School of Allied Health

An Integrated Fluency and Psychosocial Treatment for Adults Who Stutter: Addressing Stuttering and Self-Efficacy with Acceptance and Commitment Therapy

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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007), updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number: HRE2018-0624 (Appendix A).

Signature: 

Date: 9th August, 2022

Acknowledgment of Country

I acknowledge that Curtin University works across hundreds of traditional lands and custodial groups in Australia, and with First Nations people around the globe. I wish to pay my deepest respects to their ancestors and members of their communities, past, present, and future.

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Curtin University Stuttering Treatment Clinic

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Participants

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Abstract

Stuttering is a potentially lifelong neurodevelopmental disorder that can impact across the speaker's personal, social, emotional, and vocational life domains. Historically, relapse in long-term treatment success is a common challenge for adults who stutter (AWS) and speech-language pathologists alike. With these significant challenges in mind, contemporary research has acknowledged that effective management of stuttering in adulthood needs to address the disorder from a holistic perspective. Thus, contemporary, efficacious intervention for AWS needs to address more than speech fluency by encompassing techniques that target the psychosocial components of this disorder as well.

Self-efficacy is an attribute that can determine the confidence that AWS have in their capacity to enact change and confidently participate in communicative exchanges. Hence, it is an important psychosocial construct to consider in the assessment and treatment of stuttering. Research regarding self-efficacy has been related to quality of life, psychological resilience, and maintenance of treatment outcomes for AWS, but documented intervention protocols that explicitly support self-efficacy alongside speech fluency for AWS are lacking.

Acceptance and Commitment Therapy (ACT) is a psychosocial intervention that has been demonstrated to increase self-efficacy across a wide range of health challenges. The comprehensive applicability of such an approach has positioned ACT as an intervention that may be integrated with speech fluency techniques to simultaneously address and benefit speech fluency and self-efficacy for AWS to promote greater social engagement. To date, there are relatively few studies of integrated interventions of this nature in the management of stuttering, but some existing research has yielded promising positive results for speech fluency,

psychological flexibility, and psychosocial functioning (Beilby et al., 2012; Cheasman & Everard, 2013; Freud et al., 2020).

This doctoral thesis describes the development and implementation of such an integrated fluency and psychosocial management program for AWS. The first author, the doctoral student, has written the "fACTS Program" – a novel, integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and AWS. The program is primarily based upon and extends the original work by Beilby and colleagues' (2012) in appraising an integrated fluency and psychosocial (ACT) intervention.

Three separate studies comprise this body of research for this thesis. The first and foundational research adopted qualitative methodology to explore the nature of the self-efficacy beliefs of AWS, with a view of informing the structure and content of the fACTS Program. The second study was a large-scale clinical trial of the fACTS Program, aimed at determining the feasibility of the intervention in addressing the speech fluency and self-efficacy needs of adolescents and AWS. Further, this study considered the long-term maintenance and durability of biopsychosocial improvements that occurred during and after the intervention. The third and final research study implemented qualitative methodology to determine the social and clinical validity, authenticity, and acceptability of the fACTS Program, from the perspective of the AWS who received the intervention. This comprehensive consumer evaluation warrants positioning in contemporary health research where functional outcomes supporting community engagement and efficient health care resource management are paramount.

The findings in the first study, highlighted the nature of the self-efficacy beliefs experienced by AWS and provided support for the understanding that the

speaker's experience of stuttering extends beyond their speech fluency. It was further demonstrated how AWS often experience conflict between their desire to speak fluently and their desire to communicate freely. The result highlighted how the participants' view of their speech fluency, their perspective of themselves as a person who stutters, and their communicative confidence were all found to be inextricably linked. These findings were used to inform the structure and content in the development of the fACTS Program.

The second study involved the implementation and evaluation of the clinical trial intervention. In this study, 29 AWS participated in this feasibility study of the fACTS Program. Overall data were obtained from 28 participants who ultimately completed the program and provided post-intervention, follow-up data. Findings from this study demonstrated significant reductions in stuttered speech frequency which were maintained at three- and six-months post-intervention, along with significant pre- and post-intervention improvements in self-efficacy, psychological flexibility, and psychosocial functioning, with gains maintained at three- and six-months post-intervention.

The third study investigated the authenticity, acceptability, and social validity of the intervention. Participants self-reported positive psychosocial changes as a result of the fACTS Program and deemed the program content and resources to be very practical and beneficial. The clinical validity of the fACTS Program was demonstrated through the positive changes to speech fluency, self-efficacy, and overall psychosocial functioning across the various intervention formats (e.g., group versus individual, weekly versus fortnightly) and modalities (e.g., face-to-face versus telepractice).

Incorporated together, the findings from the three studies provide support for the fACTS Program as an intervention that simultaneously addresses, and positively influences, the speech fluency and self-efficacy beliefs of AWS. This body of research has substantial clinical relevance in a field that has limited long-term positive treatment findings for AWS. Overall findings endorse the contemporary viewpoint of an individualized and multifaceted approach to the clinical management of adult stuttering disorders. In addition, the need to consider and subsequently address the self-efficacy beliefs of AWS in clinical management is highlighted, with the present research demonstrating that the fACTS Program can achieve this aim.

In summary, this thesis presents the development and implementation of the fACTS Program and demonstrates its clinical effectiveness as a holistic, client-centered, cost-effective, and durable intervention for AWS. In addition, the research showed that the fACTS Program can be administered in flexible and diverse formats by different speech-language pathologists to achieve greater speech fluency and social engagement for their clients. This is the first published intervention protocol of this integrated intervention for adolescents and AWS, and provides detailed, comprehensive clinician and client workbooks and resources for administration by the treating speech-language pathologist with supported evidence of participation by the client receiving intervention. Future research is recommended to further evaluate and provide additional support for the effectiveness of this integrated intervention.

List of Peer-Reviewed Publications Arising from this Thesis

Carter[1], A. K., Breen, L. J., & Beilby, J. M. (2019). Self-efficacy beliefs: Experiences of adults who stutter. *Journal of Fluency Disorders, 60*, 11-25. https://doi.org/10.1016/j.jfludis.2019.03.002

Hart, A. K., Breen, L. J., & Beilby, J. M. (2021). Evaluation of an integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter: Participant perspectives. *Journal of Fluency Disorders, 69*, 105852. https://doi.org/10.1016/j.jfludis.2021.105852

[1] This paper is published under the doctoral student's maiden name.

Statement of Author Contributions

The nature and extent of the intellectual input by myself, the doctoral candidate, and co-authors has been validated by all authors (Appendix B). As first author of the aforementioned publications (Carter et al., 2019; Hart et al., 2021), I was responsible for the conceptualization, design, and implementation of each study, including data collection and analysis. I was responsible for writing, approving, and submitting the manuscript. All co-authors assisted with the conceptualization of the study and participated in discussions regarding data analysis and interpretation of findings. All co-authors were also responsible for editing the manuscript and providing approval before submission for publication.

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Glossary of Abbreviations

AAQ-2	Acceptance and Action Questionnaire 2
ACT	Acceptance and Commitment Therapy
AWS	Adults and adolescents who stutter
CUSP	Curtin University Stuttering Treatment Program
CUSTC	Curtin University Stuttering Treatment Clinic
fACTS Program	Fluency and Acceptance and Commitment Therapy for Stuttering Program
GLMM	Generalized linear mixed modelling
OASES	Overall Assessment of the Speaker's Experience of Stuttering
SESAS	Self-Efficacy Scale for Adult Stutterers
SLP	Speech-language pathologist
%SS	Percentage of syllables stuttered

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Appendix C contains a copy of the Therapist Workbook created as part of the fACTS Program. This workbook contains reproductions of freely available resources created by Dr Russ Harris. Permission was sought and granted via e-mail to include these resources in this published thesis, as follows: *"You are free to reproduce and use any or all of my materials as desired, at no cost, provided you: a) leave copyright details and/or contact details intact; and b) do not charge money for them (aside from any printing costs)."* A copy of this e-mail can be found in Appendix D.

Chapter 1

Introduction

Chapter 1: Introduction

Developmental stuttering is a complex and multifaceted neurodevelopmental speech disorder that onsets in early childhood (Manning & DiLollo, 2018; Smith & Weber, 2017). Stuttering occurs due to the motoric breakdown in fluent speech production, in the form of involuntary dysfluencies known as whole- or part-word repetitions, sound prolongations, and/or silent or audible blocks in voicing (Bloodstein & Bernstein Ratner, 2008; Yairi & Seery, 2011) which disrupt the forward-moving flow and rhythm of fluent speech (Manning & DiLollo, 2018). If not remediated in early childhood, stuttering may persist into adulthood as a chronic condition with adverse effects upon quality of life across social, emotional, and personal domains (Beilby, 2014; Boyle, 2015; Craig et al., 2009; Craig et al., 2011).

Adolescents and adults who stutter (AWS) experience unique physical, environmental, and emotional consequences of their stuttered speech (Beilby, 2014; Smith & Weber, 2017). In 1970, Joseph Sheehan proposed the historic "iceberg analogy" to demonstrate that the speaker's experience of stuttering is greater than the surface, overt features (i.e., speech typography of repetitions, prolongations, and blocks). This hallmark model highlighted the unobservable, covert aspects of the disorder, including the speaker's cognitive and affective reactions to stuttering. Further, Yaruss and Quesal (2004) adapted the World Health Organization's International Classification of Functioning and Disability Framework (WHO, 2002) to highlight the interplay between the overt (i.e., behavioral) and covert (i.e., cognitive and affective) features of stuttering. This in turn, has provided clinicians and researchers alike with a biopsychosocial lens through which stuttering can be viewed, in order to inform holistic assessment and intervention decisions. Contemporary research has highlighted the importance of considering such overt and

covert features of stuttering in clinical management (Carter et al., 2017; Carter et al., 2019; Connery et al., 2020; Smith & Weber, 2017).

The complex interplay between the overt and covert features of stuttering presents pervasive and unique psychosocial challenges for AWS. Numerous studies have highlighted that AWS experience reduced quality of life (Beilby, 2014; Carter et al., 2017; Craig et al., 2009; Craig et al., 2011), present with high levels of self-stigma (Boyle, 2013), are less confident about engaging in verbal communication (Iverach & Rapee, 2014; Ornstein & Manning, 1985; Thomasson & Psouni, 2010), have lower levels of educational attainment (O'Brian et al., 2011), experience occupational disadvantage, and are more likely to be unemployed (Gerlach et al., 2018; Zebrowski, 2016) compared to their typically fluent peers. In addition to these complex challenges, the chronic nature of stuttering in adulthood presents various economic challenges for individuals who stutter. Individuals seeking assistance with their stuttering can choose to access direct (e.g., speech-language pathology) or indirect (e.g., pharmacotherapy, psychotherapy) interventions, though each is associated with various and significant financial and personal costs (Blumgart et al., 2010).

Self-efficacy has been identified in recent years as an important psychosocial factor to consider in the management of stuttering due to its prognostic potential for overall client wellbeing, engagement, and success in treatment outcomes (Carter et al., 2017). Self-efficacy has been associated with greater levels of personal control (Boyle, 2015), psychological resilience (Craig et al., 2011), quality of life (Carter et al., 2017), and ultimately communicative participation (Boyle, 2018; Boyle et al., 2018). In addition, self-efficacy has been associated with the maintenance and

durability of treatment outcomes (Bray et al., 2003; Ladouceur et al., 1989; Langevin et al., 2006), which have proved challenging in long-term treatment success.

Clinical Management of Stuttering and Associated Challenges

There is important evidence in the literature endorsing the effectiveness of traditional fluency management techniques (e.g., fluency shaping and stuttering modification) in the short-term (see Blomgren et al., 2005; Helgadottir et al., 2014; Howie et al., 1981; Ingham & Andrews, 1973; Langevin et al., 2006; Menzies et al., 2008). However, maintenance of speech fluency gains continues to be a significant challenge for speech-language pathologists (SLPs) who work with AWS, with relapse rates reported in up to 60% of cases (Craig, 1998; Howie et al., 1981). Fluency shaping and stuttering modification techniques approach the management of stuttering differently, but some clinicians choose to adopt techniques from each approach in individualizing client-centered choices in clinical practice.

Fluency shaping techniques, also known as fluency enhancement or variants of prolonged speech, aim to achieve controlled fluency via modification to the articulatory and phonatory gestures required for speaking (Guitar, 2014; Manning & DiLollo, 2018). The resultant speech pattern is ultimately incompatible with stuttering, and thus there is no need to modify individual instances of stuttered speech behaviors. In order to achieve fluent speech using fluency shaping techniques, the speaker needs to exert a degree of control over the following parameters of forward-moving speech (Guitar, 2014; Manning & DiLollo, 2018): airflow (continuous through the glottis), articulatory gestures (“soft” or “light” contact between articulators), phonatory gestures (linkage and gliding between sounds and words), and rate of speech (measured and reduced).

Stuttering modification techniques essentially support the speaker to stutter in an easier manner, with less vocal and articulatory tension overall (Guitar, 2014; Manning & DiLollo, 2018). These techniques include strategies dedicated to reducing negative attitudes towards verbal communication and increasing acceptance of stuttering. The first phase of stuttering modification involves symptom analysis to identify and describe individual moments of stuttering – including both overt and covert reactions (Guitar, 2014; Manning & DiLollo, 2018). By accurately identifying and describing moments of stuttering, it is suggested that the speaker is better equipped to modify them (Guitar, 2014). The second phase involves desensitization to the moment of stuttering (Manning & DiLollo, 2018). Pseudo-stuttering, or voluntary stuttering, is often used in this phase to allow the client to regain control over when stuttering happens and demonstrate that stuttering can occur without negative reactions or consequences. The final phase of stuttering modification teaches three strategies to modify moments of stuttering: cancellations, pull-outs, and preparatory sets. Detailed information regarding these specific techniques can be found in Chapter 14 of Guitar's (2014) text.

An individual's ability to effectively manage the daily challenges of living in a constructive manner may underscore and support durable therapeutic change over time (Bandura 2008; Bandura, 2011). In relation to the successful management of stuttering, this may be achieved by improving psychosocial functions such as an individual's general self-efficacy beliefs and overall self-efficacy for verbal communication. Craig (1998) emphasized the importance of one's ability to engage in self-directed change in the maintenance of therapeutic gains. Manning and DiLollo (2018) further posit that it is the speaker's ability to engage in self-directed change that determines the durability of intervention outcomes. Boyle (2018)

suggested that behavioral interventions (e.g., fluency shaping and stuttering modification) provided concurrently with psychosocial interventions (e.g., Acceptance and Commitment Therapy) may improve behavioral outcomes, overall psychosocial functioning, and self-efficacy, and ultimately support the durability of gains made in intervention.

Psychosocial Management of Stuttering: Acceptance and Commitment Therapy

Acceptance and Commitment Therapy (ACT) is part of the third wave of cognitive behavior therapy interventions (Harris, 2019). The acronym reflects a key message – accept what is outside of your personal control and take action that aligns with your personal values (Harris, 2019). This behavioral psychotherapy focuses on promoting psychological flexibility to support experiential acceptance and the living of a life guided by one's personal values (Harris, 2019). Cognitive Behavior Therapy (CBT) has been used previously in stuttering intervention with variable success reported (e.g., Iverach et al., 2011; Menzies et al., 2008). Acceptance and Commitment Therapy differs from CBT in that it places emphasis on the acceptance and mindfulness of thinking styles, as opposed to control and transformation of thoughts (Beilby & Yaruss, 2018). A randomized controlled trial of an integrated fluency and CBT intervention found improvements in social anxiety symptoms at 12-months post-intervention; however, gains made in speech fluency were not maintained (Menzies et al., 2008). These findings were replicated in a subsequent study (Helgadottir et al., 2014), although several participants declined to complete the intervention. Dalrymple and Herbert (2007) conducted a review of CBT for the treatment of social anxiety in the general population and found that while CBT is efficacious, many participants do not respond to the treatment techniques. In

addition, those participants who did respond positively to CBT often displayed residual symptoms at follow-up (Dalrymple & Herbert, 2007).

The benefits of ACT have been demonstrated in other allied health disciplines as comprehensive (see Chapter 3), and consequently ACT as a psychosocial intervention has garnered increased attention in recent years (Everard & Cheasman, 2020). It is noteworthy that the primary aim of ACT is not necessarily symptom reduction per se; however, such reduction is often a concomitant result of the intervention (Harris, 2019). The primary aim of ACT is to achieve psychological flexibility which is the process of being psychologically present to experience the full spectrum of human emotions and promote positive experiential living guided by personal values (Beilby et al., 2012; Harris, 2019). This process of psychological flexibility is achieved by addressing cognitive fusion and experiential avoidance in the individual. Cognitive fusion refers to the "fusing" with individual thoughts in such a way that it becomes difficult to disengage and separate them from reality (Harris, 2019). Adolescents and AWS may experience cognitive fusion when their thoughts are not easily separated from reality and they begin to control the person's behavior. The daily challenges experienced by AWS are frequently demarcated by the value placed upon communicating fluently. The person may view stuttering as a defining characteristic of themselves, which results in experiential avoidance, or they may try to avoid the thoughts, feelings, and emotions related to stuttering. In essence, the individual engages in escape or avoidance behaviors in order to detach from their present-moment unpleasant experiences (e.g., negative feelings). A person who stutters for example, may avoid making telephone calls in order to evade feelings of embarrassment, or because they are "fused" with a thought such as "I'm a failure at communicating over the telephone". In the ACT philosophy, cognitive fusion and

experiential avoidance may lead to situational avoidance, which in turn reduces the individual's opportunities to establish, maintain, and evolve their self-efficacy beliefs.

The psychological flexibility promoted by ACT can be considered in the context of Bandura's (1977) social cognitive theory. The development and maintenance of self-efficacy beliefs is influenced by the individual's physiological state. For example, AWS who experience heightened stress or social anxiety may have lower self-efficacy for verbal communication. Through use of specific ACT techniques, AWS can learn that the experience of emotions (positive or negative) is a normal part of the human experience, and efforts to avoid these experiences only exacerbate the struggle. As the individual moves towards acceptance, this struggle is reduced (Harris, 2019). An individual's self-efficacy beliefs may influence the type of activities with which they choose to engage, and with ACT, they can engage in opportunities for self-growth and personal enjoyment, living a life more fully guided by their personal values (Bandura, 1977; Bandura et al., 1977; Harris, 2019).

Successful preliminary data for the effectiveness of ACT in the management of stuttering has been reported (e.g., Beilby et al., 2012; Cheasman et al., 2013; Freud et al., 2020), with improvements in speech fluency, psychological flexibility, communicative engagement, and quality of life. Self-efficacy is an important psychosocial factor that remains to be highlighted in such integrated research initiatives. In light of positive overall preliminary results in the application of ACT to stuttering and psychosocial improvements, further clinical research integrating fluency and ACT principles is warranted.

The Present Research

The over-arching aim of the present dissertation is to extend preliminary research that demonstrated the effectiveness of combining ACT with traditional fluency management techniques (Beilby et al., 2012). In so doing, the research initiatives undertaken for this thesis evaluated the impacts of a novel and integrated fluency and psychosocial intervention (i.e., fluency and ACT intervention), with a focus on improved self-efficacy, to determine whether simultaneously targeting speech fluency and self-efficacy in intervention can yield positive behavioral, cognitive, and affective outcomes for AWS. More broadly, this research aimed to provide further clarification regarding the impact and importance of self-efficacy for treatment outcomes and psychosocial functioning in AWS, and to provide additional support for the clinical need for a multidimensional treatment approach in the successful clinical management for stuttering disorders. This body of work sought to answer the following research questions:

i) What are the lived experiences regarding self-efficacy beliefs for AWS and how do these lived experiences support and inform the use of an integrated fluency and psychosocial intervention to address the self-efficacy beliefs of AWS?

ii) Do AWS who participate in an integrated fluency and psychosocial intervention demonstrate significant pre- and post-intervention differences in stuttered speech frequency, self-efficacy, psychological flexibility, and psychosocial functioning and are any observed differences maintained three- and six-months post-intervention?

iii) What are the evaluations of the AWS who participated in the integrated fluency and psychosocial intervention with respect to its usefulness, authenticity, acceptability, and social validity?

To address these questions, this research was conducted in three separate studies, two of which have been published in the Journal of Fluency Disorders (see Carter et al., 2019; Hart et al., 2021) during the course of the first author's thesis studies. A third manuscript, detailing the outcomes of the clinical trial, is in preparation. The objectives of each study are described in detail below.

Study One

The purpose of Study One was twofold:

(i) to explore the lived of experience of self-efficacy beliefs of AWS, and

(ii) to use these findings as the foundation for a novel fluency and psychosocial intervention protocol that simultaneously addressed speech fluency and self-efficacy for AWS.

Previously collected qualitative interviews conducted with 29 AWS as part of the first author's published Honors research project were analyzed in this study. The previous work (Carter et al., 2017) examined exclusively the quality-of-life impacts of living with a stuttering disorder. The existing data set contained extensive reflections regarding self-efficacy that were unexplored in the previous work, and therefore formed the basis of the current investigation into the self-efficacy beliefs of AWS. The themes identified described form the qualitative analyses of the self-efficacy reflections described the complex nature of the self-efficacy beliefs experienced by AWS and highlighted the inextricable link between fluency and self-efficacy. These findings were used to inform and develop the novel integrated

fluency and psychosocial intervention titled the "fACTS Program" and were published in the Journal of Fluency Disorders (Carter et al., 2019; see Chapter 2).

Study Two

The purpose of Study Two was to evaluate the feasibility, effectiveness, and long-term benefits of the fACTS Program through provision of a clinical trial with AWS from Australia and internationally. The clinical trial is registered with the Australian New Zealand Clinical Trial Registry (ANZCTR, 2022). It was hypothesized that AWS who participated in the fACTS Program would demonstrate positive change in measures of speech fluency, self-efficacy for verbal communication, psychological flexibility, and the total impact of stuttering. It was further hypothesized that these changes would be maintained three- and six-months post-intervention.

Two certified-practising SLPs with expertise in fluency disorders, herein referred to as "Therapist 1" and "Therapist 2", administered the fACTS Program to 29 AWS. Chapter 4 provides a comprehensive summary of the administration of the fACTS Program. I (Therapist 1) treated the majority of participants (n = 20), based in metropolitan Perth, Western Australia. Participants spanned a range of locations across the Southern Hemisphere including remote/regional Western Australia (n = 1), various locations across metropolitan Perth in Western Australia (n = 18), and Cape Town in South Africa (n = 1). Due to a thriving mining industry, "fly-in, fly-out" work roles are popular amongst Western Australians. Several participants (n = 4) held a "fly-in, fly-out" position and travelled between remote/regional country towns and metropolitan Perth for work purposes. With these geographical considerations in mind, the intervention was delivered flexibly across individual

(*n* = 17) and group (*n* = 3; single group) treatment formats, and face-to-face (*n* = 8), telepractice (*n* = 5), or mixed modalities (*n* = 4).

