clarifying the role of mediators in the variability of mood states over time in people who stutter. *Journal of Fluency Disorders, 44*, 63-73. doi: <http://dx.doi.org/10.1016/j.jfludis.2015.03.001>
- Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). City, CA: Sage.
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods Approaches* (3rd ed.). City, CA: Sage.
- Cummins, R. (2010). Fluency disorders and life quality: Subjective wellbeing vs. health-related quality of life. *Journal of Fluency Disorders, 35*(3), 161-172. doi: 10.1016/j.jfludis.2010.05.009
- Eccles, F., & Simpson, J. (2011). A review of the demographic, clinical, and psychosocial correlates of perceived control in three chronic motor illnesses. *Disability and Rehabilitation, 33*(13-14), 1065-1088. doi: 10.3109/09638288.2010.525287
- Gatzonis, S., & Fabus, R. (2015). A preliminary study investigating the effects of a modified yoga breathing program with four individuals who stutter. *Contemporary Issues in Communication Science and Disorders, 42*, 246-259. Retrieved from http://search.proquest.com.dbgw.lis.curtin.edu.au/docview/1775172123?rfr_id=info%3Axri%2Fsid%3Aprimo
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59-82. doi: 10.1177/1525822X05279903
- Guitar, B. (2014). *Stuttering: An Integrated Approach to Its Nature and Treatment* (4th ed.). Philadelphia, PA: Lippincott Williams & Wilkins
- Hanson, W., Creswell, J., Clark, V., Petska, K., & Creswell, J. (2004). Mixed methods research designs in counseling psychology. *Journal of Counseling Psychology, 52*(2) 224-235. doi: 10.1037/0022-0167.52.2.224
- Iverach, L., Menzies, R., O'Brian, S., Packman, A., & Onslow, M. (2011). Anxiety and stuttering: Continuing to explore a complex relationship. *American Journal of Speech-Language Pathology, 20*(3), 221-232. doi: 10.1044/1058-0360(2011/10-0091
- Iverach, L., & Rapee, M. (2014). Social anxiety disorder and stuttering: Current status and future directions. *Journal of Fluency Disorders, 40*, 69-82. doi: 10.1016/j.jfludis.2013.08.003
- Kraft, S., Ambrose, N., & Chon, H. (2014). Temperament and environmental contributions to stuttering severity in children: The role of effortful control. *Seminars in Speech and Language, 35*(2), 80-94. doi: <http://dx.doi.org/10.1055/s-0034-1371753>
- Langevin, M., Huinck, W., Kully, D., Peters, H., Lomheim, H., & Tellers, M. (2006). A cross-cultural, long-term outcome evaluation of the ISTAR comprehensive stuttering program across Dutch and Canadian adults who stutter. *Journal of Fluency Disorders, 31*(4), 229-256. doi: 10.1016/j.jfludis.2006.06.001
- Laplante-Lévesque, A., Hickson, L., & Worrall, L. (2011). Predictors of rehabilitation intervention decisions in adults with acquired hearing impairment. *Journal of Speech, Language, and Hearing Research, 54*, 1385-1399. doi: 10.1044/1092-4388(2011/10-

0116)