Administration of the fACTS Program also took place in the United States of America. Expressions of interest were sought and received from several international SLP collaborators to participate in the administration of this contemporary research into ACT and stuttering. Therapist 2, a researcher/clinician working in a large, private practice setting in the United States of America, was trained in the intervention protocol and administered the fACTS Program with their private clients (*n* = 9) in Chicago, Illinois. All nine participants resided in Chicago, Illinois at the time of the intervention, and received the face-to-face intervention. Several of these participants (*n* = 7), received group intervention (one group of 3, one group of 4), whilst the remaining participants *(n* = 2) received individual interventions.

The integrated program comprised eight intervention sessions, with combined fluency and ACT activities in each. Each session took 60-90 minutes. A detailed overview of the fACTS Program is presented in Chapter 3. Results from this study found significant improvements in stuttered speech frequency, self-efficacy, psychological flexibility, and psychosocial wellbeing. The clinical validity of the intervention and the applicability of the present research is deemed particularly relevant in the current COVID-19 world pandemic where flexibility of service delivery has emerged as an increasing priority in health care. Chapter 4 provides a comprehensive overview of this study, with an associated manuscript currently in preparation.

Study Three

Study Three was conducted to evaluate the acceptability, authenticity, and clinical and social validity of the fACTS Program from the perspective of the AWS

who received the intervention. All participants who took part in the intervention (n = 29) were invited to provide quantitative and qualitative feedback, by way of a post-intervention written questionnaire and a semi-structured verbal interview. All but one participant (n = 28) who completed the intervention provided post-intervention data. This low attrition rate provides support for the social validity and acceptability of the fACTS Program. Written survey results indicated that participants perceived positive psychosocial changes as a result of the fACTS Program and were highly satisfied with the program overall. Thematic analysis of the qualitative interviews identified specific and non-specific factors related to the therapeutic process that were used to support the authenticity, acceptability and social validity of the fACTS intervention from a consumer perspective. Such recommendations and feedback will subsequently inform future iterations of the fACTS Program. These findings were published in the Journal of Fluency Disorders (Hart et al., 2021; see Chapter 5).

To provide a comprehensive summary of this body of work, this thesis is presented in the form of a hybrid submission, comprising two journal articles presented in their published form (found in Chapter 2 and Chapter 5) and four traditional typescript chapters. Given that Chapter 2 and Chapter 5 are presented in their originally published form, please note that the numbering of tables may duplicate those presented in the typescript chapters. Only those tables that appear in the typescript chapters are shown in the "List of Tables" on page xiv. The results described in Chapter 4 will later be adapted to submit in a manuscript for publication. The thesis concludes with a master reference list for all chapters and appendices for the preceding typescript chapters.

Chapter 2

Self-efficacy beliefs: Experiences of adults who stutter

Chapter 2: Self-efficacy beliefs: Experiences of adults who stutter

The following journal article, published in the Journal of Fluency Disorders and reproduced in this thesis with the permission of Elsevier[2], reports on the findings of Study One. Please note that the tables and appendices relevant to this paper appear in their original, published format and have not been included in the "List of Tables" (p. xiv) or "Appendices" (p. 121) of this thesis, to maintain the flow and formatting of this thesis. The page numbering will continue after the insertion of the journal article.

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Self-efficacy beliefs: Experiences of adults who stutter

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ABSTRACT

Purpose: Childhood-onset stuttering is a complex and multifaceted disorder. Intervention for adults who stutter has historically addressed speech fluency more so than psychosocial aspects of the disorder, including the nature of the individual's self-efficacy beliefs concerning their confidence in their capacity to enact change. Self-efficacy is an important construct related to quality of life, resilience, and maintenance of treatment gains for adults who stutter. The purpose of this qualitative study is to explore the nature of the self-efficacy beliefs expressed by adults who stutter in order to inform efficacious and holistic intervention for these individuals.

Method: Semi-structured interviews were conducted with 29 adults who stutter to describe their experiences as a person who stutters and elucidate the nature of their self-efficacy beliefs.

Results: Thematic analysis identified several major themes that provided novel insight into the complex nature of the self-efficacy beliefs experienced by adults who stutter: speaker experiences shaped communicative confidence, there was a conflict between communication and fluency, stuttering was viewed as more than fluency, and individual perspectives shaped communicative confidence, as did the pervading influence of self. The notion that fluency and confidence are inextricably linked was evident within and across each major theme.

Conclusion: These preliminary findings provide further support for a multidimensional approach to the treatment of adults who stutter. Findings will be used to inform a novel integrated fluency and psychosocial intervention for adults who stutter that addresses fluency and self-efficacy concurrently, with a view of engendering durable improvements in speech fluency and communicative confidence.

1. Introduction

Childhood onset stuttering is a complex and multifaceted disorder. Adults who stutter have been shown to experience reduced quality of life across social, emotional, and personal domains (Beilby, 2014; Boyle, 2015; Craig, Blumgart, & Tran, 2009; Craig, Blumgart, & Tran, 2011). Contemporary literature has highlighted the importance of self efficacy, a covert psychosocial aspect of stuttering, in the management of childhood onset stuttering due to its associations with resilience, quality of life, and durability of treatment gains (Carter, Breen, Yaruss, & Beilby, 2017; Craig et al., 2011; Langevin et al., 2006).

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1.1. Social Cognitive Theory and the theoretical construct of self efficacy

Albert Bandura first proposed the psychological construct of self efficacy in 1977 as part of his broader works on Social Cognitive Theory. Bandura (1977) developed his Social Cognitive Theory in response to the behavioral and psychoanalytic models that dominated the field of psychology at this time and aimed to describe the factors that influenced human functioning and goal attainment. It is thought that these models lacked sufficient explanatory power to account for human behavioural change, with the behavioral models emphasizing the role of unidirectional environmental factors, and the psychoanalytic models emphasizing the role of personal factors, each to the exclusion of the other (Boyle, 2018). Bandura's answers to the limitations associated with the behavioral and psychoanalytic models reside in his theoretical framework an interactional model that seeks to describe the factors implicit in human behavior change; specifically, behavioral, personal, and environmental factors (Bandura, 1977). An application of Bandura's theory relevant to childhood onset stuttering evaluates how perceived negative listener reactions (an environmental factor) might impact upon an individual's communicative self efficacy (a personal factor) and ultimately influence their communicative engagement (a behavioral factor).

Self efficacy is considered to be a universal personal factor that reflects an individual's internal belief about their ability to successfully execute an action and receive the desired outcome according to Bandura's theory. Self efficacy can be differentiated from self esteem in that it is viewed as an individual's confidence in their performance abilities and a belief that they are an important agent of self change (Boyle, 2018). Self esteem, on the other hand, refers to a generalized sense of self worth (Boyle, 2018). An individual can have low self efficacy for a particular task (e.g., ordering a meal at a drive through) but still have high self esteem. The reverse is also true an individual can have high self efficacy for a particular task (e.g., asking their boss for a pay rise) but still have low self esteem. Bandura's self efficacy theory comprised three dimensions, each with important implications for an individual's self efficacy judgements and task performance. These distinct dimensions are termed; magnitude, strength and generality. Magnitude is related to the perceived difficulty of a task (e.g., simple, moderate, difficult), where an individual is more likely to confine their behaviour to tasks perceived as simple (Bandura, 1977). Strength is related to how powerful the belief is with varying magnitudes (e.g., high/low confidence, weak/strong belief), where a weak self efficacy belief is more likely to be extinguished in the face of adversity than a strong one (Bandura, 1977). Finally, generality is related to how readily transferable the belief is to other contexts in terms of application of the skills to similar or dissimilar tasks (Bandura, 1977). According to Bandura's theory, the successful execution of a task may instil a generalized sense of self efficacy within an individual and this has the potential to transfer to activities with similar task requirements. Bandura theorized, that together, these three dimensions constitute the foundation of an individual's self efficacy beliefs, which ultimately influence whether or not someone will choose to pursue an activity, the level of effort expended in the pursuit, and the length of time afforded to the pursuit, particularly in the face of difficulty (Bandura, Adams, Beyer, & Greenwald, 1977). It must be emphasized that Bandura's works on the construct of self efficacy remain a theory only, however, it is a theory worthwhile exploring in relation to childhood onset stuttering.

Given the multifactorial nature of childhood onset stuttering, Boyle (2018) posited that an "integrative and interactional" theory of self efficacy, such as Bandura's, provides researchers and clinicians with a "suitable lens through which the disorder can be examined" (p.19). Consideration of childhood onset stuttering in this way has highlighted the importance of self efficacy beliefs for adults who stutter. According to Carter et al. (2017), adults who stutter may present with a low magnitude and strength of self efficacy for verbal communication which often culminates in situational avoidance (e.g., avoiding situations perceived to be difficult such as answering the telephone) and lack of participation in situations where a desirable outcome is necessary (e.g., providing a presentation to work colleagues). In such examples, adults who stutter restrict their participation in activities perceived to exceed their available coping skills (Carter et al., 2017). On the contrary, adults who stutter who present with a high magnitude and strength of self efficacy for verbal communication may choose to engage in such situations and are likely to continue to pursue the desired outcome even in the face of adversity. Such successes have the potential to generalize to other pursuits. In this way, the dimensions of Bandura's theory interact to form self efficacy beliefs that profoundly impact upon an individual's activities and participation in daily life (Carter et al., 2017).

Bandura's theory postulated that self efficacy beliefs are derived from four sources of information, presented in a hierarchy from most to least influential: mastery experiences, vicarious experience, verbal persuasion, and physiological states. According to this theory, individuals who experience repeated success or performance accomplishments will go on to develop strong self efficacy beliefs due to the attainment of a sense of personal mastery. The stronger a self efficacy belief becomes, the less reactive it is to an occasional failure (Bandura, 1977). Through the mechanism of vicarious experience and social comparison, individuals make inferences about the world around them and their own personal capabilities (Bandura, 1977). By observing others achieve success with sustained effort and attention to the task at hand, individuals may generate beliefs about their own personal goal attainment. Verbal encouragement is often applied by clinicians to bolster their clients' self efficacy through the suggestion that they can effectively cope with a situation perceived to be threatening. This strategy is often used because it is simple to implement and is particularly effective when applied by a respected role model (Bandura, 2008). When deciding whether or not to engage in a given task, a reliance on judgements of physiological arousal (based on levels of stress and anxiety) may culminate in avoidance behaviours (Bandura, 1977). In turn, the avoidance of stress or anxiety provoking behaviours will hinder development of the coping skills required for personal mastery. Self efficacy beliefs derived solely from vicarious experience, verbal persuasion, or physiological states lack an experiential base and are therefore likely to be weaker than beliefs generated from mastery experiences (Bandura, 2008).

Benefits of enhanced self efficacy include: improved social, emotional, and vocational well being, increased resilience and commitment to accomplish personal goals, reduced physiological and emotional distress, and safeguarding against anxiety and depression (Bandura, 1977; Boyle, 2018). The way an individual perceives challenges and manages their emotions is the foundation

for therapeutic change, with improved self efficacy a therapeutic goal that may enable an individual to experience increased au tonomy in their life choices with more effective management of inherent daily life challenges (Bandura, 2008, 2011).

1.2. Self efficacy and allied health disorders

Clinical allied health research has demonstrated self efficacy to be associated with wellbeing and quality of life in traumatic brain injured individuals (Cicerone & Azulay, 2007), individuals who have experienced cerebro vascular accidents (Jones & Riazi, 2011), chronic motor impaired disorders (Eccles & Simpson, 2011) and adults living with childhood onset stuttering (Carter et al., 2017). Self efficacy has been shown to be an important factor in influencing rehabilitation decisions in hearing impaired populations (e.g., Laplante Lévesque, Hickson, & Worrall, 2011) and in adherence to treatment recommendations for clients with voice disorders (e.g., Van Leer, Hapner, & Conner, 2008) and chronic illnesses (Martos Méndez, 2015). Further, self efficacy has been linked to attainment and maintenance of positive treatment outcomes across a range of health issues, including people experiencing obesity (Latner, McLeod, O'Brien, & Johnston, 2013), clients with substance use issues (Kadden & Litt, 2011), individuals who have experienced cerebro vascular accidents (e.g., Jones, Mandy, & Partridge, 2009), individuals living with aphasia (Babbitt & Cherney, 2010), and adults who stutter (Langevin et al., 2006). In addition, a meta analysis of protective factors revealed that self efficacy combined with positive affect and self esteem is strongly associated with increased psychological resilience and improved treatment outcomes (Lee et al., 2013). Research emanating from these diverse health challenges demonstrates that increased disorder specific self efficacy is associated with greater adherence to treatment protocols and reduced relapse rates; areas that have historically posed a challenge for health professionals.

1.3. Self efficacy and childhood onset stuttering

Challenges to the maintenance of successful treatment outcomes for adults who stutter have been reported with a significant rate of relapse despite success in the initial instatement phase of fluency (Bloodstein & Bernstein Ratner, 2008; Craig, 1998). In addition, there are significant reports of reduced quality of life across multiple life areas for adults who stutter including; personal, social, vocational, and emotional domains (Beilby, 2014; Boyle, 2015; Craig et al., 2009, 2011). Self reports and thematic quality of life research has also highlighted stigmatization, anxiety, social anxiety, avoidance, embarrassment, and frustration in the lives of adults who stutter and their family members (Beilby, 2014, Boyle, 2013; Bricker Katz, Lincoln, & Cumming, 2013; Craig et al., 2009, 2011; Corcoran & Stewart, 1998). Studies identifying high levels of psychological anxiety in adults who stutter have shown concomitant low levels of self efficacy resulting in situational and social avoidance (Iverach & Rapee, 2014; Thomasson & Psouni, 2010). Adults who stutter often choose not to engage in situations perceived as threatening (e.g., where communication is perceived to be difficult) due to fear of negative evaluation (Iverach, Menzies, O'Brian, Packman, & Onslow, 2011). Such individuals have also experienced clinically significant levels of self stigma, a construct shown to be negatively associated with self efficacy (Boyle, 2013). Self stigma can be identified through internalization of discrimination and negative public attitudes, leading to adverse cognitive and affective reactions that culminate in social withdrawal and missed opportunities in the work, social, and personal domains (Boyle, 2013). Adults who stutter who engage in avoidance behaviors in order to conceal their stuttering have been shown to demonstrate lower levels of self efficacy compared to adults who choose to disclose their stuttering (Boyle, 2016 as cited in Boyle, Beita Ell, Milewski, & Fearon, 2018; Boyle, Milewski, & Beita Ell, 2018). Finally, adults who stutter have been shown to be significantly less confident in engaging in verbal communication compared to those who do not (Ornstein & Manning, 1985). These findings all underscore the importance of self efficacy and the direct influence it can have on an individual's choice of activities, social engagement and overall quality of life.

Studies addressing the construct of self efficacy have primarily focused on the potential role it may have in the maintenance and durability of successful treatment outcomes (e.g., Bray, Kehle, Lawless, & Theodore, 2003; Ladouceur, Caron, & Caron, 1989; Langevin et al., 2006). More recently, emerging research has considered self efficacy in childhood onset stuttering in a broader sense relating to higher levels of personal control (Boyle, 2015) and a strong association to psychological resilience (Craig et al., 2011). Increased psychological resilience may serve to reduce maladaptive coping behaviors for adults who stutter, with self efficacy re cently identified as an important factor in the recruitment of adaptive coping strategies (Plexico, Erath, Shores, & Burrus, 2019). These attributes have been postulated as protection for quality of life, life satisfaction and psychological well being through buffering the adverse impacts of living with childhood onset stuttering (Boyle, 2015; Craig et al., 2011; Plexico et al., 2019). The predictive value of self efficacy and its positive relationship to quality of life has recently been demonstrated (Carter et al., 2017). In addition, self efficacy, self esteem, and social support have been found to be significant predictors of communicative participation (i.e., en gagement in activities requiring the verbal transfer of knowledge, information, ideas, or feelings; Eadie et al., 2006) in adults who stutter (Boyle, Beita Ell et al., 2018; Boyle, Milewski et al., 2018).

1.4. The present study

Contemporary research has highlighted positive links between self efficacy and quality of life (Carter et al., 2017; Craig et al., 2011) and self efficacy and engagement (Boyle, Beita Ell et al., 2018; Boyle, Milewski et al., 2018) for adults living with childhood onset stuttering, yet further investigation is warranted to determine how to bolster the self efficacy beliefs of adults who stutter. In doing so, it is hypothesized that there will be concomitant benefits to verbal interactions and engagement ultimately facilitating greater durability of holistic clinical benefits over time. In order to achieve this, it is important to first explore in detail the nature of

the self efficacy beliefs of adults who stutter. Qualitative methodology was chosen to highlight the unique experiences that under score previous quantitative self reported findings.

The present study proposed the following research question: What are the lived experiences of adults who stutter and the sub sequent nature of their self efficacy beliefs?

2. Method

2.1. Research design

The purpose of this study is to explore the lived experiences of adults who stutter with a view of describing the nature of their self efficacy beliefs. In order to explore these lived experiences in detail, a qualitative research approach was employed. Qualitative data were collected through semi structured interviews.

2.2. Participants

Participants were 29 adults (6 females, 23 males) aged between 18 to 77 years (M = 38.72, SD = 15.77). Demographic in formation was collected from participants and pertained to their age, sex, self reported self efficacy for verbal communication as measured by the Self Efficacy Scale for Adults who Stutter 'Approach' Scale (Ornstein & Manning, 1985; M = 69.27, SD = 24.13, range 12.80 100.00), self reported overall impact of stuttering as measured by the Overall Assessment of the Speaker's Experience of Stuttering (Yaruss & Quesal, 2006; M = 2.41, SD = 0.66, range 1.28 3.47), and an objective measure of stuttered speech frequency (i.e., percentage of syllables stuttered; M = 4.75, SD = 4.28, range 0.80 18.60). All but one participant (97%) had received formal treatment for stuttering in the past, and 79% of participants had attended a stuttering specific support group in the past. A summary of participant characteristics is provided in Table 1. Patton (1990) suggests that commonalities amongst themes identified in a varied sample such as this are indicative of their relatedness to the phenomenon under study rather than other extraneous factors. All participants were enlisted from metropolitan based specialist stuttering treatment clinics in Western Australia and the Western Australian and Queensland branches of a national consumer self help group for adults who stutter. To meet inclusion criteria, participants had a confirmed clinical diagnosis of childhood onset stuttering (by a speech pathologist with more than 10 years clinical expertise in fluency disorders), nil additional reported speech, language, or hearing impairments, and competent English skills for an

Table 1
Participant characteristics.

Identifier	Age (years)	Sex	SESAS Approach*	OASES Overallˆ	%SS	Formal Treatment	Support Group
01	18	Male	38.40	2.98	8.40	Yes	No
02	24	Male	52.80	2.64	2.00	Yes	No
03	49	Male	78.80	2.01	3.80	Yes	No
04	28	Male	50.80	3.01	6.20	Yes	No
05	36	Male	82.00	1.71	3.00	Yes	No
06	39	Male	92.80	1.86	2.40	No	No
07	33	Female	64.20	2.33	1.20	Yes	No
08	30	Female	62.20	3.03	6.60	Yes	No
09	37	Male	86.80	2.46	8.00	Yes	No
10	29	Male	79.20	2.24	1.40	Yes	No
11	24	Male	100.00	1.86	1.40	Yes	No
12	58	Male	98.40	1.29	0.80	Yes	Yes
13	25	Male	40.20	2.56	18.60	Yes	Yes
14	25	Male	68.30	3.38	1.60	Yes	No
15	50	Female	61.60	3.32	8.40	Yes	Yes
16	34	Male	88.60	2.08	2.60	Yes	No
17	74	Female	91.40	1.28	2.60	Yes	No
18	51	Male	96.20	1.82	6.60	Yes	No
19	47	Male	75.60	2.05	2.80	Yes	Yes
20	41	Male	89.60	2.09	2.40	Yes	No
21	41	Male	92.80	1.82	3.40	Yes	No
22	37	Female	15.80	3.47	13.00	Yes	Yes
23	77	Male	90.00	1.50	11.20	Yes	No
24	35	Male	35.20	3.44	9.60	Yes	No
25	22	Male	12.80	3.03	2.40	Yes	No
26	40	Male	71.20	2.96	3.40	Yes	No
27	71	Male	69.70	2.30	2.00	Yes	Yes
28	23	Male	76.00	2.14	1.00	Yes	No
29	25	Female	47.50	3.26	1.00	Yes	No

Note: * = Self-Efficacy Scale for Adults who Stutter (Ornstein & Manning, 1985).
ˆ = Overall Assessment of the Speaker's Experience of Stuttering (Yaruss & Quesal, 2006).
˜ = Attendance at any time.

oral interview with the researcher.

2.3. Procedure

Ethics approval was obtained for this study through the requisite Human Research Ethics Committee. Semi structured interviews were conducted which broadly explored the lived experiences of adults who stutter and elucidated the nature of their self efficacy beliefs. See the Appendix for a sample of the semi structured interview protocol. All questions were designed to be open ended and were supplemented with prompts where further explanation was considered necessary. Interviews were conducted in person at a quiet convenient location of the participant's choosing or over the telephone if proximity dictated. All interviews were digitally recorded and conducted by the first author and lasted 25 min on average. The recordings were transcribed verbatim.

2.4. Data analysis

The research team comprised the first author who is a certified practicing speech language pathologist and doctoral student, and two senior researchers one certified practicing speech language pathologist with experience in the assessment and treatment of childhood onset stuttering disorders, and a registered psychologist with expertise in qualitative research methodology. The data were thematically analyzed according to the protocol specified by Braun and Clarke (2006). This protocol comprises six overlapping, dynamic phases of data analysis, including: familiarisation, coding, searching for themes, reviewing themes, defining and naming themes, and collating the report (Braun & Clarke, 2006). Each transcript was read twice as a discrete data set prior to commencing coding in order for the researcher to familiarize themselves with the content. During the second read, notes and initial impressions of the data set were recorded. The data set was then imported into QSR International (2018) NVivo 12 qualitative data analysis software to assist in organization of the data prior to coding. Inductive coding commenced on the third read, whereby significant participant statements were highlighted and assigned an initial code to begin characterizing the phenomena of interest. Subsequent reads al lowed the initial codes to be collated into potential themes. Potential themes were re examined in order to refine the major themes and identify relevant sub themes. Interviews were analyzed, and saturation reached after analysis of the twelfth interview, whereby no new major themes were identified (Creswell, 2007; Guest, Bunce, & Johnson, 2006). Thematic analysis continued after the saturation point for the sole purpose of describing the representativeness of the themes captured in relation to the entire data set, including the number of participants who endorsed each theme and the number of references to each theme (see Table 2). Once analysis was finalized, the first author created a coding framework complete with descriptors for each major and sub theme. The coding framework was provided to a second coder external to the research team who independently coded a random 12 transcripts to establish authenticity and saliency of themes and inter rater reliability (Mays & Pope, 1995). This process yielded a high level of inter rater reliability (91.2% agreement). The Consolidated Criteria for Reporting Qualitative Research (COREQ; Tong, Sainsbury, & Craig, 2007) was used to guide reporting of the study.

3. Results

Thematic analysis of the semi structured interview transcripts identified five major themes and 24 sub themes, each of which are described below. The number of participants who endorsed each theme and the number of times the participants referenced each theme are presented in Table 2, along with an exemplar response.

3.1. Speaker experiences shape communicative confidence

Within this major theme, adults who stutter spoke about the ways in which their various life experiences (both positive and negative) had shaped their communicative self efficacy and self efficacy in general. This major theme was endorsed by all 29 par ticipants through the expression of one or more of the following sub themes.

3.1.1. Importance of task requirements

Adults who stutter spoke about the ways in which the nature of the task coupled with their level of fluency had the ability to influence their self efficacy for verbal communication. This included variables such as the perceived level of task difficulty, the value or importance placed on the task by the speaker, task familiarity and audience size.

3.1.2. Influences internal to the person who stutters

This sub theme referred to the interaction of factors internal to the person who stutters that altered their experiences, and thus shaped their communicative confidence. Within this sub theme, adults who stutter spoke of their thoughts and emotions, fear of negative evaluation, and task expectations. Many participants also discussed how their physiological responses, including stress, anxiety, fatigue, and excitement; profoundly impacted upon both fluency and communicative confidence.

3.1.3. Influences external to the person who stutters

Participants discussed how factors beyond their personal control interacted to alter their experiences and subsequently influenced their self efficacy beliefs. Such factors included bullying, discrimination, and perceived positive or negative listener reactions and public perceptions.

Table 2
Summary of major and sub-themes identified in thematic analysis.

Major Theme	Sub-Theme	Endorsement of Theme (n)	References (n)	Exemplar Quote and Participant Identifier
Speaker experiences shape communicative confidence		29	329	
	Importance of task requirements	29	69	"… it's quite a complex thing because it's entirely dependent on who I'm talking to – like if I'm trying to present in a particular fashion, or if I'm trying to be professional, or casual, or just something else." - *13*
	Influences internal to the person who stutters	24	69	"… my stuttering was so bad, I couldn't do anything… I lost my job… Can't do anything – can't work, can't communicate what I can do, I was so helpless. I was so stressed out. I was feeling so useless." - *5*
	Influences external to the person who stutters	24	60	"… most people tend to think that you're stuttering because you don't know what you're saying, of which is not the case. So I was not able to present myself – or really, present my knowledge to that person." - *24*
	Treatment experiences of adults who stutter	21	41	"I was quite happy when I was referred to [the clinic] and I'm really happy that I'm going through this. Because just after one week here I can see a lot of improvement… before, if I was to come and speak to you, maybe I wouldn't have even finished 10 sentences." - *24*
	Importance of mastery experiences	17	27	"… all that moving [towns] was good for me – because I had to speak, and I had to meet new people all the time, so it gave me confidence. And having confidence helps confidence with speech, so I was no longer trying to keep quiet…" - *17*
	Support from others	18	25	"… some of my friends held this whispering party for my 50th because they know that I don't stutter when I whisper – it was amazing It was such an amazing, heartfelt gesture." - *15*
	General life experiences of adults who stutter	14	21	"… having children gives you confidence too. Because you have to do things for them because there's nobody else to do it if your husband's not home. Once I had the children I got a lot more confident in just speaking out regardless." - *17*
	Speaker and listener relationship	15	17	"If I'm speaking to someone that's quite important, perhaps a manager or another family member, that really affects my confidence levels. And I'm usually more reluctant to go into situations because my confidence levels are low." - *25*
Conflict between (unrestricted) communication and fluency		27	176	
	Favoring familiarity	25	74	"… I'm worried I am going to stutter. So rather than taking myself out of my comfort zone and trying to do it, I would usually go with the flow and perhaps wait until somebody sparks up a conversation with me. Which I guess has affected my self-esteem and stuff like that." - *25*
	Making a decision	16	39	"I really vividly remember being in year 12 and I was head girl of the high school and having to do my head girl's speech… the principal gave me the option not to do it – so to be, you know, the first head girl not to give a speech on speech night, and I thought '[There's] no way I'm not gonna do it '" - *07*
	Favoring (unrestricted) communication	16	27	"Once I accepted it, my confidence improved… I order Subway on a regular basis and I get jammed every time, and I don't care… It's like, I want my Subway, I'm hungry, and I'm getting it and that's the end of it." - *22*
	Strategies to cope with the struggle	18	27	"… I was good at making people laugh and being funny – which is a strange thing when you stutter… but that was my thing " - *06*
	Technology: Benefits and pitfalls	6	9	"… I've just got to pick and choose my conversations – that actually seems to make the difference; as well as use technology available to me – e-mails, e-mails, e-mails." - *09*
Stuttering is more than fluency			149	

(*continued on next page*)

Table 2 (*continued*)

Major Theme	Sub-Theme	Endorsement of Theme (n)	References (n)	Exemplar Quote and Participant Identifier
	Impact of stuttering on education and career	20	40	"… it's affected my self-confidence, it's affected my career – I studied natural medicine for about 18 months and I pulled out because of my speech. I loved the course but… I thought that I can't justify anyone coming to seek advice off me because they probably couldn't take me seriously because of my speech." - *15*
	Impact of stuttering on personal and social life	21	37	"… you don't tend to socialise outside of that comfort zone. I feel like I was always associating with essentially the same group of people that I grew up with – I didn't have to hide any of it or try to be perfect… it's always something that's essentially held us back from showing who my true personality is." - *13*
	Acceptance of stuttering	17	37	"… I got a stutter, who cares? Because, the way I see it is, if I have to speak to you on a daily basis, and if I can't, then I have a problem. But, just one off with a stranger, I stutter? So what? I'm not going to speak to [them] again. So that's how I try and prioritise myself." - *05*
	Injustices experienced as a person who stutters	12	20	"… career progression was severely hampered… when I was looking for really senior jobs, people still knew that I stuttered, and I've got written referee reports who have said "X's got great skills, great experience… but X is not a very good communicator…" i.e., I stutter." - *12*
	Anticipation of moments of stuttering	9	15	"… from years of having a stutter, my confidence level with speaking - even though I can speak pretty fluently a lot of the time – is still really, really low. I think the reason is because I'm always kind of anticipating that I'm going to stutter." - *25*
Perspective is everything		29	97	
	Importance of mindset	29	79	"… my stutter does not control me or determine what I can do. So as soon as I was able to realise that and make that paradigm shift, I said 'Okay, I've got this stutter, but that doesn't define me'… as I became more open about it, then my world opened up." - *12*
	Minimizing discounting, and comparing experiences	7	10	"… I know apart from dying from embarrassment sometimes, stuttering isn't going to do anything physically bad to me – like I'm not going to have cancer or be in a wheelchair or have a disability… but having said that, communication as human beings is the most important thing that there is." - *07*
	Depth of stuttering	6	8	"… it's something which I've always had and tried to deal with… Always got me down a little bit, and I've always been conscious of it from a very, very early age… I remember thinking to myself 'Gee, I hope I don't stutter by the time I go to high-school.'" - *26*
The influence of 'self' on confidence		27	95	
	Personal identity	25	59	"… look, it puts you out there I think… it clearly demarks and identifies some vulnerability, or easily translates as a common vulnerability, because there's a thing that you can't do." - *21*
	Censoring oneself	12	21	"Other ways it's affected me… like not ordering what you want at a restaurant because it's just easier ordering something that you've got a better chance of being able to say fluently… I think stuttering, in general, prohibits you from getting what you want in life." - *07*
	Self as change agent	8	15	"You deal with it [stuttering], or you let it deal with you." - *10*

3.1.4. Treatment experiences of adults who stutter

All but one participant had received some form of fluency intervention. This sub theme highlighted how personal perceptions of treatment experiences impacted participants communicative and generalized self efficacy. For example, participants who perceived treatment as a positive experience, where knowledge of stuttering and mastery of fluency techniques was gained, spoke of feeling equipped to readily engage in communication in a variety of situations. On the other hand, those who perceived their treatment experiences in a negative light and felt unsupported, spoke of their communicative confidence as being restricted.

3.1.5. Importance of mastery experiences

The importance of performance accomplishments, or mastery experiences, was discussed by the majority of participants. Individuals spoke of having increased communicative confidence as they engaged in novel speaking situations with positive out comes, often due in part to experiencing a successful level of fluency within these interactions. Participants spoke of gaining con fidence as they moved through their own situational speech hierarchy and experienced increasing success, leading to increased communicative interactions. On the other hand, participants who experienced perceived negative communicative interactions were less likely to apply sustained effort to attempting and engaging in unfamiliar speaking tasks.

3.1.6. Support from others

Within this sub theme, adults who stutter spoke about the various sources of support drawn upon and how such experiences have influenced their communicative confidence. Sources of support included the person who stutters' significant others, friends, family, work colleagues, and peer support groups.

3.1.7. General life experiences of adults who stutter

Participants spoke about the evolution of their priorities, perspectives, and circumstances over their lifespan and their commu nicative confidence at various points in their life. For example, some participants spoke of stuttering being their "*biggest issue*" until such a time that they had children of their own, missed out on an important or valuable work opportunity, or experienced the loss of a loved one. Other participants commented that, while they still viewed stuttering as a "*problem*", their perspective evolved with age and they now found themselves embracing more challenges and taking advantage of increased opportunities.

3.1.8. Speaker and listener relationship

Within this theme, participants spoke of the variability of their communicative confidence as a function of the relationship between themselves and their listener during communicative interactions. Examples of speaker listener relationships include; those where a real or perceived power imbalance exists, such as between an employee and an employer compared to those between family members, and those between close friends, acquaintances, or strangers.

3.2. Conflict between (unrestricted) communication and fluency

Within this major theme, adults who stutter alluded to the inner turmoil between wanting to communicate freely and the fear of dysfluency or negative listener reactions. While attempting communicative engagement, participants spoke about their various motivators and challenges experienced. This conflict was endorsed by the majority of participants and was expressed through the following sub themes.

3.2.1. Favoring familiarity

Many participants spoke about their personal 'comfort zone' and shared that, more often than not, familiarity was favored over novelty. Participants who favored engaging in familiar activities spoke of their motivations for doing so, including avoidance of novel communicative interactions in an effort to minimize or eliminate feelings of discomfort. Several participants spoke of 'selling themselves short' in their work or personal lives despite having the requisite knowledge, capability and drive; as the desire to favor familiarity was simply too great. Other participants acknowledged how costly such actions were to their overall vitality and allowed this to motivate them to leave their 'comfort zone'.

3.2.2. Making a decision

Participants discussed the multitude of factors that determined whether or not they would continue to favor familiarity or seek out novel interactions. Such factors included identifying oneself as a person who stutters, fear of negative evaluation, intrinsic and extrinsic motivation, intrinsic preparedness, verbal persuasion, past performance accomplishments and so on. Many participants alluded to using such factors to weigh the associated risks and benefits of engagement in a particular speaking task before committing to undertake it.

3.2.3. Favoring (unrestricted) communication

Within this sub theme, several participants spoke about their decision to stop struggling with their stutter, cease favoring fa miliarity, and reduce the conflict felt between their desire to communicate freely and their desire to be fluent. Many participants reported a decision to shift their mindset in favor of self acceptance of stuttering and a concomitant improvement in enjoyment of communication and connecting with others. Others attributed this decision to a desire to address the compromises associated with living with a childhood onset stuttering disorder.

3.2.4. Strategies to cope with the struggle

Within this sub theme, participants discussed their various coping strategies used to sustain them during daily communications. The strategies identified were highly individualized, and participants discussed finding the strategies that work best for them through 'trial and error' and implementing these as needed. Coping strategies included use of humor, reducing stimulants such as caffeine, utilizing positive self talk and mindfulness techniques, and purposefully implementing speech fluency techniques learned in therapy.

3.2.5. Technology: Benefits and pitfalls

Comparatively few participants discussed the role of technology in their desire to communicate fluently. However, the consensus among these participants was that the use of modern day technology (e.g., e mails, internet, and smart phones) did facilitate improved digital communication without the pressure of verbal demands. Many of these participants indicated technology to be their preferred mode of communication; however, some did acknowledge the lack of social contact as a potential consequence.

3.3. Stuttering is more than fluency

This was highlighted as a major theme, addressing the complex interplay of factors that impact the daily life of adults who stutter. These private experiences and compromises were reported as being equally important as the act of stuttering itself in establishing, maintaining, and evolving the self efficacy beliefs of adults who stutter. This major theme was endorsed by the majority of participants and was elucidated through the following sub themes.

3.3.1. Impact of stuttering on education and career

Participants spoke about the impact that stuttering has had on their education and career choices and experiences. These experiences established, reinforced, or diminished a sense of self efficacy dependent on whether they were perceived as positive or negative. Examples included: basing career choices on the level of social interaction required, choosing not to participate in classroom discussions, and being overlooked for promotions in the workplace.

3.3.2. Impact of stuttering on personal and social life

Within this sub theme, participants spoke about the positive and negative ways that stuttering had affected their personal and social life domains. Positive impacts included: increased empathy towards others, securing a close network of friends, and taking advantage of new experiences to defy self imposed limitations. Negative impacts included: choosing names for children based on names that could be easily spoken, choosing not to articulate wedding vows, declining to participate in social interactions, and choosing to become an elective mute during school years.

3.3.3. Acceptance of stuttering

Within this sub theme, various aspects of acceptance were outlined. Some participants described how they embraced their stutter and decreased the amount of struggle and effort they required to speak. Many participants portrayed acceptance as essential in gaining confidence in themselves as a speaker. Some participants noted that their journey to self acceptance is merely the beginning of a long process. The challenges of self acceptance were articulated as difficult in a society and that is not necessarily accepting of stuttering. Participants also spoke about self disclosure, having a positive or growth mindset, and having personal integrity within this sub theme.

3.3.4. Injustices experienced as a person who stutters

Participants spoke about the injustices often experienced as a person who stutters, in terms of being overlooked by others, particularly in the workplace, despite having the requisite skills and knowledge. Participants considered the personal emphasis they afforded these experiences and how this impacted their overall confidence. Examples of injustices included: not being chosen for extra curricular activities at school, experiencing discrimination in the workplace, and fear of judgment based on verbal communication.

3.3.5. Anticipation of moments of stuttering

Within this sub theme, many participants discussed stuttering as something that is *"always there"* in their daily thinking and activities. Participants described frequent anticipation of moments of stuttering which often discouraged them from engaging in verbal communication, instead restricting their conversation choices.

3.4. Perspective is everything

Within this major theme, participants spoke about the evolution of their perspective of life as a person who stutters over time. In this way, adults who stutter generally perceived everyday events to be either positive or negative and this perception was instrumental in shaping their self efficacy beliefs. This major theme was endorsed by all participants and is revealed through the following sub themes.

3.4.1. Importance of mindset

Participants discussed how their mindset influenced the types of activities in which they choose to engage in. Mindset was

revealed in various ways, including positive versus negative mindset, growth versus fixed mindset, and internal versus external locus of control.

3.4.2. Minimizing, discounting, and comparing experiences

Participants discussed maladaptive coping strategies within this sub theme. Some discussed stuttering in comparison to other disorders or experiences. For example, participants spoke of feelings of guilt for feeling negatively towards themselves and their stutter, with reflections such as "*At least I can walk*".

3.4.3. Depth of stuttering

This sub theme is closely related to the sub theme of general life experience. Within this sub theme, participants used various negative connotations to describe the depth of the impacts of living with childhood onset stuttering, including stuttering being "*challenging on the soul*", "*dark*", their "*biggest problem*" or "*biggest challenge*", and "*all consuming*". Participants also assigned differing importance to stuttering at various times in their lives, often in response to major life events that encouraged a shift in personal priorities (e.g., commencing study, before marriage, after having children, after the death of a parent and so on).

3.5. The influence of self

Within this major theme, adults who stutter referred to themselves in various ways that influenced their self concept. This was then summarised as contributing to the establishment, maintenance, and evolution of their self efficacy beliefs. The relationship between the participants' self concept and their perceived capability is expressed through the following sub themes.

3.5.1. Personal identity

Within this sub theme, participants discussed their sense of personal identity, with many participants describing that their stutter often comprised a large part of this identity. Some participants, however, acknowledged that their stutter makes up only a small part of their identity and did not define them as a person, and chose instead to focus on other unique aspects of their personality when describing themselves. The way that participants viewed themselves and articulated their personal identity impacted upon the types of activities they choose to engage in. For example, one participant described themselves as "*extremely poor as a speaker*" and therefore chose not to engage in social activities or pursue a career path. On the contrary, another participant described themselves as a "*people person*" who "*loves to communicate*" and therefore chose a career path centred around communication.

3.5.2. Censoring oneself

Participants discussed experiencing a compulsion to alter or censor their personal desires in order to avoid stuttered moments and the negative emotions associated with such moments. Participants also discussed dissatisfaction, inconvenience, and regret in light of some of these choices. For example, participants discussed not ordering the item that they wanted when dining out, selecting a petrol bowser at a gas station dependent on how easily the number could be relayed to the attendant, declining to giving a eulogy, and not articulating their own wedding vows.

3.5.3. Self as change agent

Within this sub theme, some participants spoke of possessing a sense of personal agency whereby they viewed themselves as responsible for effecting change in their lives. For example, one participant remarked that they could not control the world around them, but they could control their own actions in order to bring about positive change in their life.

4. Discussion

The positive associations between self efficacy and quality of life (e.g., Carter et al., 2017), psychological resilience (e.g., Craig et al., 2011; Lee et al., 2013), social participation (e.g., Boyle, Beita Ell et al., 2018, Boyle, Milewski et al., 2018; Iverach & Rapee, 2014; Thomasson & Psouni, 2010), and attainment and maintenance of treatment outcomes (e.g., Bray et al., 2003; Ladouceur et al., 1989; Langevin et al., 2006) are well documented in the literature and underscore the importance of understanding self efficacy as it relates to childhood onset stuttering. This study is unique in that it is the first of its kind to focus qualitatively on the nature of the self efficacy beliefs expressed by adults who stutter.

A major finding was that confidence and fluency are inextricably linked and this notion was interspersed throughout the majority of interviews conducted with adults who stutter. The presence of such a relationship between self efficacy for verbal communication and stuttered speech frequency is documented (e.g., Carter et al., 2017; Saltuklaroglu & Kully, 1998, as cited in Manning & DiLollo, 2018). Such correlational research has suggested that higher levels of self efficacy for verbal communication are associated with lower levels of stuttered speech frequency and vice versa. Participants in the present study provided support for this complex and potentially reciprocal relationship between confidence and fluency, though the delineation of which variable engenders change in the other is difficult to determine. For example, some participants discussed experiencing heightened fluency when they felt more confident, while others spoke about experiencing elevated confidence when they perceived their speech fluency to be high. Every single participant agreed that their stutter had impacted upon their confidence at one stage or another in their life.

The idea that a speaker's experiences shape their communicative confidence, and thus the nature of their self efficacy beliefs, was identified as the most prevalent theme and was endorsed by all participants. Common sub themes identified provided insight into

how individual speaker experiences impact upon the self efficacy beliefs of adults who stutter when considered in light of the theory proposed by Bandura (1977). The requirements of the speaking task and the speaker listener relationship appeared to influence how readily an individual would engage in a given activity and is aligned with the magnitude dimension of Bandura's theory. Bandura (1977) suggested that individuals often confine their behaviour to familiar tasks perceived as 'easy' to accomplish. For example, Participant 07 remarked *"Recently I was asked if I wanted to do a eulogy and I said no, partly because of stuttering and because of the unpredictable nature of that environment. I just couldn't trust myself",* while another commented that a perceived power imbalance often diminished their confidence in speaking tasks. Participants spoke of how the successful execution of a previously feared or unfamiliar task instilled a sense of personal accomplishment. Participant 06 contemplated *"Talking on the telephone was always an issue but that's become much better… that's been something that I've always had to push myself to do… I won't have as much as an issue with it now."* According to Bandura (1977), these personal mastery experiences have the greatest influence on an individual's self efficacy beliefs. Many participants reflected on their life experiences in general, while some contemplated that ageing often lends itself to new knowledge and perspectives. Others discussed the way that certain life events often served as a catalyst for change. Such life experiences ultimately shaped the way these individuals related to themselves, their stutter, and to others. One participant stated *"The older you get, the more wisdom and experience you have and you realize what's important in life and what isn't"* (Participant 22). Previous quantitative research has indicated a moderate correlation between age and self efficacy, and age and quality of life for adults who stutter (e.g., Carter et al., 2017) and findings from the present study provide support for this relationship. Support from others was often discussed by participants as an experience that shaped their communicative confidence, with Participant 03 remarking *"There are sometimes I might be down and I might stutter, but then I see everyone in the room and their faces are quite supportive and they say, 'It's okay, take your time'".* Support can be considered a source of self efficacy (Bandura, 1977) through the mechanisms of social persuasion (e.g., being told by a respected peer that you are capable of executing a given task) and vicarious experience (e.g., observing a respected peer executing a given task in a support group environment).