- Maibach, E., & Murphy, D. (1995). Self-efficacy in health promotion research and practice: Conceptualization and measurement. *Health Education Research, 10*(1), 37-50. Retrieved from https://www.researchgate.net/profile/Edward_Maibach/publication/249278658_Self-Efficacy_in_Health_Promotion_Research_and_Practice_Conceptualization_and_Measurement/links/56ec6bb208ae4b8b5e733667.pdf
- Manning, W. (2010). *Clinical Decision Making in Fluency Disorders* (3rd ed.). New York, US: Delmar Cengage Learning
- Mays, N., & Pope, C. (1995). Rigor and qualitative research. *British Medical Journal, 311*(6997), 109-112. Retrieved from <http://www.bmj.com.dbgw.lis.curtin.edu.au/content/311/6997/109>
- Mirawdeli, A., & Howell, P. (2016). Is it necessary to assess fluent symptoms, duration of dysfluent events, and physical concomitants when identifying children who have speech difficulties? *Clinical Linguistics & Phonetics, 30*(9), 696-719. doi: 10.1080/02699206.2016.1179345
- Mulcahy, K., Hennessey, N., Beilby, J., & Byrnes, M. (2008). Social anxiety and the severity and typography of stuttering in adolescents. *Journal of Fluency Disorders, 33*(4), 306-319. doi: 10.1016/j.jfludis.2008.12.002
- Ornstein, A., & Manning, W. (1985). Self-efficacy scaling by adult stutterers. *Journal of Communication Disorders, 18*(4), 313-320. doi: 10.1016/0021-9924(85)90008-5
- Patton, M. (1990). *Qualitative Evaluation and Research Methods* (2nd ed.). Newbury Park, California: Sage Publications
- Rees, C., Breen, L., Cusack, L., & Hegney, D. (2015). Understanding individual resilience in the workplace: The international collaboration of workforce resilience model. *Frontiers in Psychology, 6*, 1-7. doi: 10.3389/fpsyg.2015.00073
- Sheehan, Joseph G. (1970.) *Stuttering: Research and Therapy*. New York, US: Harper and Row
- Smith, A., & Weber, C. (2016). Childhood stuttering: Where are we and where are we going? *Seminars in Speech and Language, 37*(4), 291-297. doi: <http://dx.doi.org/10.1055/s-0036-1587703>.
- Speech Pathology Association of Australia. (2010). Evidence-based practice in Speech Pathology. Retrieved from <http://www.speechpathologyaustralia.org.au>
- Speech Pathology Association of Australia. (2016). Clinical Guideline: Stuttering Management. Retrieved from http://www.speechpathologyaustralia.org.au/spaweb/Document_Management/Restricted/Clinical_Guidelines.aspx
- Tabachnick, B., & Fidell, L. (2013). *Using Multivariate Statistics* (6th ed.). Boston, US: Pearson Education
- Thomasson, P., & Psouni, E. (2010). Social anxiety and related social impairment are linked to self-efficacy and dysfunctional coping. *Scandinavian Journal of Psychology, 51*(2), 171-178. doi: 10.1111/j.1467-9450.2009.00731.x
- Van Leer, E., Hapner, E., & Conner, N. (2008). Transtheoretical model of health behavior change applied to voice therapy. *Journal of Voice, 22*(6), 688-698. doi: 10.1016/j.jvoice.2007.01.011

- World Health Organization. (2002). *Towards a common language for functioning, disability and health: ICF* (Report). Retrieved from: <http://www.who.int/classifications/icf/icfbeginnersguide.pdf?ua=1>
- Yaruss, J., Quesal, R., Reeves, L., Molt, L., Kluetz, B., Caruso, A., McClure, J., & Lewis, F. (2002). Speech treatment and support group experiences of people who participate in the National Stuttering Association. *Journal of Fluency Disorders, 27*, 115-134. doi: [https://doi.org/10.1016/S0094-730X\(02\)00114-6](https://doi.org/10.1016/S0094-730X(02)00114-6)
- Yaruss, J., & Quesal, R. (2004). Stuttering and the International Classification of Functioning, Disability, and Health (ICF): An update. *Journal of Communication Disorders, 37*(1), 35-52. doi: 10.1016/S0021-9924(03)00052-2
- Yaruss, J., & Quesal, R. (2006). Overall Assessment of the Speaker's Experience of Stuttering (OASES-A): documenting multiple outcomes in stuttering treatment. *Journal of Fluency Disorders, 31*(2), 90-115. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/16620945>
- Yaruss, J. (2010). Assessing quality of life in stuttering treatment outcomes research. *Journal of Fluency Disorders, 35*(3), 190-202. doi: 10.1016/j.jfludis.2010.05.010

Appendix A

Example Semi-Structured Interview Questions

General

1. Let's start by having you tell me a little bit about yourself.
2. Let's talk about stuttering. What's your story?

Quality of Life

3. How has your stutter had an impact on the way that you live your life?

Self-Efficacy

4. Talk to me in general about how confident you feel in speaking situations?

Closing Question

5. Do you have any other thoughts, comments, or reflections that you would like to share with me today?