Another pertinent major theme is the conflict between (unrestricted) communication and fluency. Participant 07 aptly described this conflict as a *"constant tug of war"*, stating that "…*there were times when the stutter would win, and there's [times] sort of like now where just my general enjoyment of communicating wins."* Participants spoke of situational avoidance of activities where verbal communication was required, often in service of experiential avoidance the avoidance of unwanted private thoughts or emotions. For example, one participant spoke about their avoidance of making phone calls at work in order to avoid feelings of discomfort related to their fluency. Such examples of situational and experiential avoidance frequent the literature as significant and costly challenges for adults who stutter (e.g., Beilby, Byrnes, & Yaruss, 2012; Corcoran & Stewart, 1998; Iverach et al., 2011). The potential consequences of frequent situational avoidance were acknowledged by many participants who then spoke about making a decision where the risks and benefits of communicative engagement were weighed in order to decide whether unrestricted communication, or their desire to be fluent, would prevail. Participant 03 discussed such decisions in light of their motivation to seek fluency treatment as an adult *"… there is a time where I need to overcome it [stuttering] because now I have learned the lessons it had to give me in life… now I need to move on to be more successful."* Another participant alluded to a time in their life when the desire to communicate fluently dominated their thoughts and influenced their actions, e.g., *"… that's when my stuttering really exacerbated and that's when I decided to become an elective mute. It was easier to write and not talk"* (Participant 12). This same participant identified how making the decision later in life to rescind their struggle and favor unrestricted communication was the best one they had ever made: *"The moment you know that your stutter is stopping you from doing what you want to do, then you have a problem… and you should do something about it."*

The notion that 'stuttering is more than fluency' has long been acknowledged in the field and was originally outlined by Sheehan's (1970) iceberg analogy. In keeping with the theory proposed by Bandura (1977), this theme highlighted the influence of an individual's private experiences in shaping their self efficacy beliefs. Participants discussed the deleterious impacts that living with childhood onset stuttering has had on their educational, vocational, personal, and social domains, which is well supported in previous research (e.g., Beilby, 2014; Boyle, 2013, 2015; Bricker Katz et al., 2013; Craig et al., 2009, 2011). Many participants spoke of stuttering as something that is *"always there"* and suggested that the anticipation of stuttered moments often discouraged them from engaging in particular social situations. Continued avoidance of social situations is problematic for the development and evolution of an individual's self efficacy beliefs insofar that missed opportunities to achieve personal mastery might largely contribute to task specific self efficacy remaining unchanged. Other participants spoke about their journey to self acceptance of stuttering and how this allowed them to pursue the activities that were most meaningful to them. Participant 19 in particular called for the simultaneous treatment of speech fluency and the psychosocial aspects of the disorder in order to facilitate successful and holistic management of their childhood onset stuttering disorder:

> *"… when I was having good fluency days, I felt really good about myself. When I was having a bad [fluency] day, I felt really bad about myself… I went for a number of months to disassociate my fluency to my self esteem, and so that took a lot of work… I've been doing this for 26 years and my thinking has not increased to the same rate to what my fluency has… My fluency has gone from 2 up to 98, but my thinking about my stutters has gone from maybe 60 to 65… psychology is so important in my eyes."*

Participant 19 highlighted not only the importance of addressing the impact of childhood onset stuttering holistically, but also reiterated the link between fluency and confidence.

The major themes regarding the importance of perspective and the influence of one's sense of self on their confidence were expressed by many participants. Previous research has demonstrated that adults who stutter who exhibited signs of self acceptance of stuttering generally presented with a self concept that acknowledged the presence of their stutter as one part of their identity, but not a defining characteristic (Plexico, Manning, & Levitt, 2009). Bandura (2011) suggested that individuals who view themselves as agents of change are more likely to take control of their personal circumstances to effect change as opposed to considering themselves

as merely a by product of their circumstances. The way participants perceived themselves and their capabilities has likely played a role in the establishment, maintenance, and evolution of their self efficacy beliefs (Bandura, 2011). Previous research suggests that stuttering forms a large part of the person who stutters' identity (Manning & DiLollo, 2018). Participants who appeared to view stuttering as a large and unwanted part of their identity discussed missed opportunities across important life domains. For example, one participant commented *"I feel it's probably held me back career wise as I feel it's made me appear less competent",* while another remarked about thinking to themselves *"You're skilful, you're educated, you've got everything in your life but you can't speak, you can't communicate"* (Participant 05). Such missed opportunities are lost chances to create experiences of personal mastery to evolve one's sense of self efficacy. While some participants seemed to struggle with their identity as a person who stutters, others embraced it. Participant 12 remarked on the paradigm shift experienced when they chose to embrace self acceptance *"So I've got this stutter, but that doesn't define me."* Another commented that their mindset *"Can be something that affects my fluency and confidence the most"* (Participant 25). Some participants spoke of their decision to embrace their stutter as a welcome part of their identity and discussed the positive benefits of disclosing their stutter to unfamiliar listeners in order to ease the tension within themselves. Recent research has suggested that self disclosure of stuttering is associated with higher self reported quality of life and is thus an important clinical consideration for speech language pathologists working with adults who stutter (Boyle, Beita Ell et al., 2018; Boyle, Milewski et al., 2018). In addition, consideration of stuttering from a broader, more positive perspective is often associated with greater self ac ceptance of stuttering (Plexico et al., 2009).

This study has highlighted the inextricable link between fluency and confidence and the turmoil faced by adults who stutter who often struggle to find the balance between the desire to communicate freely and the desire to communicate fluently. An inherently normal psychological process, known as cognitive fusion, may be one potential factor at the root of this conflict experienced by adults who stutter in this study. Cognitive fusion occurs when an individual 'fuses' with their thoughts in such a way that it becomes difficult to disengage and separate them from reality (Harris, 2009). Eventually, these thoughts begin to dictate their behavior (Harris, 2009). The daily struggle experienced by adults who stutter is often demarcated by the value placed on fluent communication and the individual defining themselves according to their stutter (Beilby et al., 2012) and may potentially be underpinned by cognitive fusion, though further research is needed to determine this. The resultant situational and experiential avoidance culminates in detrimental impacts to an individual's overall vitality.

4.1. Clinical implications

The findings of the present study may provide support for the integration of traditional fluency management techniques and psychosocial components to facilitate holistic clinical management of childhood onset stuttering in order to simultaneously benefit speech fluency and self efficacy. However, this remains to be tested empirically. A new wave of behavioral psychotherapy Acceptance and Commitment Therapy (ACT) focuses on promoting experiential acceptance (the opposite of experiential avoidance) to support values guided living which may integrate self efficacy and resultant self management of the individual's difficulties (Graham, Gouick, Krahé, & Gillanders, 2016). ACT has demonstrated successful preliminary data to this end through the promotion of psychological flexibility that is, being psychologically present and allowing oneself to experience the full range of human emotion in service of values guided living (Beilby & Yaruss, 2018; Beilby et al., 2012). The treatment trialled by Beilby et al. (2012) speci fically addressed cognitive fusion and experiential avoidance in conjunction with traditional fluency management strategies in a group of adults who stutter. Results showed increased speech fluency, psychological flexibility, engagement, and improved overall quality of life. However, the influences that such an integrated fluency and ACT treatment may have on the self efficacy beliefs of adults who stutter is yet to be explored. Given that an individual's self efficacy beliefs may profoundly impact upon their cognitive, motivational, emotional, and decisional processes (Bandura, 2011), the evaluation of such an integrated intervention to strengthen the self efficacy beliefs of adults who stutter is warranted. Such findings may also serve to inform the nature of treatment activities that highlight the importance of the individual nature of a client's fluency and self efficacy needs.

4.2. Limitations

Limitations of the present study included the recruitment of participants by way of convenience sampling and the generalizability of the findings. The majority of participants in this study had received some form of previous intervention for stuttering, and many were current or past members of a self help support group for adults who stutter. It is possible that the life experiences of adults who have received treatment and/or support group participation, may be different to those of adults who have not. A recommendation for future research would be to enlist participants who have not received fluency intervention as an adult and participants who have not participated in a self help support group. Qualitative research methodology is often critiqued for a perceived inability to generalize its findings (Carminati, 2018). However, Zyzanski, McWhinney, Blake, Crabtree, and Miller (1992) argue that the aim of qualitative research is not necessarily generalizability. Qualitative research of this nature has provided the opportunity to construct a rich description of the phenomena of interest, in this case the self efficacy beliefs of adults who stutter. Readers are encouraged to consider whether or not the descriptions are applicable to the people, settings, and circumstances in which they work in order to reasonably apply the findings of the present study.

5. Conclusion

The results from this investigation highlight the need for clinical management of childhood onset stuttering that supports client

fluency and improved self efficacy. Findings will be used to inform the development of an integrated behavioral and psychosocial intervention (i.e., fluency management strategies coupled with ACT philosophies) with the intention of addressing fluency and improved self efficacy concurrently and in an integrated manner.

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Conflict of interest

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Appendix A

Example Semi Structured Interview Questions

Introductory questions

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

General questions

3 How has your stutter impacted upon the way that you live your life?
4 How has your life living with a stutter changed over time?
5 Talk to me in general about how confident you feel in speaking situations?
6 Has your confidence in speaking been affected by your stutter?
7 What, if anything, has living with a stutter taught you?
8 What advice might you give to someone else who stutters?

Closing question

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

References

Babbitt, E., & Cherney, L. (2010). Communication confidence in persons with aphasia. *Topics in Stroke Rehabilitation, 17*(3), 214–223. https://doi.org/10.1310/tsr1703-214.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191.

Bandura, A. (2008). An agentic perspective on positive psychology. In S. J. Lopez (Ed.). *Positive Psychology: Exploring the best in people.* Wesport, Conn: Praeger.

Bandura, A. (2011). A Social Cognitive perspective on Positive Psychology. *Revista de Psicología Social, 26*(1), 7–20. https://doi.org/10.1174/021347411794078444.

Bandura, A., Adams, N., Beyer, J., & Greenwald, A. (1977). Cognitive processes mediating behavioral change. *Journal of Personality and Social Psychology, 35*(3), 125–139. https://doi.org/10.1037/0022-3514.35.3.125.

Beilby, J. (2014). Psychosocial impact of living with a stuttering disorder: Knowing is not enough. *Seminars in Speech and Language, 35*(2), 132–143. https://doi.org/10.1055/s-0034-1371756.

Beilby, J., & Yaruss, J. S. (2018). Acceptance and Commitment Therapy for stuttering disorders. In B. J. Amster, & E. R. Klein (Eds.). *More than fluency: The social, emotional, and cognitive dimensions of stuttering* (pp. 111–130). San Diego, CA: Plural Publishing, Inc.

Beilby, J. M., Byrnes, M. L., & Yaruss, J. S. (2012). Acceptance and Commitment Therapy for adults who stutter: Psychosocial adjustment and speech fluency. *Journal of Fluency Disorders, 37*(4), 289–299. https://doi.org/10.1016/j.jfludis.2012.05.003.

Bloodstein, O., & Bernstein Ratner, N. (2008). *A handbook on stuttering* (6th ed.). Clifton Park, NY: Delmar Learning.

Boyle, M. P. (2013). Assessment of stigma associated with stuttering: Development and evaluation of the Self-Stigma of Stuttering Scale (4S). *Journal of Speech Language and Hearing Research, 56*(5), 1517–1529. https://doi.org/10.1044/1092-4388(2013/12-0280).

Boyle, M. P. (2015). Relationships between psychosocial factors and quality of life for adults who stutter. *American Journal of Speech - Language Pathology, 24*(1), 1–12. https://doi.org/10.1044/2014 AJSLP-14-0089.

Boyle, M. P. (2016). *Relations between stuttering disclosure and self-empowerment in adults who stutter. November Poster Presented at the American Speech-Language-Hearing Association, Annual Convention.*

Boyle, M. P. (2018). The importance of self-efficacy for individuals who stutter. In B. J. Amster, & E. R. Klein (Eds.). *More than fluency: The social, emotional, and*

cognitive dimensions of stuttering (pp. 19–44). San Diego, CA: Plural Publishing, Inc.
Boyle, M. P., Beita-Ell, C., Milewski, K., & Fearon, A. (2018). Self-esteem, self-efficacy, and social support as predictors of communicative participation in adults who stutter. *Journal of Speech Language and Hearing Research, 61*(8), 1893–1906. https://doi.org/10.1044/2018 JSLHR-S-17-0443.
Boyle, M., Milewski, K., & Beita-Ell, C. (2018). Disclosure of stuttering and quality of life in people who stutter. *Journal of Fluency Disorders, 58*, 1–10. https://doi.org/10.1016/j.jfludis.2018.10.003.
Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa.
Bray, M. A., Kehle, T. J., Lawless, K. A., & Theodore, L. A. (2003). The relationship of self-efficacy and depression to stuttering. *American Journal of Speech-language Pathology, 12*, 425–431. Retrieved from https://ncbi.nlm.nih.gov/pubmed/14658994.
Bricker-Katz, G., Lincoln, M., & Cumming, S. (2013). Stuttering and work life: An interpretative phenomenological analysis. *Journal of Fluency Disorders, 38*(4), 342–355. https://doi.org/10.1016/j.jfludis.2013.08.001.
Carminati, L. (2018). Generalizability in qualitative research: A tale of two traditions. *Qualitative Health Research, 28*(13), 2094–2101. https://doi.org/10.1177/1049732318788379.
Carter, A., Breen, L., Yaruss, J. S., & Beilby, J. (2017). Self-efficacy and quality of life in adults who stutter. *Journal of Fluency Disorders, 54*, 14–23. https://doi.org/10.1016/j.jfludis.2017.09.004.
Cicerone, K. D., & Azulay, J. (2007). Perceived self-efficacy and life satisfaction after traumatic brain injury. *The Journal of Head Trauma Rehabilitation, 22*(5), 257–266. https://doi.org/10.1097/01.HTR.0000290970.56130.81.
Corcoran, J. A., & Stewart, M. (1998). Stories of stuttering: A qualitative analysis of interview narratives. *Journal of Fluency Disorders, 23*(4), 247–264. https://doi.org/10.1016/S0094-730X(98)00020-5.
Craig, A. (1998). Relapse following treatment for stuttering: A critical review and corrective data. *Journal of Fluency Disorders, 23*(1), 1–30. https://doi.org/10.1016/S0094-730X(97)00027-2.
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. https://doi.org/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. https://doi.org/10.1044/1092-4388(2011/10-0304).
Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). City, CA: Sage.
Eadie, T. L., Yorkston, K. M., Klasner, E. R., Dudgeon, B. J., Deitz, J. C., Baylor, C. R., et al. (2006). Measuring communicative participation: A review of self-reportinstruments in speech-language pathology. *American Journal of Speech-Language Pathology, 15*(4), 307–320. https://doi.org/10.1044/1058-0360(2006/030).
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. https://doi.org/10.3109/09638288.2010.525287.
Graham, C., Gouick, J., Krahé, C., & Gillanders, D. (2016). A systematic review of the use of Acceptance and Commitment Therapy (ACT) in chronic disease and long-term conditions. *Clinical Psychology Review, 46*, 46–58. https://doi.org/10.1016/j.cpr.2016.04.009.
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. https://doi.org/10.1177/1525822X05279903.
Harris, R. (2009). *ACT Made SimpleOakland.* Oakland: New Harbinger Publications, Inc.
Iverach, L., & Rapee, M. (2014). Social anxiety disorder and stuttering: Current status and future directions. *Journal of Fluency Disorders, 40*, 69–82. https://doi.org/10.1016/j.jfludis.2013.08.003.
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. https://doi.org/10.1044/1058-0360(2011/10-0091.
Jones, F., & Riazi, A. (2011). Self-efficacy and self-management after stroke: A systematic review. *Disability and Rehabilitation, 33*(10), 797–810. https://doi.org/10.3109/09638288.2010.511415.
Jones, F., Mandy, A., & Partridge, C. (2009). Changing self-efficacy in individuals following a first time stroke: Preliminary study of a novel self-management intervention. *Clinical Rehabilitation, 23*, 522–533.
Kadden, R., & Litt, M. (2011). The role of self-efficacy in the treatment of substance use disorders. *Addictive Behaviors, 36*(12), 1120–1126. https://doi.org/10.1016/j.addbeh.2011.07.032.
Ladouceur, R., Caron, C., & Caron, G. (1989). Stuttering severity and treatment outcome. *Journal of Behavior Therapy and Experimental Psychiatry, 20*(1), 49–56. https://doi.org/10.1016/0005-7916(89)90007-4.
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. https://doi.org/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. https://doi.org/10.1044/1092-4388(2011/10-0116).
Latner, J. D., McLeod, G., O'Brien, K. S., & Johnston, L. (2013). The role of self-efficacy, coping, and lapses in weight maintenance. *Eating and Weight Disorders, 18*, 359–366. https://doi.org/10.1007/s40519-013-0068-1.
Lee, J., Nam, S., Kim, A., Kim, B., Lee, M., & Lee, S. (2013). Resilience: A meta-analytic approach. *Journal of Counseling & Development, 91*(3), 269–279. https://doi.org/10.1002/j.1556-6676.2013.00095.x.
Manning, W., & DiLollo, A. (2018). *Clinical decision making in fluency disorders* (4th ed.). San Diego, CA: Plural Publishing.
Martos-Méndez, M. J. (2015). Self-efficacy and adherence to treatment: The mediating effects of social support. *Journal of Behavior Health & Social Issues, 7*(2), 19–29. https://doi.org/10.5460/jbhsi.v7.2.52889.
Mays, N., & Pope, C. (1995). Rigour 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.
Ornstein, A., & Manning, W. (1985). Self-efficacy scaling by adult stutterers. *Journal of Communication Disorders, 18*(4), 313–320. https://doi.org/10.1016/0021-9924(85)90008-5.
Patton, M. (1990). *Qualitative Evaluation and Research Methods* (2nd ed.). Newbury Park, California: Sage Publications.
Plexico, L., Erath, S., Shores, H., & Burrus, E. (2019). Self-acceptance, resilience, coping and satisfaction of life in people who stutter. *Journal of Fluency Disorders, 59*, 52–63. https://doi.org/10.1016/j.jfludis.2018.10.004.
Plexico, L., Manning, W., & Levitt, H. (2009). Coping responses by adults who stutter: Part II. Approaching the problem and achieving agency. *Journal of Fluency Disorders, 34*, 108–126. https://doi.org/10.1016/j.jfludis.2009.06.003.
QSR International (2018). *Nvivo 12 [Computer software].* Available fromhttp://www.qsrinternational.com.
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. https://doi.org/10.1111/j.1467-9450.2009.00731.x.
Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*, 349–357. https://doi.org/10.1093/intqhc/mzm042.
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. https://doi.org/10.1016/j.jvoice.2007.01.011.
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.
Zyzanski, S. J., McWhinney, I. R., Blake Jr, R., Crabtree, B. F., & Miller, W. L. (1992). Qualitative research: Perspectives on the future. In B. F. Crabtree, & W. L. Miller (Vol. Eds.), *Research methods for primary care: Vol. 3*, (pp. 231–248). Thousand Oaks, CA, US: Sage Publications, Inc Doing qualitative research.

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Chapter 3

The fACTS Program: An integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter

Chapter 3: The fACTS Program: An integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter

The fACTS Program is an original documented fluency and ACT intervention protocol for clients who stutter to be used by speech- language pathologists (SLPs) who work in the field of fluency disorders. The Program was created by the doctoral candidate and co-authored by Associate Professor Janet Beilby, both of whom have received formal ACT training. Psychologist Professor Lauren Breen was consulted during the creation of this novel Program and development of Program resources. Whilst development of the fACTS Program received input from a qualified psychologist, it is intended to be administered by SLPs.

Rationale for Creation of the fACTS Program

Research has identified the clinical need for holistic interventions for AWS (AWS) that adequately address the overt and covert features of the disorder – that is, by addressing all biopsychosocial factors simultaneously (Manning & DiLollo, 2018; Smith & Weber, 2017; Venkatagiri, 2009). In addition, contemporary intervention for the management of adult stuttering should be individualized, flexible, cost-effective, and demonstrate durable results over time (Hart et al., 2021; Venkatagiri, 2009). This need for demonstrated and efficacious benefits has been articulated by consumers of previous adult stuttering treatments (Venkatagiri, 2009). The contemporary healthcare landscape advocating person-centered care, positions consumer requirements at the forefront of management decisions (Delaney, 2018).

Acceptance and Commitment Therapy (ACT) is a contemporary approach that has been shown to address the psychosocial needs of AWS (Beilby et al., 2012; Cheasman et al., 2013; Freud et al., 2020). Despite increasing professional interest

from the SLP community regarding the utility of ACT for AWS (e.g., American Speech Language and Hearing Association Special Interest Group 4 [ASHA, 2022], the "StutterTalk" podcast [Reitzes et al., 2007-present], and Beilby & Yaruss' [2018] book chapter), there have been few published intervention studies using ACT to date. In addition, there are limited detailed professional protocols and resources applicable to the population of AWS. There are published ACT protocols for use with other clinical populations including individuals with chronic pain (Buhrman et al., 2013), depression (Pots et al., 2016), anxiety (Arch et al., 2012), social anxiety (Dalrymple & Herbert, 2007), obesity (Latner et al., 2013), and Autism Spectrum Disorder (Pahnke et al., 2013). There is a single published protocol incorporating an ACT protocol relevant to stuttering (Hudock & Yates, n.d.), in addition to the aforementioned research by Beilby and colleagues (2012). When deciding to undertake the present research to add to the current literature regarding ACT and stuttering, a unique opportunity was identified to address this gap in the clinical and research domains for resources specific to ACT incorporated with stuttering management strategies.

The fACTS program differs from the work of Hudock and Yates (n.d.) in several ways. Firstly, the fACTS Program integrates both speech fluency and ACT techniques extensively in each session, whereas the approach described by Hudock and Yates does not describe in detail the components used to specifically target speech fluency or the overt characteristics of stuttering. It was deemed important to include and describe a range of techniques to address the behavioral, overt components of stuttering within the fACTS Program, as improved fluency is often the overriding motivation for clients to seek treatment in the first instance.

The fACTS Program is designed to be delivered in various treatment formats and modalities (e.g., individual or group intervention, and face-to-face or telepractice). This has become more pertinent since the onset of the global COVID-19 pandemic, whereby social distancing requirements necessitate a shift towards telepractice in many medical and allied health service settings (McGill et al., 2021), thus adding to the clinical validity of the fACTS Program. In addition, the fACTS Program can be administered by SLPs with an introductory knowledge of ACT and does not need any external sessions with a psychologist. Health professionals can undertake ACT training for a nominal fee, but this formal training is not a pre-requisite for providing an ACT-style intervention such as the fACTS Program. Many of the resources included in the fACTS Program are freely available on Dr Russ Harris' "ACT Mindfully" website, www.actmindfully.com.au. The program described by Hudock and Yates is intended for use as part of an intensive intervention program with a duration of two-weeks. The fACTS Program, on the other hand, is designed as eight separate intervention sessions that can be administered flexibly, dependent on client and clinician availability and preferences. The fACTS Program also differs from the intervention described by Beilby and colleagues (2012) in that the intervention is provided in both group and individual formats, with a formal intervention protocol created for the SLPs, alongside a resource workbook for participants.

Determining the Structure and Content of the fACTS Program

Findings from the qualitative exploration of the nature of the self-efficacy beliefs of AWS in Study One were used to inform the structure and content of the fACTS Program intervention protocol, as well as the individual session activities. The notion that stuttering is more than just overt speech fluency (i.e., it is the

speaker's covert thoughts, reactions, and emotions) was strongly endorsed by participants in Study One. Some spoke about the importance of mindset and perspective in coping with stuttering, and others reflected on how their perceptions of themselves also impacted their confidence (Carter et al., 2019). One participant remarked:

> "When I was having good fluency days, I felt really good about myself. When I was having a bad [fluency] day, I felt really bad about myself… I've been doing this for 26 years and my thinking has not increased to the same rate to what my fluency has… My fluency has gone from 2 up to 98, but my thinking about my stutters has gone from maybe 60 to 65." (p. 21).

The participants highlighted the need for a holistic intervention that simultaneously addressed the overt and covert features of the disorder, so that their confidence could be extricated from their speech fluency. Every participant agreed that stuttering had a significant impact upon their confidence at some point in their life (Carter et al., 2019). Each session in the fACTS Program targeted speech fluency and psychological flexibility simultaneously – that is, each session integrated speech fluency techniques and experiential ACT techniques in each activity. Speech management techniques were established at the beginning of each session, then practiced during subsequent experiential ACT activities, and participants were encouraged to incorporate and consolidate techniques learned in previous sessions.

The opinion that stuttering is more than fluency was also the impetus for incorporating ACT philosophies into stuttering management. An individual's private experiences will shape their self-efficacy beliefs and influence the type of activities in which they choose to engage (Bandura, 1977). Research has reported that situational avoidance is common in AWS (Beilby et al., 2012; Carter et al., 2019;

Corcoran & Stewart, 1998; Iverach et al., 2011). Sustained avoidance of social situations creates missed opportunities for social engagement, which further limits the development and evolution of an individual's self-efficacy for communication (Carter et al., 2019). Many participants alluded to the idea of stuttering "always being there" in some capacity, even when experiencing fluent speech (Carter et al., 2019). The reality of stuttering in adulthood is that it is an enduring presence, and although some adults will experience periods of relative fluency, the nature of stuttering is variable and relapse is common (Manning & DiLollo, 2018). At its core, ACT is about accepting what is outside of your personal control, and taking action that matters to you (Harris, 2019). Throughout the fACTS Program, experiential activities were included to equip AWS with techniques to relate to, and manage, their stuttering in novel ways that would ultimately encourage acceptance that stuttering may "always be there" in some capacity, but that it does not prevent engagement in meaningful activities that bring value to their lives. The engagement in meaningful activities created important opportunities for mastery of the speech fluency and ACT skills learned in the fACTS Program, as well as opportunities for establishment and evolution of self-efficacy for communication.

Another major finding from Study One (Chapter 2) was that a speaker's communicative confidence is shaped by the cumulative impact of their speaking experiences (Carter et al., 2019). In response to this, the integrated treatment sessions in Study 2 allowed opportunity for participants to practice and roleplay communication and fluency skills in a supportive environment. In addition, it was found that AWS felt a conflict between communicating freely and communicating fluently. One participant aptly described her experience of stuttering as being like a "tug of war" (p. 21 of manuscript in Chapter 2), where some days the stutter would

win and she would withdraw from social communication, and other times her general enjoyment of speaking would win and she would continue to engage in social communication (Carter et al., 2019). Specific experiential ACT activities were incorporated based on this tug of war metaphor to help AWS relate to, and manage, their stuttering in new ways, with the aim of reducing interference with the activities of daily living.

Participants in Study One also highlighted how their perspective of themselves and the world around them influenced their self-efficacy beliefs (Carter et al., 2019). Given this finding, it was important to ensure that the fACTS Program contained ample experiential activities to promote self-acceptance and assist AWS to understand that their stutter does not define them as individuals. Therefore, particular emphasis was placed on spending sufficient time practicing the ACT processes of cognitive defusion, acceptance, and self-as-context in the structured, supported, successive intervention sessions.

Incorporating Self-Efficacy Theory in the Development of the fACTS Program

In his book chapter on self-efficacy in AWS, Boyle (2018) considers how the principles of Bandura's (1977) social cognitive theory may be applied to intervention planning. Bandura's (1977) social cognitive theory states that self-efficacy beliefs are built upon mastery experiences, vicarious experience, verbal persuasion, and physiological states, and this was considered when designing each fACTS Program session. In terms of mastery experiences, speech fluency techniques were negotiated and established at the commencement of each session and practiced during the remainder of session activities to ensure maximum opportunity for practice and incorporation of the fluency skills taught at a discourse level. Home practice activities were assigned to consolidate and generalize both fluency and ACT skills

taught during the formal intervention sessions. Each week, participants engaged in activities designed to increasingly challenge their skills such as telephone calls and oral presentations. These activities were individualized and based on participants' own choices for a hierarchy of speaking situations. In terms of vicarious experience, the fACTS Program was written with the intention that it could be administered in a group format. This allowed participants to witness their peers engaging in opportunities for communication that they themselves might not have considered possible. The aim was to encourage them to attempt the same or similar activities, or potentially strengthen their existing self-efficacy beliefs for similar situations. Given that an individual's physiological arousal may impact upon whether or not they will engage in a particular activity, it was determined with the participant that avoidance of situations that invoke an anxiety or stress response may hinder development of the coping skills required for their personal mastery and development (Carter et al., 2019). This was managed by the integration of speech fluency and ACT techniques in the fACTS Program, whereby participants learned skills to manage their anxiety or stress response and continue with a chosen valued activity, such as meeting new people, rather than avoiding to do so.

The Fluency Component of the fACTS Program

The specific fluency component of the fACTS Program was based upon the Curtin University Stuttering Program (CUSP) for AWS, pioneered by Associate Professor Janet Beilby. These fluency techniques have been used by student clinicians in the Curtin Stuttering Treatment Clinic (CUSTC) with success for over 30 years. The CUSP combines and modifies the principles from common and well-documented approaches to the management of the behavioral components of stuttering for AWS, that of fluency shaping and stuttering modification as described

in Chapter 1, alongside supported values-based experiential learning to address the psychosocial components of stuttering.

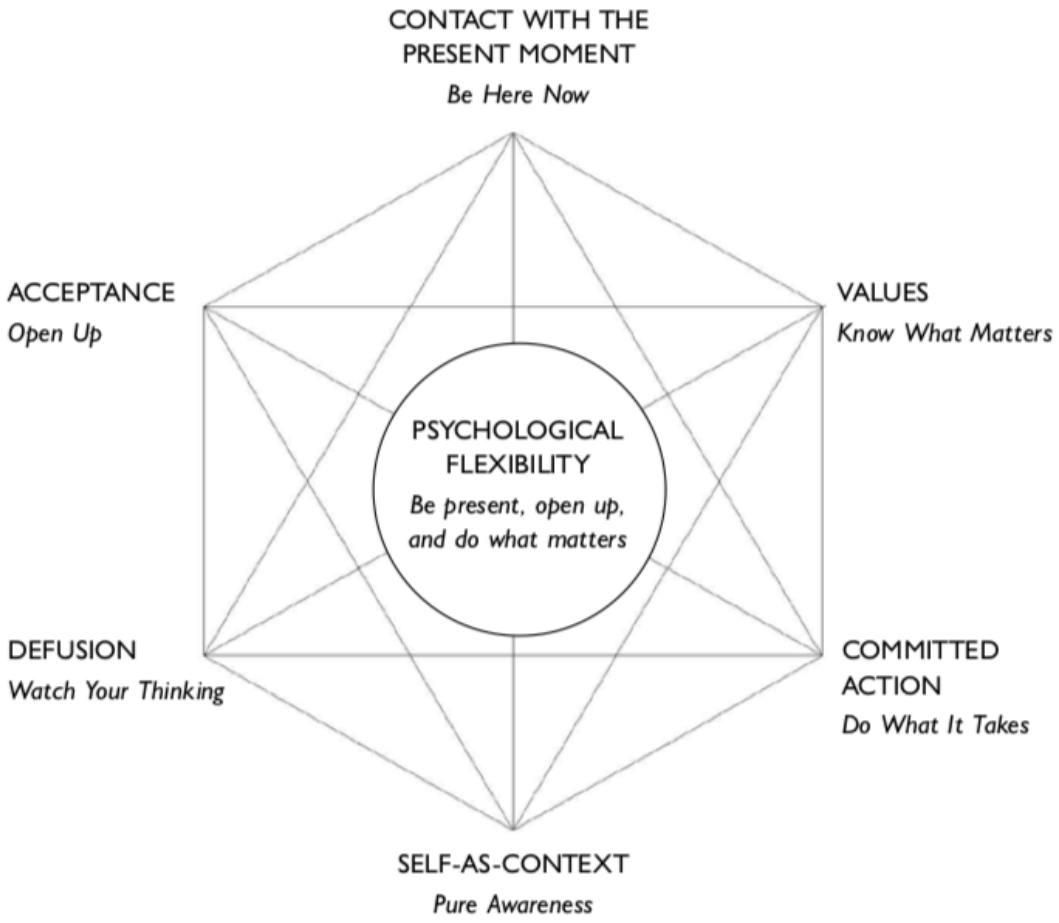
The principles of fluency shaping, and stuttering modification used in the fACTS Program were taught across three phases – instatement, generalization, and maintenance. In the instatement phase, participants were introduced to various techniques from both approaches. The fACTS Program contains resources and activity suggestions for differing levels of participant experience and perceived need. It was at the discretion of the treating SLP to determine the participant's level of capability – for example, some participants who had received speech-language pathology intervention in the past could theoretically begin practice of fluency techniques at a discourse level if they chose to do so. In the generalization phase, participants practiced their fluency techniques in a range of different situations such as speaking on the telephone, speaking to strangers, speaking under time pressure, providing a short presentation and so on. Home practice activities included suggestions to continue generalization outside of the clinic. The final session comprised the maintenance phase, whereby participants were provided with details of follow-up contact as needed and relevant consumer self-help support networks/organizations in their local area. Participants were encouraged to contact their clinician at any stage for ongoing support and advice.

The Acceptance and Commitment Therapy Component of the fACTS Program

Psychological flexibility is the core of ACT and comprises six individual processes: contacting the present moment, cognitive defusion, acceptance, self-as-context, values, and committed action (Harris, 2019). Figure 1 provides a graphical representation of the interaction of these processes, termed the "ACT Hexaflex".

Figure 1

The ACT Hexaflex



Note. This figure appears in Harris (2019) and is reproduced with permission.

Contacting the present moment involves simultaneously and flexibly directing attention or awareness inward to the psychological world and outward to the world around you. This allows the individual to engage fully in whatever is happening in each moment. The ability to flexibly shift attention between the inner psychological world and the outer physical world attempts ensures that the person has more capacity when choosing actions in which to engage in (Harris, 2019). This was deemed of particular importance to AWS who may engage in situational avoidance

due to negative thoughts, feelings, or reactions to stuttering (Beilby et al., 2012; Carter et al., 2019; Corcoran & Stewart, 1998; Iverach et al., 2011). *Cognitive defusion* involves being mindful of thoughts and being able to disengage with them so that they are not in control of the individual's actions. Skills in cognitive defusion may assist AWS to become aware of the influence of their internal monologue, and how they can subsequently relinquish the control that thoughts have upon actions. *Acceptance* refers to being open to experiencing the full spectrum of human emotion and creating space to experience various feelings and sensations without judgment. This process does not mean that the individual resigns themselves to their situation – rather, they make a conscious decision to not let their feelings or sensations become all-consuming. In relation to stuttering, this could mean that an individual still chooses to engage in an activity that aligns with their personal values, despite feelings of fear or embarrassment. *Self-as-context* involves recognizing the two processes at play in the human mind – 'thinking' and 'observing' and is important for the implementation of all ACT processes. This process is important for AWS who may align more readily to the 'thinking' self that generates thoughts about stuttering rather than their 'observing' self, that simply observes and notices what is going on in the world around them. *Values* relate to what matters most to an individual and serve as the driving force in their decision-making. Last of all, *committed action* refers to choosing actions that are in line with an individual's personal values, regardless of the thoughts or feelings that accompany the action (be they positive or negative). When actions are guided by an individual's personal values and are meaningful to them, the person is more likely to persist in that action in the face of adversity. Beilby and Yaruss (2018) and Everard and Cheasman (2020)

provide a comprehensive overview of how ACT can be incorporated into the clinical management of stuttering.

To some, it may appear counter-intuitive to integrate fluency management techniques with ACT philosophies when ACT focuses so greatly on acceptance. In reality, addressing these areas concurrently is deemed a natural choice, due to the multifactorial nature of stuttering and the importance of addressing the behavioral, cognitive, and affective components of the disorder to facilitate holistic management (Everard & Cheasman, 2020). A person who stutters can practice experiential acceptance and still want to work on their fluency concurrently. The implementation of ACT techniques can be beneficial in releasing cognitive resources for people who stutter to allow them to focus more productively on their fluency management techniques.

General Overview of the fACTS Program

The fACTS Program is an integrated fluency and ACT intervention for stuttering disorders. The program comprises eight intervention sessions, designed to be administered by a qualified SLP. The program was originally designed for group intervention however, all activities were definitely utilized by individual clients. The majority of participants in Study Two (described in Chapter 4) were treated individually, due to participant availability and the necessity to take advantage of each participant's motivation and readiness for change. The majority of participants in the research resided in Western Australia – a state with the most geographically isolated capital city in the world, Perth – and interest was also received from a client as far away as South Africa, so it was important to create an intervention that could be administered in both face-to-face and telepractice modalities. A "fly-in, fly-out" work lifestyle is popular in Western Australia due to the large vocational mining

industry, and many of the participants in Study 2 undertook a "fly-in, fly-out" work roster. These rosters are highly variable and can make scheduling appointments difficult, so it was important to ensure that the program was flexible enough to accommodate the needs of these individuals. As such, the program was designed to be delivered in an intervention frequency negotiated and agreed upon by the clinician and their client (e.g., weekly, fortnightly, or monthly appointments). Each session began with a summary of the previous session and included home practice activities. These delivery options add to the clinical validity of the intervention – these are all practical, real-life considerations to be taken into account by SLPs across different and unique clinical settings.

In addition to the review of the previous session aims and activities, an introduction to the new session content was covered at the beginning of each session. Fluency skills were established and practiced at the beginning of each session, and participants were encouraged to continue practicing these skills in the experiential ACT activities that followed. A different ACT process was targeted each week, building on the previous week. However, the ACT processes are not linear – so there was overlap across the sessions. Each intervention session concluded with a summary and review of the session, as well as discussion and planning of home practice activities for the ensuing week. Home practice activities included tasks in which to practice fluency skills (e.g., making phone calls, initiating conversation with an unfamiliar person), as well as experiential ACT activities (e.g., mindfulness practice, keeping a log of thoughts relevant to stuttering and practicing of cognitive defusion).

Table 1 provides an overview of the structure and content of the fACTS Program.

Table 1

General Overview of the fACTS Program Content

	Fluency Component	ACT Component
Session One	Introduction to fluency shaping and stuttering modification techniques	Introduction to ACT and clarification of personal values
Session Two	Practice of fluency techniques in short sentences	Goal setting and introduction to mindfulness techniques
Session Three	Practice of fluency techniques in discourse	Introduction to experiential acceptance
Session Four	Practice of fluency techniques in highly structured discourse	Introduction to cognitive defusion and continued practice of experiential acceptance
Session Five	Generalization of fluency techniques in semi-structured discourse	Introduction to principles of self-as-context
Session Six	Generalization of fluency techniques during roleplay scenarios relevant to situational hierarchy	Integration of experiential acceptance, cognitive defusion, and self-as-context techniques
Session Seven	Generalization of fluency techniques during short oral presentation	Provision of strategies to link values to committed action
Session Eight	Maintenance of fluency techniques during informal discourse	Integration of six core processes to support psychological flexibility Discussion of ongoing support options

The fACTS Program Workbooks

The fACTS Program resources include two separate, comprehensive clinician and client workbooks. The clinician workbook is presented in Appendix C. The client workbook is over 100 pages long and essentially contains similar content, with the exclusion of task explanations and notes for the clinician and has therefore not been included as a separate Appendix given the unwieldy length of this dissertation.

The clinician workbook contains all the content necessary for the implement of the fACTS Program for AWS, including an overview of the different fluency treatment strategies (i.e., fluency shaping and stuttering modification), an overview of ACT and each of its core processes, helpful tips to implement an integrated intervention such as the fACTS Program, a comprehensive breakdown of each intervention session (including scripted task explanations), and comprehensive resources (e.g., activities and worksheets) to use in-session and to assign for home practice. While scripted task explanations are included in the Program, the fACTS Program is not intended to be a "one-size-fits-all" intervention. As such, SLPs are encouraged to adapt the script as necessary, as long as the essence of the script is maintained. The scripted explanations were included to demonstrate how ACT techniques could be integrated with stuttering intervention for AWS, and to support SLPs who are new to using ACT with this population.

The client workbook is similar to the clinician workbook and contains an overview of the fluency and ACT techniques taught in the fACTS Program, although the language has been adapted to remove professional terminology and promote client understanding and ownership. The client workbook also contains an overview of each intervention session and the in-session and home practice materials needed for the duration of the program. The client workbook serves as an all-inclusive resource that can be referred to both during and after the program, to increase accountability and encourage ongoing practice and support of the content. To the best of our knowledge, this is the only intervention protocol for AWS that provides both comprehensive clinician and client workbooks to facilitate this integrated intervention.

Chapter 4

Evaluation of an integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter:

Clinical trial data

Chapter 4: Evaluation of an integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter: Clinical trial data

This chapter presents the results of Study 2, a clinical trial of an integrated fluency and Acceptance and Commitment Therapy for adolescents and adults who stutter, titled the "fACTS Program". A manuscript is in preparation to be submitted for publication.

Method

Participants

The fACTS Program was administered to 29 AWS (five females and 24 males), aged between 17 and 54 years (M = 32.54, SD = 10.61) and recruited via convenience sampling. The program was administered by two certified-practising speech-language pathologists (SLPs), each with expertise in assessment and management of fluency disorders in adults. Twenty-eight participants completed the program and provided post-intervention data (97% completion rate).

The majority of participants (n = 20) were treated by an SLP, the doctoral student, Therapist 1, based in Perth, Western Australia. Participants were recruited via the Curtin University Stuttering Treatment Clinic (CUSTC), a metropolitan-based specialist stuttering treatment clinic in Perth, Western Australia. Participants treated by Therapist 1 resided in remote/regional Western Australia (n = 1), various locations across metropolitan Perth in Western Australia (n = 18), and in Cape Town, South Africa (n = 1). Western Australia has a prosperous mining industry, with many employees of the mining sector occupying a "fly-in, fly-out" role that sees them living part-time in metropolitan Perth and working in remote/regional country towns. Several (n = 4) participants occupied a "fly-in, fly-out" role. In light of these

geographical and logistic challenges, the fACTS Program was designed to be delivered flexibly in individual (n = 17) and group (n = 3; single group) treatment formats, and via face-to-face (n = 11), telepractice (n = 5), or mixed modalities (n = 4).

The remaining participants (n = 9) were treated by Therapist 2, a researcher and SLP working in a large private practice in Chicago, Illinois, in the United States of America. Therapist 2 was trained in the administration of the intervention protocol by the doctoral student. All participants treated by Therapist 2 resided in metropolitan Chicago at the time of the intervention, and each received the intervention face-to-face. Several participants (n = 7) received group intervention (one group of 3, one group of 4), whilst the remaining participants (n = 2) received individual intervention.

Demographic information (see Table 2 and Table 3) was collected from all participants and included: age, identified gender, ethnicity/nationality, previous history of intervention, and any previous support group involvement. The majority of participants (n = 23) had sought speech-language pathology intervention for stuttering in the past. These participants had not had formal clinical contact in at least the three-months prior to commencing the intervention. Participants were from a range of ethnicities and nationalities, including African American, Australian, English, Indian, Russian, Sri Lankan, and South African.

To be eligible to participate in this study, participants needed a clinical diagnosis of developmental stuttering as confirmed by a SLP with extensive experience in fluency disorders, the absence of any additional speech, language or hearing difficulties, no previous involvement with ACT interventions, and no speech-language pathology intervention within a minimum of three months prior to

enrolling in the current intervention. Participants did not engage in any additional speech-language pathology intervention for the duration of the study.

Table 2

Demographic Information for Participants Treated by Therapist 1

Participant Identifier	Gender	Age	Geographical Location	Intervention Format	Intervention Modality	Support Group Experience
01	Male	30	Metropolitan South Africa	Individual	Telepractice	Yes
02	Male	34	Metropolitan WA	Group	Face-to-face	No
03	Male	44	Metropolitan WA	Individual	Mixed	No
04	Male	38	Regional WA	Individual	Telepractice	No
05	Male	53	Metropolitan WA	Individual	Telepractice	Yes
06	Male	26	Metropolitan WA	Group	Face-to-face	No
07	Male	22	Metropolitan WA	Group	Face-to-face	Yes
08	Male	39	Metropolitan WA	Individual	Face-to-face	No
09	Male	28	Metropolitan WA	Individual	Mixed	No
10	Male	24	Metropolitan WA	Individual	Mixed	Yes
11	Female	26	Metropolitan WA	Individual	Telepractice	No
12	Male	44	Regional WA	Individual	Mixed	Yes
13	Male	18	Metropolitan WA	Individual	Face-to-face	No
14	Male	17	Metropolitan WA	Individual	Face-to-face	No
15	Male	36	Metropolitan WA	Individual	Face-to-face	No
16	Male	24	Metropolitan WA	Individual	Face-to-face	No
17	Male	17	Metropolitan WA	Individual	Face-to-face	No
18	Female	54	Metropolitan WA	Individual	Telepractice	Yes
19	Male	37	Metropolitan WA	Individual	Face-to-face	Yes
20	Male	40	Metropolitan WA	Individual	Face-to-face	No

Table 3

Demographic Information for Participants Treated by Therapist 2

Participant Identifier	Gender	Age	Geographical Location	Intervention Format	Intervention Modality	Support Group Experience
21	Male	31	Metropolitan Illinois	Group	Face-to-face	No
22	Male	32	Metropolitan Illinois	Group	Face-to-face	No
23	Male	22	Metropolitan Illinois	Group	Face-to-face	No
24	Female	26	Metropolitan Illinois	Individual	Face-to-face	No
25	Female	27	Metropolitan Illinois	Individual	Face-to-face	Yes
26	Male	49	Metropolitan Illinois	Group	Face-to-face	No
27	Female	27	Metropolitan Illinois	Group	Face-to-face	No
28	Male	46	Metropolitan Illinois	Group	Face-to-face	Yes
29	Male	26	Metropolitan Illinois	Group	Face-to-face	No

Procedure

Ethics approval was granted by the Curtin University Human Research Ethics Committee (Appendix A). All participants were provided with an information sheet (Appendix E) to outline the purpose of the study and their participation requirements. Participants were provided with an opportunity to ask questions of the research team and were instructed to complete and return a consent form if they wished to take part. In addition, participants had to indicate their consent via a 'tick-box' when completing quantitative measures online via Qualtrics Survey Software.

A comprehensive intervention protocol for the administration of the fACTS Program was developed by the doctoral student and primary supervisor, Associate Professor Janet Beilby (see Chapter 3 and Appendix C). The intervention protocol contained all materials needed to facilitate the fACTS Program, including all-inclusive session guidelines, example task explanations, and practical in-session and at-home practice resources, and was administered by the same SLP each session. A workbook containing extensive in-session and at-home practice resources was also provided to each participant. Detailed information regarding the fACTS Program workbooks can be found in Chapter 3 and Appendix C.

The fACTS Program comprised eight intervention sessions, each lasting an average of 60 minutes. Due to considerations such as clinician and participant availability, geographical challenges, and the onset of the global COVID-19 pandemic, the intervention was administered flexibly across mixed modalities. The challenges which were incurred during this doctoral research will in all probability be ongoing into the future. Of the 29 participants, 19 received individual intervention, and the other 10 received group intervention in three separate groupings. A total of 20 participants

received face-to-face intervention, 5 participants received telepractice intervention, and the remaining 4 received a mix of face-to-face and telepractice.

Fluency management techniques were discussed and negotiated with participants under the guidance of the SLP to tailor the strategies around the type of stuttering difficulties the individual reported experiencing and to provide autonomy of treatment involvement and choice. Techniques were explained, demonstrated, and practiced at the beginning of each intervention session (e.g., soft articulatory contacts, stuttering desensitization, and so on). Experiential ACT activities followed, with the intent of addressing the cognitive and affective components of stuttering. Participants were encouraged to continue practice of their fluency techniques for the duration of the session, with supportive prompts from the treating clinician as needed. Participants were supported to complete in-session activities and were encouraged to complete at-home practice activities and reflect on these in the provided client workbook. To ensure fidelity across settings and adherence to the workbook protocols, the treating SLPs completed a checklist at the conclusion of each intervention session to indicate and record the material covered.

Outcome Measures

Outcome measures were selected to address the behavioral and psychosocial components of stuttering. Brundage and colleagues (2021) identified several core components of comprehensive evaluation of stuttering behaviors and people who stutter. These core components were speech fluency, the speaker's reactions to their stuttering, and adverse impact caused by stuttering and were all addressed by the outcome measures described below.

Percentage of syllables stuttered (%SS) was used to measure stuttered speech frequency as it is simple and quick to calculate, captures instances where a speaker

stutters on multiple syllables of a multisyllabic word, and captures the most obvious aspect of stuttering, that of stuttered speech frequency (Guitar, 2014; Mirawdeli & Howell, 2016). Percentage of syllables stuttered is the most routinely used measure of stuttered speech severity in speech-language pathology clinics in Australia due to its standard rules for calculation (e.g., Guitar, 2014) and ease of computation. This measure of stuttered speech severity was obtained from a representative, conversational speech sample of at least 1000 syllables and completion of a reading passage. Guitar's (2014) recommendations were followed when calculating %SS to determine what constituted a stuttered syllable. The %SS was obtained by the doctoral student by dividing the total number of syllables stuttered upon in each speech sample by the total number of syllables produced in each speech sample (Guitar, 2014).

The *Self-Efficacy Scale for Adult Stutterers* (*SESAS*; Ornstein & Manning, 1985) was used to measure domain-specific self-efficacy for verbal communication. Ornstein and Manning (1985) adapted this scale for use with stuttering from the self-efficacy scaling technique proposed by Bandura and colleagues in 1977. The *SESAS* (Ornstein & Manning, 1985) contains two scales – "Approach" and "Performance", however, only the "Approach" scale was utilized in this research. Research and recommendations by the authors indicate that the "Approach" scale is the more reliable index for self-efficacy (C. Constantino, personal communication, May 26, 2016). Participants were required to signify whether they would engage in 50 different speaking situations of increasing magnitude and indicate their level of confidence in communicating in each situation on a decile scale from 10-100. The *SESAS* (Ornstein & Manning, 1985) self-report "Approach" scores were calculated by dividing the sum of responses by 50 to determine an overall score. Participants were instructed to leave the item blank if they did not feel that they would approach this situation (i.e., a mark of 0). Criterion and

construct validity for the 'Approach' scale of the *SESAS* (Ornstein & Manning) is demonstrated in a study conducted by Saltuklaroglu and Kully (as cited in Manning & DiLollo, 2018). Two participants were under the age of 18 at the time of intervention, and therefore completed the adolescent equivalent of the *SESAS* (Ornstein & Manning, 1985), titled the *Self-Efficacy Scale for Adolescents* (*SEA-Scale*; Manning, 1994). The content is similar across both assessments; however, the *SEA-Scale* (Manning, 1994) comprises a list of 100 speaking situations as opposed to 50. Scores on the *SEA-Scale* (Manning, 1994) are computed in the same manner as the *SESAS* (Ornstein & Manning, 1985) and are comparable across both assessments. Greater scores on both measures indicated greater self-efficacy (Manning & DiLollo, 2018).

The *Overall Assessment of the Speaker's Experience of Stuttering* (*OASES*; Yaruss & Quesal, 2006) was used to measure the totality of the impact of stuttering on the individual. The *OASES-Adult* (*OASES-A*; Yaruss & Quesal, 2016a) and *OASES-Teen* (*OASES-T*; Yaruss & Quesal, 2016b) were utilized in this study. Both versions of the *OASES* (Yaruss & Quesal, 2016a, 2016b) comprise four sections and an overall impact rating. The number of questions differ across the *OASES-T* and the *OASES-A* (Yaruss & Quesal, 2016a, 2016b); however, the content is similar and the impact ratings are calculated in the same manner and are comparable across assessments. The *OASES* (Yaruss & Quesal, 2016a, 2016b) comprises four sections and an overall impact rating (Total Score). Section I (General Information) contains items that assess the speaker's general knowledge of stuttering. Section II (Reactions to Stuttering) contains items that assess speaker's reactions to stuttering, spanning the behavioral, cognitive, and affective domains. Section III (Communication in Daily Situations) contains items that assess daily challenges faced by the speaker in various speaking situations. Section IV (Quality of Life) contains items that assess the impact of stuttering on the speaker's general

wellbeing. The *OASES* (Yaruss & Quesal, 2016a, 2016b) also provides an overall impact rating to assess the totality of the speaker's experience of stuttering, calculated based on the results of the four sections described above. This overall impact rating was the variable of interest in this study. All self-report items are scored on a five-point Likert scale to provide an impact rating. Impact ratings are calculated by dividing the scores by the number of responses completed in each section. The greater the impact rating, the greater the impact of stuttering on the speaker's experiences. The *OASES* (Yaruss & Quesal, 2016a, 2016b) is a respected assessment tool in the field of fluency disorders with sound psychometric properties and high test-retest reliability, (r = .90), reported in the literature (Manning & DiLollo, 2018).

The *Acceptance and Action Questionnaire-2* (*AAQ-2*; Bond et al., 2011) is an ACT-specific outcome measure that was included to measure psychological flexibility and experiential avoidance. The *AAQ-2* (Bond et al., 2011) contains seven self-report items that assess psychological changes in symptom function. Items are scored on a 7-point Likert Scale. The end score is calculated by summing the response to each item. Lower scores indicate greater levels of psychological flexibility. Sound psychometric properties including internal consistency, (α = .84), single factor structure, and correlation with other psychological measures have been reported (Bond et al., 2011).

Data Collection and Analysis

Data were collected at four separate time points: pre-intervention, immediately post-intervention, three-month post-intervention and six-month post-intervention. Participants were e-mailed a secure link to Qualtrics Survey Software to complete all self-reported measures at each time point. Therapist 1 and Therapist 2 obtained the relevant speech samples at the designated time points. Therapist 1 calculated *%SS* for all speech samples provided. To ensure inter-rater reliability, an independent SLP

checked 10% of the *%SS* ratings for reliability. This independent speech-language pathologist has extensive experience in the assessment of fluency disorders and was blinded to which time point the speech sample corresponded. Pearson's product-moment correlation analysis identified a strong correlation between ratings of *%SS*, $r(5) = .99$, $p < .001$.

Data were analyzed using generalized linear mixed modelling to detect meaningful change in participant scores from pre- to post-intervention, and at three- and six-month follow-up. Generalized linear mixed modelling (GLMM) is a flexible approach to data analysis that takes into account both fixed and random effects to address nested research designs. Fixed effects in this case refer to time point (i.e., pre- and post-intervention and three- and six-month follow-up) and intervention nested within different therapists (i.e., Therapist 1 and Therapist 2), allowing for analysis of changes from pre- to post-intervention and follow-up, whilst accounting for the effects of different therapists. Random effects in this case refer to the various treatment modalities (i.e., face-to-face versus telepractice delivery, individual versus group intervention, and weekly versus fortnightly timing).

The assumption of normality was tested using *z* scores with an absolute value of 1.96 at an alpha level of .05 for all variables (Kim, 2013). A violation to normality was observed for *%SS* at all four time points (i.e., pre-, post- and three- and six-months post-intervention), as is typical in intervention studies utilizing this outcome measure. A violation to normality was also observed for *AAQ-2* scores post-intervention, *SESAS* scores three- and six-month follow-up, and *OASES-Total* scores six-month follow-up. Data analysis utilizing GLMM is robust to the effects of non-normal distributions. Of the total 29 participants, 28 participants completed post-intervention data, 19 completed three-month follow-up data, and 18 completed six-month follow-up data. Generalized

linear mixed modelling is robust to violations in normality assumptions, robust to missing data, and does not exclude participants from the analysis based on missing values (Kain et al., 2015). With these considerations in mind, data analysis using GLMM was deemed appropriate for this research.

Separate GLMMs were conducted using IBM SPSS Statistics (Version 27.0) for Windows' procedure to test for overall group differences and time-related changes for each outcome measure; stuttered speech frequency (*%SS*), self-efficacy (*SESAS*), psychological flexibility (*AAQ-2*), and totality of the stuttering experience (*OASES-Total*). An alpha level of .05 was used in all analyses.

Pre-intervention to Post-intervention. Data from Therapist 1 and Therapist 2 were combined and included in the GLMM to analyse and report changes from pre- to post-intervention, after taking into account the effects of therapist. The GLMM contained two fixed factors; time point and therapist. The fixed factor of time point had two levels – pre-intervention and post-intervention. The fixed factor of therapist also had two levels – Therapist 1 and Therapist 2. Where follow-up comparisons were conducted, these were examined using Bonferroni-corrected contrasts. Effect size calculations for time-related changes are reported using Cohen's *d* (Cohen, 1988).

Follow-up Data at Three- and Six-months. There was incomplete data at three- and six-month follow-up time points for Therapist 2 (see Table 4), thus only follow-up data from Therapist 1 was included in the GLMM to assess changes from pre-intervention to follow-up. The GLMM used to analyze follow-up data for Therapist 1 therefore contained a single fixed factor (i.e., time point) with four levels – pre-intervention, post-intervention, three-month follow-up, and six-month follow-up. However, the focus of pairwise comparisons in this analysis is on changes in scores from pre-intervention to three- and six-month follow-up. Follow-up comparisons were

conducted using Bonferroni-corrected contrasts and effect sizes reported using Cohen's *d* (Cohen, 1988).

Results

Descriptive statistics are reported separately for the total participants (Table 4), and participants treated separately by Therapist 1 (Table 5) and Therapist 2 (Table 6). These tables outline the number of participants who provided data at each time point, as well as descriptive statistics for each variable analyzed. These tables also demonstrate overall group differences in outcome measures between participants treatment by Therapist 1 and Therapist 2.

Table 4

Descriptive Statistics for All Participants, Averaged Across Both Therapists

Outcome measure	Time point	n	Mean	SD	Min	Max
Stuttered Speech Frequency (%SS)	Pre-intervention	29	7.06	5.25	1.08	20.15
	Post-intervention	28	3.23	3.16	0.45	12.21
	3-month follow-up	14	3.02	2.43	0.37	9.62
	6-month follow-up	14	4.26	4.28	0.85	13.42
Self-Efficacy (SESAS)	Pre-intervention	29	60.48	18.33	14.80	91.60
	Post-intervention	28	72.65	14.61	43.20	96.80
	3-month follow-up	19	74.91	15.80	35.40	97.00
	6-month follow-up	18	76.96	16.56	37.20	97.00
Psychological Flexibility (AAQ-2)	Pre-intervention	29	26.66	10.18	8.00	49.00
	Post-intervention	28	21.39	8.43	7.00	44.00
	3-month follow-up	19	20.53	7.97	8.00	37.00
	6-month follow-up	18	19.44	8.81	7.00	39.00
Total Impact of Stuttering (OASES Total)	Pre-intervention	29	3.01	0.54	2.01	4.38
	Post-intervention	28	2.44	0.56	1.19	3.77
	3-month follow-up	19	2.40	0.60	1.33	3.82
	6-month follow-up	18	2.18	0.57	1.23	3.45

Table 5

Descriptive Statistics for Participants Treated by Therapist 1

Outcome measure	Time point	n	Mean	SD	Min	Max
Stuttered Speech Frequency (%SS)	Pre-intervention	20	6.86	5.40	1.55	20.15
	Post-intervention	20	3.36	3.14	0.89	12.21
	3-month follow-up	12	2.98	2.49	0.37	9.62
	6-month follow-up	14	4.26	4.28	0.85	13.42
Self-Efficacy (SESAS)	Pre-intervention	20	64.63	19.56	14.80	91.60
	Post-intervention	20	76.56	13.65	43.20	98.80
	3-month follow-up	16	77.19	15.91	35.40	97.00
	6-month follow-up	16	80.30	13.45	54.80	97.00
Psychological Flexibility (AAQ-2)	Pre-intervention	20	25.75	9.66	8.00	40.00
	Post-intervention	20	19.85	7.00	7.00	29.00
	3-month follow-up	16	19.75	7.74	8.00	37.00
	6-month follow-up	16	17.00	7.55	7.00	31.00
Total Impact of Stuttering (OASES Total)	Pre-intervention	20	2.84	0.48	2.01	3.71
	Post-intervention	20	2.26	0.46	1.19	2.94
	3-month follow-up	16	2.27	0.51	1.33	3.13
	6-month follow-up	16	2.06	0.47	1.23	2.74

Table 6

Descriptive Statistics for Participants Treated by Therapist 2

Outcome measure	Time point	n	Mean	SD	Min	Max
Stuttered Speech Frequency (%SS)	Pre-intervention	9	7.50	5.19	1.08	14.91
	Post-intervention	7	2.85	3.43	0.45	8.14
	3-month follow-up	2	3.26	2.91	1.20	5.31
	6-month follow-up	0	-	-	-	-
Self-Efficacy (SESAS)	Pre-intervention	9	51.27	11.37	28.20	67.20
	Post-intervention	8	62.90	12.86	46.80	82.80
	3-month follow-up	3	62.73	9.24	52.40	70.20
	6-month follow-up	2	50.20	18.38	37.20	63.20
Psychological Flexibility (AAQ-II)	Pre-intervention	9	28.67	11.60	15.00	49.00
	Post-intervention	8	25.25	10.83	11.00	44.00
	3-month follow-up	3	24.67	9.61	16.00	35.00
	6-month follow-up	2	30.00	12.73	21.00	39.00
Total Impact of Stuttering (OASES Total)	Pre-intervention	9	3.38	0.49	2.79	4.38
	Post-intervention	8	2.88	0.58	2.10	3.77
	3-month follow-up	3	3.11	0.61	2.72	3.82
	6-month follow-up	2	3.08	0.52	2.71	3.45

Stuttered Speech Frequency

Pre-intervention to Post-intervention. The GLMM analysis showed a statistically significant main effect for time point, $F(1, 52) = 51.89$, $p < .001$. There was no statistically significant main effect of therapist, $F(1, 52) = .02$, $p = .903$ and no statistically significant interaction between time point and therapist, $F(1, 52) = .68$, $p = .415$. Pairwise comparisons indicated a large and statistically significant reduction in stuttered speech frequency from pre-intervention ($M = 7.06$, $SD = 5.25$) to post-intervention ($M = 3.23$, $SD = 3.16$), $t(52) = 7.20$, $p = < .001$, across both therapists, $d = .88$.

Follow-up Data at Three- and Six-months. Only Therapist 1 is considered in the analysis of three- and six-month follow-up data due to insufficient data obtained from Therapist 2 at follow-up periods. A statistically significant main effect was found for time point, $F(3, 62) = 9.34$, $p = < .001$. When compared to pre-intervention scores, ($M = 6.86$, $SD = 5.40$), pairwise comparisons found a large and statistically significant reduction in stuttered speech frequency at three-months post-intervention ($M = 2.98$, $SD = 2.49$), $t(62) = 4.40$, $p = <.001$, $d = .92$, and a medium and statistically significant reduction at six-months post-intervention ($M = 4.26$, $SD = 4.28$), $t(62) = 4.90$, $p = < .001$, $d = .53$, for Therapist 1. This indicated maintenance of post-intervention reductions in stuttered speech frequency at follow-up. A similar pattern was observed in the descriptive statistics for Therapist 2 scores, where %SS scores were lower at three- and six-month follow-up compared to pre-intervention (see Table 6).

Self-Efficacy

Pre-intervention to Post-intervention. A large and statistically significant main effect was found for time point, $F(1, 53) = 20.07$, $p < .001$, demonstrating an increase in self-efficacy scores from pre-intervention ($M = 60.48$, $SD = 18.33$) to post-intervention ($M = 72.65$, $SD = 14.61$) averaged across both therapists, $d = .73$.
A statistically significant main effect was also found for therapist, $F(1, 53) = 8.67$, $p = .005$, where pairwise comparisons indicated a large and statistically significant increase in SESAS scores from pre-intervention ($M = 64.63$, $SD = 19.56$) to post-intervention ($M = 76.56$, $SD = 13.65$) for Therapist 1, $t(53) = 3.20$, $p = .002$, $d = .71$. A large and statistically significant increase in *SESAS* scores from pre-intervention ($M = 51.27$, $SD = 11.37$) to post-intervention ($M = 62.90$, $SD = 12.86$) was also found for Therapist 2, $t(53) = 3.13$, $p = .003$, $d = .96$. Self-efficacy scores for participants treated by Therapist 1 were higher at both pre- and post-intervention

compared to Therapist 2. There was no statistically significant interaction found between time point and therapist $F(1, 53) = .03$, $p = .865$, suggesting the time point effect is independent of the effect of therapist.

Follow-up Data at Three- and Six-months. A statistically significant main effect was found for time point $F(3, 68) = 3.60$, $p = .018$. When compared to pre-intervention scores ($M = 64.63$, $SD = 19.56$), pairwise comparisons found a large and statistically significant increase in *SESAS* scores at three-months post-intervention ($M = 77.19$, $SD = 15.91$), $t(68) = 2.78$, $p = .028$, $d = .70$, and large and statistically significant increase at six-months post-intervention ($M = 80.30$, $SD = 13.45$), $t(68) = 2.86$, $p = .028$, $d = .93$, for Therapist 1. This indicated maintenance of post-intervention gains in *SESAS* scores at follow-up. Descriptive statistics indicated that scores for Therapist 2 followed a similar pattern, whereby *SESAS* scores were higher than pre-intervention scores for participants at both follow-up periods (see Table 6).

Psychological Flexibility

Pre-intervention to Post-intervention. A statistically significant main effect was found for time point, $F(1, 53) = 15.52$, $p = < .001$. There was no statistically significant main effect of therapist, $F(1, 53) = 1.47$, $p = .231$, and no statistically significant interaction between time point and therapist, $F(1, 53) = 2.75$, $p = .103$. Pairwise comparisons found a medium and significant reduction in *AAQ-2* scores from pre-intervention ($M = 26.66$, $SD = 10.18$) to post-intervention ($M = 21.39$, $SD = 8.43$), $t(53) = 3.94$, $p = < .001$, $d = .56$, across both therapists.

Follow-up Data at Three- and Six-months. A statistically significant main effect was found for time point, $F(3, 68) = 6.76$, $p = <.001$. When compared to pre-intervention scores ($M = 25.75$, $SD = 9.66$), pairwise comparisons found a medium and statistically significant reduction in *AAQ-2* scores at three-months post-intervention

(M = 19.75, SD = 7.74), $t(68) = 2.86$, $p = .023$, $d = .69$, and a large and statistically significant reduction at six-months post-intervention (M = 17.00, SD = 7.55), $t(68) = 4.49$, $p = < .001$, $d = 1.01$, for Therapist 1. This indicated maintenance of post-intervention reductions in *AAQ-2* scores at follow-up. Descriptive statistics show that data for Therapist 2 followed a similar pattern, where *AAQ-2* scores demonstrated a reduction from pre-intervention to follow-up (see Table 6).

Totality of Stuttering Experience

Pre-intervention to Post-intervention. A large and statistically significant main effect was found for time point, $F(1, 53) = 52.33$, $p < .001$, demonstrating a reduction in total stuttering impact scores from pre-intervention (M = 3.01, SD = .54) to post-intervention (M = 2.44, SD = .56) averaged across both therapists, $d = 1.04$. A statistically significant main effect was also found for therapist, $F(1, 53) = 10.18$, $p = .002$, where pairwise comparisons indicated a large and statistically significant decrease in *OASES Total* scores from pre-intervention (M = 2.84, SD = .48) to post-intervention (M = 2.26, SD = .46) for Therapist 1, $t(53) = 6.41$, $p = <.001$, $d = 1.23$. A large and statistically significant decrease in *OASES Total* scores from pre-intervention (M = 3.38, SD = .49) to post-intervention (M = 2.88, SD = .58) was also found for Therapist 2, $t(53) = 4.15$, $p = < .001$, $d = .93$. Total stuttering impact scores for participants treated by Therapist 1 were lower at both pre-intervention and post-intervention compared to Therapist 2. There was no statistically significant interaction found between time point and therapist, $F(1, 53) = .52$, $p = .474$, suggesting the time point effect is independent of the effect of therapist.

Follow-up Data at Three- and Six-months. A statistically significant main effect was found for time point, $F(3, 68) = 16.51$, $p = < .001$. When compared to pre-intervention scores (M = 2.84, SD = .48), pairwise comparisons found a large and

statistically significant decrease in *OASES Total* scores at three-months post-intervention ($M = 2.27$, $SD = .51$), $t(68) = 5.19$, $p = < .001$, $d = 1.15$, and a large and statistically significant decrease at six-months post-intervention ($M = 2.06$, $SD = .47$), $t(68) = 6.30$, $p = <.001$, $d = 1.64$, for Therapist 1. This indicated maintenance of post-intervention reductions in OASES Total scores at follow-up. Descriptive statistics show data for Therapist 2 followed a similar pattern, where *OASES Total* scores demonstrated a reduction from pre-intervention to follow-up (see Table 6).

Discussion

Data analysis utilizing GLMM demonstrated significant positive changes in stuttered speech frequency, self-efficacy, psychological flexibility, and overall psychosocial wellbeing from pre-to-post-intervention, with medium-large effect sizes. These positive changes in the behavioral and psychosocial aspects of stuttering, support the earlier work of Beilby and colleagues (2012) who also utilized an integrated fluency and ACT intervention to treat AWS. In the present study, intervention gains were maintained at both three- and six-month follow-up for all variables, for the group of participants treated by Therapist 1. In addition to positive behavioral and psychosocial changes experienced by participants, this study demonstrated a 97% completion rate. With these considerations in mind, the fACTS Program has demonstrated potential as a holistic and durable intervention for AWS. These positive preliminary findings will be discussed in greater detail in Chapter 6.

Chapter 5

Evaluation of an integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter: Participant perspectives

Chapter 5: Evaluation of an integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter: Participant perspectives

The following journal article, published in the Journal of Fluency Disorders and reproduced in this thesis with the permission of Elsevier[3], reports on the findings of Study Three. Please note that the tables and appendices relevant to this paper appear in their original, published format and have not been included in the "List of Tables" (p. xiv) or "Appendices" (p. 121) of this thesis, to maintain the flow and formatting of this thesis. The page numbering will continue after the insertion of the journal article.

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Evaluation of an integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter: Participant perspectives

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ABSTRACT

Purpose: Childhood-onset stuttering is a neurodevelopmental disorder that may cause pervasive negative consequences for adults who stutter. In addition to significant challenges in personal, social, and emotional domains, stuttering has been shown to impose an economic burden on adults who stutter. Intervention for adults who stutter has historically addressed speech fluency more so than the covert psychosocial aspects of the disorder. There is an identified clinical need for holistic, efficacious, and cost-effective stuttering interventions that meet consumer needs. The purpose of the present study is to evaluate a novel, integrated intervention that combined traditional fluency techniques with Acceptance and Commitment Therapy, from the perspective of the adults who stutter who participated in the intervention.

Method: Twenty-eight adults who stutter completed the intervention program. Participants were invited to complete an online post-program written survey (including qualitative comments) and a semi-structured interview to explore their evaluations of the program with respect to its authenticity, acceptability, and social validity.

Results: Participants perceived positive psychosocial changes as a result of the program, and were satisfied with the program overall. Qualitative thematic analyses of the written survey comments and the semi-structured interviews identified two major themes: factors specific to the intervention and factors specific to the therapeutic process. Several important sub-themes were also identified.

Conclusion: Findings support the authenticity, acceptability, and social validity of an integrated fluency and psychosocial intervention for stuttering. Findings also highlight the need for consideration of the consumer voice in the management of stuttering disorders, in keeping with person-centred care.

1. Introduction

Stuttering is a multifactorial neurodevelopmental speech motor disorder that manifests in early childhood (Smith & Weber, 2017) that can present significant challenges to verbal communication. Such challenges arise from physical disruption to the forward-moving

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flow and rhythm of speech by way of involuntary dysfluencies that manifest as whole- or part-word repetitions, sound prolongations, and/or silent or audible blockages in voicing (Bloodstein & Bernstein Ratner, 2008; Yairi & Seery, 2011). Covert cognitive, affective, and social features of childhood-onset stuttering typically accompany the overt verbal aspects (Boyle, 2013).

In 2004, Yaruss and Quesal adapted the World Health Organization's International Classification of Functioning and Disability Framework (WHO, 2002) to describe the overt and covert characteristics of the disorder. Viewing childhood-onset stuttering (herein referred to as "stuttering") through this biopsychosocial lens allows clinicians and researchers to appreciate the complex interplay between biological factors (i.e., overt stuttering behaviours) and psychosocial factors (i.e., covert cognitive and affective components; Carter, Breen, Yaruss, & Beilby, 2017). These covert features can comprise the person who stutters' private thoughts, emotions, and internal emotional reactions to stuttering and cause impact on their overall psychosocial functioning (Beilby, 2014; Manning & DiLollo, 2018). Adults who stutter have repeatedly been shown to experience reduced quality of life across emotional, social, and personal life domains (Craig, Blumgart, & Tran, 2011; Beilby, 2014; Craig, Blumgart, & Tran, 2009), have lower levels of educational attainment compared to their fluent counterparts (O'Brian, Jones, Packman, Menzies, & Onslow, 2011), experience significant "occupational disadvantage" (Gerlach, Totty, Subramanian, & Zebrowski, 2018, p. 1660) and are more likely to be unemployed, need welfare assistance, and have a lower earning-capacity pertinent to their typically-fluent peers (Zebrowski, 2016).

Craig and colleagues (2009) found that the culmination of negative impacts across life domains of overall vitality, emotional, and mental health functioning is equivalent to the negative impact across these same domains in individuals with chronic disorders such as spinal cord injury and chronic heart disease.

1.1. Current healthcare landscape and the cost of stuttering disorders

The contemporary Australian healthcare landscape has an increased focus on system-wide health reform aimed at producing optimal outcomes and better value for healthcare consumers and the broader economy alike (PwC, 2017). As such, there is increased pressure on health service providers to deliver the most efficacious and cost-effective services possible. The economic burden of stuttering intervention has been highlighted as a significant challenge for speech-language pathologists (SLPs; Zebrowski, 2016).

For adolescents and adults who stutter (AWS), stuttering can be a debilitating, life-long disorder with pervasive negative consequences (Blumgart, Tran, & Craig, 2010; Zebrowski, 2016) with periods of relapse both during- and post-intervention considered to be not uncommon (Craig, 1998). In addition to the social impacts, the enduring and cyclical nature of stuttering can generate significant personal cost to the person who stutters, as consumers may choose to access both direct (e.g., speech-language pathology), or indirect (e.g., pharmacotherapy, psychotherapy) treatment avenues for their disorder (Blumgart et al., 2010). In addition to the cost of such interventions, AWS may also incur additional unforeseen costs including; transportation costs, self-help consumer group memberships, and expenses associated with assistive technology (Blumgart et al., 2010). Blumgart et al. (2010) found that over a five-year period, the average cost of treatment for adults who stutter totaled $5500.00 AUD, comparable to other long-term habilitative and rehabilitative allied health treatments. In the context of the current Australian healthcare landscape, allied health services such as speech-language pathology may result in considerable financial burden for those who stutter and their families (Blumgart et al., 2010). Similarly, speech-language pathology services are typically not covered by private insurance in the United States resulting in increased financial pressure on AWS seeking intervention for stuttering (Gerlach et al., 2018). These considerations, coupled with the potential for reduced earning capacity for some AWS, may have further deleterious impacts on quality of life. There is, therefore, an identified clinical need for efficacious and cost-effective interventions for adult stuttering disorders, with a focus on maintenance of treatment gains over time.

1.2. Person-centred care and stuttering disorders

Primary considerations of the system-wide Australian healthcare reform are those of consumer empowerment, education, and transparency (PwC, 2017). The Australian Commission on Safety and Quality in Healthcare's (ACSQHC) National Safety and Quality Health Service Standards (Australian Commission on Safety & Quality in Health Care (ACSQHC), 2011) and Australian Safety and Quality Framework for Healthcare (Australian Commission on Safety & Quality in Health Care (ACSQHC), 2010) in the past decade, have both provided advocacy for patient-centred care. In recent years, the Australian healthcare landscape has evolved beyond the traditional paternalistic, 'doctor knows best' model of patient care, in favor of a patient-centred model (Delaney, 2018). Patient-centred care, herein referred to as person-centred care (PCC), adopts a biopsychosocial viewpoint, places patient preferences, satisfaction, and personal values at the forefront of their care, and promotes flexible healthcare provision (Delaney, 2018), all of which are articulated in the Speech Pathology Australia (2020) Code of Ethics.

The statement "nothing about me without me" (Delbanco et al., 2001, p. 144) is the foundation for PCC. Benefits of PCC include: shared decision-making between providers and consumers, consumer empowerment, protection of consumer autonomy and right to self-determination, and enhanced client experience within the healthcare system (Delaney, 2018). The shift towards the PCC model can also be seen in the speech-language pathology profession globally (DiLollo & Favreau, 2010). The Speech Pathology Australia (2020) and American Speech-Language Hearing Association (2016) Code of Ethics provide directives that encourage SLPs to routinely engage in evidence-based practice, of which client values are a cornerstone alongside clinician expertise and research evidence. Evidence-based practice is defined by "the conscientious, explicit and judicious integration of 1) best available *external* evidence from systematic research, 2) best available evidence *internal* to clinical practice, and 3) best available evidence concerning the preferences of a fully informed patient" (Dollaghan, 2007, p. 2). A balance of these tenets provides SLPs with the flexibility to utilize well-researched and discipline-specific techniques in clinical practice, while being respectful of the values and preferences of the person at the center of

the care process (DiLollo & Favreau, 2010). Providing PCC in speech-language pathology interventions may lead to increased client satisfaction and an increase in the client's perceived quality of treatment provision (DiLollo & Favreau, 2010).

The importance and value of including consumers in the evaluation of healthcare services in order to enhance the consumer experience and overall service provision has been highlighted (Delaney, 2018). Stewart and Richardson (2004) argued that consumer perception of the value and merit of intervention outcomes should be considered the 'gold standard' of treatment effectiveness. Qualitative research that considers the consumers' satisfaction regarding outcomes and service delivery is recommended in the field of stuttering research but has been reported in a limited number of studies (Everard & Howell, 2018; Hayhow & Stewart, 2006; Tetnowski & Damico, 2001). A systematic review of qualitative research in stuttering disorders (Johnson et al., 2016), identified 26 studies – five of which explored participants' experiences of stuttering intervention. Only three of these five explored client perceptions of a specific intervention (Johnson et al., 2016). Evaluation of programs including the successful outcomes of childhood-onset stuttering intervention from the perspective of AWS therefore warrants further consideration.

1.3. Stuttering intervention for adolescents and adults

Adolescents and adults who stutter are heterogeneous (Manning & DiLollo, 2018). No single intervention approach for adult stuttering has been found to be universally applicable (Baxter et al., 2015), and the various current and popular approaches differ significantly in terms of their specific therapeutic components. Intervention approaches for AWS have historically focused on either the speech motor component or the cognitive and affective components of the disorder, although others adopt a combination of techniques to address both components (Croft & Watson, 2019). Fluency shaping, also known as fluency enhancement or speech restructuring, focuses on the overt speech motor features of stuttering – that is; speech fluency, with controlled fluency the main objective (Manning & DiLollo, 2018). By comparison, stuttering modification techniques incorporate desensitization tasks to address the covert cognitive and affective components of the disorder, in addition to teaching speech motor techniques to modify overt stuttering in such a way that tension and struggle is reduced. However, practitioners endorsing stuttering modification emphasize that controlled fluency is not the overarching goal of therapy (Manning & DiLollo, 2018). Other holistic approaches combine traditional fluency techniques (e.g., fluency shaping and/or stuttering modification) with forms of psychotherapy (e.g., cognitive behavior therapy [CBT]; see Iverach, Menzies, O'Brian, Packman, & Onslow, 2011; Helgadóttir, Menzies, Onslow, Packman, & O'Brian, 2014; or Acceptance and Commitment Therapy [ACT]; see Beilby, Byrnes, & Yaruss, 2012). Systematic reviews have been conducted to ascertain the efficacy of the different intervention approaches (e.g., Baxter et al., 2015; Bothe, Davidow, Bramlett, & Ingham, 2006; Bothe, Davidow, Bramlett, Franic, & Ingham, 2006). Findings from these reviews have not found one particular intervention approach to be more effective than another and indicate that most available contemporary approaches will provide benefit to at least some AWS (Everard & Howell, 2018; Zebrowski & Arenas, 2011).

The implementation of fluency shaping and stuttering modification requires considerable attention and effort on the part of the person who stutters (Guitar, 2014). These attributes may pose challenges to the generalisation and maintenance of newly learned fluency techniques, and relapse is common in as many as 30–60 % of cases after a period of fluency intervention (Howie, Tanner, & Andrews, 1981). Relapse is often defined by changes in observable stuttering behaviors, however, changes in covert features such as cognitive and affective reactions must also be considered (e.g., a person may experience a return to pre-intervention stuttered speech frequency but maintain positive gains in quality of life; Tichenor & Yaruss, 2020). As such, Tichenor and Yaruss (2020) recommend a person-centred view of relapse and recovery that takes into consideration all facets of the speaker's experience of stuttering. Craig (1998) asserts that personal mastery of fluency techniques, self-efficacy/self-responsibility, and positive communication attitudes are predictive of post-intervention maintenance and can subsequently improve quality of life. Despite this, there are currently no documented intervention protocols that explicitly target these areas concurrently. Smith and Weber (2017) highlighted a need for intervention approaches that simultaneously target and benefit speech fluency and increased engagement with daily life. This concurrent requirement may be achieved by enhancing the self-efficacy of AWS using techniques that simultaneously address the behavioural, cognitive, and affective components of the disorder (Boyle, 2018). Traditional fluency approaches, such as fluency shaping and stuttering modification, coupled with psychosocial interventions such as Acceptance and Commitment Therapy (ACT), have been positioned to possibly support these aims (Boyle, 2011, 2018). Acceptance and Commitment Therapy is a "new wave" of behavioural therapy that supports individuals by enabling intimate contact with their personal values and providing skills to accept pain and discomfort as an inevitable part of the human experience (Beilby & Yaruss, 2018; Harris, 2009). Although ACT constitutes the third wave of cognitive and behavioural therapies, it represents a different way of working compared to Cognitive Behavioural Therapy (CBT; Harris, 2009). Acceptance and Commitment Therapy focuses on reducing the experiences of struggle and frustration through acceptance and mindfulness of thoughts and behaviours, rather than elimination of negative thoughts and behaviours through thought replacement and cognitive restructuring (Beilby & Yaruss, 2018).

1.4. A novel approach to management of stuttering disorders in adolescents and adults

Croft and Watson (2019) advocated for the adoption of PCC approaches to intervention that respect the values of individual AWS. In 2009, Venkatagiri investigated consumer choices for successful therapy outcomes, and found that many AWS would choose effective communication skills and freedom from the need to be fluent, over fluency per se, as the ideal outcome of intervention. Such findings endorse the importance of addressing the psychosocial cognitive and affective components of stuttering alongside the behavioural components. Venkatagiri (2009) concluded that AWS may benefit from selecting flexible intervention programs that offer choices for management of the disorder, such as an integration of traditional fluency techniques with a psychosocial intervention.

Speech-language pathologists who treat AWS are faced with the challenge of supporting their clients to achieve improved social engagement outside of the clinic setting. The new wave behavioural treatment, ACT, has demonstrated successful preliminary data to this effect, likely due to the promotion and support of psychological flexibility for the client (Beilby et al., 2012; Harris, 2009). Psychological flexibility refers to the process whereby an individual is psychologically present experiencing the full range of human emotion, in order to live a life guided by their own personal values (Harris, 2009). In 2012, Beilby and colleagues evaluated an integrated fluency and ACT group treatment for adults who stutter, and results demonstrated successful increased speech fluency, psychological flexibility, and overall engagement and quality of life for all the participants.

In light of the identified need for person-centred and flexible intervention approaches that address both speech fluency and psychosocial functioning, as well as the contemporary evidence endorsing ACT as a suitable treatment philosophy for AWS (e.g., Beilby et al., 2012), further exploration of an integrated fluency and ACT intervention protocol is warranted. The current authors have created the "fACTS Program" – fluency and Acceptance and Commitment Therapy for Stuttering. This novel and integrated intervention manages the biological, cognitive/affective and social components of stuttering disorders holistically (Yaruss & Quesal, 2004) and builds on the preliminary work of Beilby and colleagues (2012) through investigating the impact of the inclusion of options for individual versus group treatment, face-to-face versus telehealth delivery, as well as the inclusion of written session guidelines and resources for clients and clinicians alike. In addition, preliminary results have demonstrated improvements in self-efficacy and positive communication attitudes that in turn improve engagement and overall quality of life in the participants (Carter, Breen, & Beilby, 2019; Craig, 1998). The fACTS Program utilizes a combination of fluency techniques, derived from the Curtin University Stuttering Treatment Program (CUSP) for AWS. The CUSP for AWS combines fluency shaping and speech modification techniques, selected in consultation with the client and tailored to their individual fluency needs and preferences. The CUSP has been used for over 30 years with AWS who attend the Curtin University Stuttering Treatment Clinic in metropolitan Perth, Western Australia. The clinic also offers telehealth options for rural and remote Australian clients, as well as international clients seeking support. The ACT component of the fACTS Program has been adapted from the previous research by Beilby and colleagues (2012) and utilizes experiential learning to provide clients with a range of techniques to manage their thoughts and feelings about, and reactions to, their stuttering with a view of improving self-efficacy and communication attitudes. The clinical outcome data evaluating the fACTS program is addressed in a second paper by the current authors currently in preparation (Hart et al., in preparation).

1.5. The present study

Contemporary clinical research has highlighted the need for the clinical management of stuttering disorders that supports fluency and engagement and respects clients' right to self-determination regarding fluency versus freedom from fluency, personal values, and their consumer voice (Carter et al., 2019; Connery, McCurtin, & Robinson, 2019; Croft & Watson, 2019; Smith & Weber, 2017; Venkatagiri, 2009). In addition, consumer evaluation of such holistic treatment experiences is recommended (Everard & Howell, 2018).The purpose of this study is to examine the acceptability, authenticity, and social validity of the fACTS Program from the perspective of AWS. For the purpose of this paper, social validity refers to the relative social importance of the program and its associated goals, content, and outcomes (Foster & Mash, 1999). Data were collected using complementary methods (i.e., online questionnaire, semi-structured interview) to evaluate the reflections of the AWS who participated in this novel integrated intervention protocol that concurrently targeted speech fluency, self-efficacy, communication attitudes, and overall social engagement. The study reported in this paper is part of a larger study that examined the effectiveness of the fACTS Program (Hart et al., in preparation). The present study proposed the following, omnibus research question:

1) What are the overall evaluations and qualitative experiences of the AWS who participated in the integrated fluency and psychosocial intervention, the fACTS Program?

2. Method

2.1. Participants

Twenty-nine AWS (five females and 24 males) participated in a novel integrated fluency and psychosocial intervention that combined traditional fluency techniques with Acceptance and Commitment Therapy, titled the "fACTS Program". All but one participant (97 % completion rate) completed the intervention and provided post-intervention data. Participants who completed the intervention were aged between 17 and 54 years (M 32.54, SD 10.41). Participants of the fACTS Program were enlisted via convenience sampling from the waitlist of a metropolitan-based specialist stuttering treatment clinic, the Curtin University Stuttering Treatment Clinic (CUSTC), in Perth, Western Australia (n 20). Of these, one person resided in rural Western Australia, one resided in South Africa, four were based in the Perth metropolitan area and worked in a fly-in-fly-out roster to rural and remote regions in Western Australia. All remaining participants resided permanently in metropolitan Perth. Additional participants (n 9) were recruited via convenience sampling from a private, metropolitan-based stuttering treatment clinic in Chicago, Illinois, US.

All participants provided demographic information that pertained to their age, identified gender, ethnicity, employment sector, previous treatment experience, and previous stuttering support group involvement. All participants had a clinical diagnosis of childhood-onset stuttering (confirmed by SLPs with more than 10 years clinical expertise in fluency disorders), nil additional reported speech, language, or hearing difficulties, and had not received any formal ACT intervention in the past. Participants had not attended speech-language pathology intervention or formal speech-language support in the three months prior to enrolling in the intervention.

Table 1
Participant Demographic Information.

ID	Age Range (years)	Gender	Ethnicity	Employment Sector	Intervention Format[a]	Intervention Modality[ab]	Previous Intervention Received[c]	Previous Support Group Experience
Intervention provided in Australia								
P01*	26–30	Male	South African	Finance	Individual	Telehealth	Yes	Yes
P02	31–35	Male	Australian	Trade	Group	Mixed	Yes	No
P03	41 - 45	Male	Australian	Mining	Individual	Mixed	Yes	No
P04	36–40	Male	Australian	Mining	Individual	Telehealth	Yes	No
P05	51 - 55	Male	Indian	Urban planning	Individual	Telehealth	Yes	Yes
P06	26–30	Male	Australian	Unemployed	Group	Face-to-face	Yes	No
P07	21–25	Male	Australian	Unemployed	Group	Face-to-face	Yes	Yes
P08	36–40	Male	Indian	Mining	Individual	Face-to-face	Yes	No
P09*	26–30	Male	Sri Lankan	Student	Individual	Mixed	No	No
P10*	21–25	Male	Liberian	Student	Individual	Mixed	Yes	Yes
P11	26–30	Female	Australian	Information technology	Individual	Telehealth	Yes	No
P12	41 - 45	Male	Dutch	Medical	Individual	Mixed	Yes	Yes
P13	16 - 20	Male	Australian	Hospitality	Individual	Face-to-face	Yes	No
P14	16 - 20	Male	English	Student	Individual	Face-to-face	Yes	No
P15	31–35	Male	Ukrainian	Engineering	Individual	Face-to-face	No	No
P16	21–25	Male	Arabic	Marketing	Individual	Face-to-face	Yes	No
P17	16 - 20	Male	Bangladeshi	Student	Individual	Face-to-face	No	No
P18	51 - 55	Female	Australian	Education	Individual	Telehealth	Yes	Yes
P19*	36–40	Male	Australian	Mining	Individual	Face-to-face	Yes	Yes
P20	36–40	Male	Australian	Logistics	Individual	Face-to-face	Yes	No
Intervention provided in the US								
P21*	31–35	Male	American	Student	Group	Face-to-face	Yes	No
P22*	31–35	Male	Iranian	Medical	Group	Face-to-face	No	No
P23*	21–25	Male	American	Logistics	Group	Face-to-face	No	No
P24	26–30	Female	American	Marketing	Individual	Face-to-face	Yes	No
P25	26–30	Female	African American	Arts	Individual	Face-to-face	Yes	Yes
P26	46–50	Male	American	Science	Group	Face-to-face	Yes	No
P27	26–30	Female	African American	Arts	Group	Face-to-face	No	No
P28*	46–50	Male	American	Science	Group	Face-to-face	Yes	Yes
P29^	26–30	Male	American	Student	Group	Face-to-face	Yes	No

*Did not participate in an interview.
^Did not complete the intervention or post-intervention measures. Nil reason supplied.
[a]"Intervention Format" and "Intervention Modality" refer to participation in the current intervention protocol.
[b]"Mixed" refers to a combination of face-to-face and telehealth intervention.
[c]"Previous Intervention" refers to fluency intervention received for the management of the behavioral component of stuttering.

Participants were not receiving any additional speech-language instruction for the duration of the study. All 28 participants who completed the intervention also completed an online written post-program evaluation questionnaire. Twenty of these participants (71 % response rate) agreed to take part in a post-program semi-structured interview. Participant characteristics are summarised in Table 1.

2.2. Procedure

Ethics approval was obtained for this study through the requisite Human Research Ethics Committee. The first and third author developed a comprehensive intervention protocol for the administration of the fACTS Program, complete with session guidelines, practical resources and two detailed workbooks (client and clinician). This intervention protocol was made available to the SLPs who administered the intervention and contained all of the materials needed to facilitate the intervention. The intervention was administered by two certified-practising SLPs, one being the first author and based at the CUSTC in Western Australia, and the other based at a private metropolitan clinic in Illinois, both with extensive clinical experience working with fluency disorders. Participants each received a total of eight intervention sessions. Intervention models included individual or group treatment, and face-to-face or telehealth options, dependent upon participant preference and therapist availability. The intervention sessions averaged 60 min. Each intervention session began with a fluency component to establish and practice fluency skills, followed by an experiential ACT component aimed at addressing thoughts and feelings related to stuttering. Participants were encouraged to implement their fluency

Table 2
Summary of Participant Evaluation Questionnaire Results.

Item Description	Participant Response[a]	Responses (n)	Mean
Psychosocial Changes			
I have noticed positive changes in myself as a result of the program	Strongly disagree	0	3.39
	Disagree	1	
	Agree	15	
	Strongly agree	12	
Others have noticed positive changes in me as a result of the program	Strongly disagree	0	2.89
	Disagree	10	
	Agree	11	
	Strongly agree	7	
The program helped me to feel more confident about speaking	Strongly disagree	0	3.36
	Disagree	2	
	Agree	14	
	Strongly agree	12	
The program helped me to feel more confident in general	Strongly disagree	0	3.14
	Disagree	3	
	Agree	18	
	Strongly agree	7	
The program helped me feel more positive about every-day life	Strongly disagree	0	3.39
	Disagree	2	
	Agree	13	
	Strongly agree	13	
Program Content			
The content of the sessions was useful and easy for me to understand	Strongly disagree	0	3.57
	Disagree	1	
	Agree	10	
	Strongly agree	17	
The program strategies were useful and easy to apply in every-day life	Strongly disagree	0	3.43
	Disagree	0	
	Agree	16	
	Strongly agree	12	
I found the homework aspects of the program to be helpful	Strongly disagree	0	3.04
	Disagree	4	
	Agree	19	
	Strongly agree	5	
Overall Program Satisfaction			
I enjoyed participating in the program	Strongly disagree	0	3.68
	Disagree	1	
	Agree	7	
	Strongly agree	20	
I would recommend the program to other people who stutter	Strongly disagree	0	3.68
	Disagree	2	
	Agree	5	
	Strongly agree	21	

[a] Where "Strongly Disagree" = 1, "Disagree" = 2, "Agree" = 3, and "Strongly Agree" = 4.

techniques for the duration of each session. Participants were provided with a comprehensive fACTS Program workbook that contained in-session and at-home practice materials for both the fluency and ACT component. An overview of the intervention content is provided in Appendix A. At the conclusion of the program, all participants were invited to complete an online evaluation questionnaire and participate in a semi-structured interview.

2.2.1. Participant evaluation questionnaire

The online questionnaire comprised 10 statements that spanned three broad categories: psychosocial changes; program content; and overall program satisfaction, adapted from Wenn (2017). Participants were asked to rate their agreement with each statement on a scale of one to four; where "Strongly Disagree" 1, "Disagree" 2, "Agree" 3, and "Strongly Agree" 4. All 28 participants (100 % response rate) completed the questionnaire.

The questionnaire included a section that allowed for written comments in response to four open-ended questions: "What activities did you enjoy the most?", "What activities did you enjoy the least?", "Do you have any recommendations for how the program may be improved for future use?", and "Do you have any additional comments or reflections to share?".

Table 3
Summary of Themes Identified in Participant Interviews and Post-Program Survey Comments.

Major Theme	Sub-Theme	Endorsement of Theme (n)	Reference to Theme (n)	Exemplar Quote(s) and Participant Identifier
Factors specific to the intervention				
	Fluency Techniques	16	42	"In terms of fluency, I would say I know how to access it a little bit more. Yeah. I think before, it seemed like a mystery, sometimes I'd be fluent, sometimes I wouldn't. During it, I think my speech pattern changed a lot." P24 "The first few weeks I had to consciously use those techniques in everyday life. But then I think it was week seven when I realized I had used them in normal speech and I had avoided the stuttering and it wasn't even conscious. So it just became a habit, which was great because that was one of my initial concerns that I would have to replace the anxiety of stuttering with the anxiety of using these techniques, taking me out of the moment and out of my thoughts." P11
	ACT Techniques			
	Relating differently to stuttering and life in general through acceptance and acknowledgement of thoughts and feelings	24	132	"I guess it's the [fluency] techniques that I learned helped to some degree, but I think the acceptance went a whole lot further than anything else I learned. It was like, 'Yeah, stuttering is there, yeah, it'll be annoying. It'll stay around, but oh well.'" P13 "Even though the stutter has caused me a lot of pain, it's not the stutter itself that's holding me down. It's my own thoughts. My own responses to things, and basically my life and the world, and other people around me, it's like it doesn't all revolve around my stutter anymore. So I've just kind of shifted that whole thing. I can imagine being more open about my stutter in the future, and I just think about that more often." P20
	Mindfulness of stuttering and general mindfulness	16	47	"I recognize that I have fear [in a situation]. I have real fear, I have real anxiety that I'm going to embarrass myself, I'm going to humiliate myself, I won't be able to say my name and everybody's going to think I'm crazy or stupid or there's something wrong with me. And then I just acknowledge that's here inside me and take a deep breath and feel my feet and try to relax my neck. It's crazy, but it does help, it makes me more calm, less anxious and that's happened a few times." P26 "I think the combination of the two, mindfulness and speaking slower and fluency techniques both in tandem helped each other and made the most effective fluency, I suppose. It makes me most fluent, because I can't just focus on just speech techniques." P07
	Use of metaphors	11	17	"I found it confronting at the start… the one where you write 'stuttering' on a piece of paper and then hold it up against your face and then you see that it is very restricting because it's right there in your face. But then, once you put it down on your lap, you can still function and you can still live your everyday life. But it's still there, but you know you can combat it. So, that was a good one to just see, 'Oh, yeah. It's there, but I can deal with it. I can manage it.'" P02 "Okay, so the greatest thing I learned, was keep your stutter in your lap now and then, or keep it in your bag. Don't keep it too close to your face or your eyes because that way, you can't appreciate how this entire life is panning out for you. So, leave it in your lap. Leave it in your bag. That's it. And keep moving on. It might come out now and then. Don't worry too much about it." P05
	Clarifying and pursuing personal values	8	18	

(*continued on next page*)

Table 3 (*continued*)

Major Theme	Sub-Theme	Endorsement of Theme (n)	Reference to Theme (n)	Exemplar Quote(s) and Participant Identifier
				"Getting clarity around my values has made a big subconscious difference with clear effects in my life." P12 "[I enjoyed the] the deep dives on values and what is important (bulls-eye activity)… trying to determine whether that was in line with what you were putting out into the world." P01
	Setting goals and committing to action	7	9	"I think the ones that were helpful for me are the goal setting, the things you can do in the short term… I think the thing that has really helped is setting small goals that I can achieve." P24 "[Goal-setting] was important because while I've got my values, how do I link them to my values? It was basically putting them as, as you know, there's that SMART thing, S-M-A-R-T. How you frame your goals in life, which are specific, meaningful, adaptive, realistic, and time-framed. So, that was quite interesting." P05
	Integrating speech fluency and psychosocial components in intervention	15	28	"[The program] it's not solely just staring at the issue at hand, it's also really respecting the person's emotions." P14 "I liked how in every session there was the physical component of the speaking and also the psychological component, and going together, and you would spend equal time on both of them and doing both at the same time often and going back and forth between them. So that to me, is a major strength of it. Is that those two things are married… because they are connected… The fact the program addresses psychological aspects of stuttering and not just physical is excellent and I found this aspect enormously helpful." P20
	Program delivery, content, and materials	24	58	"A life changing program. Compassionate, practical, applicable and liberating! Very worthwhile…. Very useful workbook. And I'm keen, actually, to continue with the workbook exercises and there are some empty spaces, so I'd love to continue with the workbook and reflect on the exercises do the same exercises again. I think I'll continue this program in some way, shape or form." P12 "This course just has a much more realistic approach to life and to being a human and the fact that you stuff up and you're not always going to do it perfectly. But don't beat yourself up. That's really helped me a lot." P20
Factors specific to the therapeutic process				
	Confidence in communication and self	17	48	"And I know now that I can control it. It's not controlling me. I've got the power to say what I want… I'm just thinking, like overall I feel more in control, so I feel more confident and I feel better in communication." P11 "What I was aiming to do is having confidence because I was speaking fluently, but I think I got confidence from not speaking fluently… I think it's helped my character on being more comfortable in who I am I guess, as cheesy as that is." P24
	Previous life and intervention experiences	12	49	"I was still holding out for a long time on this idea that my stutter can be fixed completely and it can go away. I think that's why I was wrapped up in a lot of feelings of failure about [previous intervention] because they sort of seemed to promise that if you apply the techniques, eventually you will become fluent. But that's just not realistic. So this course has sort of helped me just to accept that I'm a stutterer and it just changed my thoughts about that. And to

(*continued on next page*)

Table 3 (*continued*)

Major Theme	Sub-Theme	Endorsement of Theme (n)	Reference to Theme (n)	Exemplar Quote(s) and Participant Identifier
				understand that everybody's got some challenge in their life." P20
	Therapeutic alliance and "safe space" for sharing	12	24	"Getting acknowledged by [therapist] for the impact that stuttering has had on my life moved me to tears at times and gave me a sense of liberation. The compassionate way of being during the sessions made me be compassionate with myself. It allowed me to be appreciative and grateful for my achievements in life in the face of being someone with a stutter. The more compassion [therapist] showed me, the more compassion I showed to myself, and the more eager I was to continue with the program, or to do the program, or to apply the techniques in my spare time and at work." P12 "I mean I cried a ton. I'm not a crier, but from the first chunk I just wasn't used to talking about it and exposing it. That part of the session honestly, I hated, but that's the part that I feel like helped me the most. It was just admitting to myself everything that I had been feeling and been carrying for all of these years." P25
	Embracing new challenges	12	23	"I will say in terms of work, I have joined more leadership roles. Yeah. It sort of happened. I wasn't doing it on purpose, but I just happened to join different boards now." P24 "I can be more sociable than I thought… I don't know. I feel like I'm the kind of person now who can start conversations." P16
	Flexibility of intervention and creating a "toolbox" of intervention techniques	12	28	"Just the fact that I've got a few extra techniques to fall back on if I get stuck, because of this program, is where I found it beneficial. That's probably the most succinct way I can put it… I've got a few more tools in my box for when I get stuck." P03 "I love all the flexibility in this course which is you can use tricks, and tools, and techniques if you feel like it. But you don't have to." P20
	Practicing self-compassion	9	16	"And just keep treating yourself, keep patting yourself [on the back], even though you struggle, sometimes you stutter, or whatever. Just like you know, keep talking to you, say 'That's okay, so you stuttered some. Tomorrow will be a different day.'" P08 "The exercise in which I touch my larynx & abdominal muscles with my hands: bringing love and tenderness to these (regularly tense) areas. That exercise completes something. Again, it has brought compassion to my vocal cords instead of cursing them internally." P12

2.2.2. Participant interviews

All participants were invited to participate in a semi-structured interview to complement the online questionnaire and obtain nuanced evaluations of the program. The post-program interview comprised open-ended questions to elucidate the participants' experiences with the program and were adapted from Wenn (2017). Sample questions include: "What changes have you experienced in yourself over the course of the program, if any?", "What aspects of the program did you enjoy most and least?", and "Did you experience any surprising changes throughout the program?". All questions were asked in a conversational manner to maintain rapport with participants.

Twenty participants (71 % response rate) agreed to take part in a post-program interview. To minimize potential bias, the majority of the post-program interviews (*n* *14*) were conducted by a research assistant independent of the intervention program received and whom the participants had not met. The remaining six interviews were conducted by the primary researcher due to time constraints. Both interviewers followed an interview protocol with set questions and associated probes. Interviews were conducted in-person or via videoconference platforms and lasted between 20–60 min. All interviews were digitally recorded and later transcribed verbatim.

2.3. Data analysis

Participant responses to the evaluation questionnaire were recorded and descriptive statistics were calculated. Written comments from the online questionnaire and the interview data were analysed according to Braun and Clarke's (2006) protocol for thematic analysis. This protocol involves six distinct phases: familiarization, coding, searching for themes, reviewing themes, defining and naming themes, and writing the report. QSR International (2018) NVivo 12 software was utilized to organize the major themes and sub-themes during data analysis. Data saturation, whereby no new major themes were identified, was reached after thematic analysis of 13 participant interviews. This saturation point is typical of semi-structured qualitative interviews (Creswell, 2007; Guest, Bunce, & Johnson, 2006). The remaining seven interviews were analysed after data saturation was reached in order to capture the representative nature of the themes in relation to the wider data set, with respect to the number of participants who endorsed each theme and the number of times to which each theme was referred (Carter et al., 2019). To guide reporting of the qualitative findings, the Consolidated Criteria for Reporting Qualitative Research (COREQ; Tong, Sainsbury, & Craig, 2007) was adopted.

3. Results

Participant responses to each of the 10 evaluation statements are presented in Table 2. The majority of participants agreed that they had noticed positive changes in themselves as a result of the program (*M* 3.39), that the content of the sessions was useful and easy to understand (*M* 3.57), and that they enjoyed participating in the program and would recommend the program to other people who stutter (*M* 3.68).

Thematic analysis of the open-ended written survey comments and semi-structured interview transcripts identified two major themes and 16 sub-themes, all of which are described below. Table 3 presents the major themes and sub-themes, alongside the number of participants who endorsed each theme, the number of times each theme was referenced in the data set, and exemplar quotes with corresponding participant identifiers. In addition to the two major themes identified, participant recommendations for future application of the fACTS Program will be presented.

3.1. Factors specific to the intervention

Within this major theme, participants described numerous factors specific to the intervention protocol that influenced their experiences of the program. The relevant sub-themes are presented below.

3.1.1. Fluency techniques

Participants reflected on the speech fluency techniques practiced during the program, their personal preferences, and the effect that practice of these techniques had on aspects of their daily living. Some participants reported experiencing greater benefits to engagement from the implementation of fluency techniques, whereas others reported implementation of ACT techniques being of greater benefit to engagement. Similarly, some participants showed a preference for fluency shaping techniques whereas others preferred aspects of stuttering modification. Several participants described being surprised at the ease with which they were able to access or use the fluency and ACT techniques learned when it came time to apply them in daily speaking situations and life in general.

3.1.2. ACT techniques

Within this sub-theme, participants described several ACT techniques and processes. Participants discussed the ways in which they were using these techniques both within and beyond the clinic setting. Participants also discussed that the various impacts that these techniques had on their speech fluency and stuttering, and also on their life in general. This particular sub-theme has been further divided into sub-levels, discussed below:

3.1.2.1. Relating differently to stuttering and life in general through acceptance and acknowledgement of thoughts and feelings. Participants commented on a positive shift in the way that they related to themselves, to their stuttering, and to life in general. Many participants associated these changes with a newfound acknowledgement of their thoughts and feelings about stuttering and their journey towards acceptance of some of these private experiences. Within this sub-theme, participants spoke about being more compassionate towards themselves and engaging less in negative self-judgement. Several participants also described a realization that every person in the world faces unique challenges and had come to recognise that their stuttering is not the defining feature of their self-identity.

3.1.2.2. Mindfulness of stuttering and general mindfulness. Participants reflected on the speech fluency techniques practiced during the program, their personal preferences, and the effect that practice of these techniques had on aspects of their daily living. Some participants reported experiencing greater benefits to engagement from the implementation of fluency techniques, whereas others reported implementation of ACT techniques being of greater benefit to engagement. Similarly, some participants showed a preference for fluency shaping techniques whereas others preferred aspects of stuttering modification. Several participants described being surprised at the ease of which they were able to access or use the fluency and ACT techniques learned when it came time to apply them in daily

speaking situations and life in general.

3.1.2.3. Use of metaphors. Within this sub-theme, participants explained the use of metaphors and experiential exercises to aid their practice of ACT techniques. Participants described how the use of metaphors and engagement in experiential exercises allowed them to view stuttering (and their responses to stuttering) in new ways that enabled them to engage more fully in their daily lives. Some participants described how they had created their own metaphors to use in daily life to help them cope with challenges related to stuttering.

3.1.2.4. Clarifying and pursuing personal values. This sub-theme referred to the usefulness of clarifying personally meaningful values from the outset of intervention and participants active pursuit of these values during the program. Participants reflected on their identification of values outside of achieving fluency that they deemed to be more important and attainable.

3.1.2.5. Setting goals and committing to action. Participants acknowledged the link between identifying personally meaningful values and using these for goal-setting processes that would ultimately bring them closer to living by their values. Several participants expressed enjoyment of the goal-setting process, particularly breaking their long-term goals into smaller, more attainable goals in the short-term.

3.1.3. Integrating speech fluency and psychosocial components in intervention

Participants considered the integrated nature of the intervention within this sub-theme. Several participants commented on the integration of fluency and psychosocial components as a welcome change to the type of intervention they had previously received for stuttering. Participants also reported enjoyment of the way that the components were connected and practiced simultaneously throughout the program. Within this sub-theme, some participants reflected on their experience of surprising outcomes as a result of working on fluency and psychosocial aspects simultaneously. For example, one participant described their expectation of completing the intervention and being completely fluent, but was instead surprised to gain confidence from not hiding their stutter when speaking. The participant attributed this to addressing negative stuttering-related thoughts and feelings.

3.1.4. Program delivery, content, and materials

Within this sub-theme, participants described the format of the program, the program delivery, and the program materials and resources. Several participants described the content of the program as "realistic". Many participants commented on the ease of accessing in-session and at-home resources in the form of their client workbook, with some remarking that it was helpful to have a hard-copy bank of fluency and ACT techniques to refer to. Overall, the majority of participants (n 24) explicitly reported enjoyment of the program delivery, content, and materials in their semi-structured interviews.

3.2. Factors specific to the therapeutic process

Within this major theme, participants identified factors specific to the therapeutic process that influenced their experience of the program. Participants also described unexpected outcomes of the intervention. The relevant sub-themes are presented below:

3.2.1. Confidence in communication and self

Participants described changes experienced in their communicative confidence and general self-confidence during and after the program. Within this sub-theme, participants reported elevated confidence within their personal and romantic relationships, when meeting new people or socializing with friends, at the workplace, and in everyday situations such as interacting with staff at the grocery store. Several participants also described being more confident in managing their stuttered speech using the designated fluency techniques. Others reflected that their confidence is ongoing and will take time to build in different situations. These same participants reported being committed to engaging in communication in previously feared speaking situations. Several participants also reflected on feeling an increased sense of confidence and comfort in themselves as a person, and in particular as a person who stutters.

3.2.2. Previous life and intervention experiences

Within this sub-theme, participants contemplated their journey as a person who stutters, describing how their past experiences had shaped their everyday communication, as well as their expectations for this current intervention. Some participants described feelings of negativity and hopelessness towards intervention for stuttering as a result of relapse or a perceived lack of support after previous interventions. Others cited general enjoyment of previous intervention experiences as a driver for attending this program. Some participants also described how experiences such as bullying, stigma, and discrimination affected their motivation to attend intervention and their life choices more broadly.

3.2.3. Therapeutic alliance and safe space for sharing

Participants reported the importance of the therapeutic alliance between client and therapist within this minor sub-theme,

highlighting how this relationship fostered a "safe space" for talking and learning about stuttering, as well as the physical act of stuttering itself, without fear of judgement. Some participants reflected that the alliance has given them confidence to have important and authentic conversations about stuttering with their loved ones.

3.2.4. Embracing new challenges

Several participants described the new speaking challenges they had embraced, or planned to embrace, since undertaking the intervention. Examples described by participants included: applying for their "dream job", accepting a promotion at work, beginning to pursue romantic interests, disclosing their stutter to work colleagues and customers, and participating in an impromptu live performance on stage at a performing arts festival.

3.2.5. Flexibility of intervention approach and creating a toolbox of intervention techniques

Within this sub-theme, participants compared their learning of fluency and ACT techniques to creating a 'toolbox' of intervention techniques. Participants described comfort in knowing that they could refer back to a range of techniques in a speaking situation and apply the one(s) that "resonated" most with them personally. Participants also reflected on feeling empowered by having the choice to use fluency techniques, ACT techniques, both techniques simultaneously or none at all, at any given point in time.

3.2.6. Practicing self-compassion

This sub-theme captured participants' reflections regarding self-compassion. Some participants had never practiced self-compassion before, although others were familiar with the concept. Many participants found these practices to be beneficial in managing their thoughts and feelings about stuttering – before, during, and after a moment of stuttering. Some participants also commented that experiencing empathy and kindness from their therapist encouraged them to be more compassionate towards themselves.

3.3. Participant recommendations for future application of the fACTS Program

Participants outlined several recommendations for future applications of the fACTS Program that pertained to the program format, content and materials, intervention modality, increased practice opportunities and accountability, and access to ongoing support post-program. Regarding the program format, content and materials, some participants reported that they would prefer additional resources for each session, whereas others reported that they would prefer the resources to be spread out over a greater number of sessions. One participant suggested that a "pocket resource" containing a brief overview of all fluency and ACT techniques would be beneficial to assist transfer and maintenance of skills. In terms of intervention modality, participants who took part in group treatment recommended the program to be delivered in groups in the future, whereas participants who took part in individual treatment were mixed in their responses, with some recommending that sessions should be individual in order to maximize benefits. Several participants shared their desire to see more opportunities for practice of skills outside of the intervention setting in future iterations of the fACTS program, including additional home practice activities. By contrast, some participants indicated that adequate home practice had been included, whereas others recommended less. Lastly, the majority of participants recommended that access to ongoing support be included after the intervention ceases. Suggestions included; face-to-face and online meetups for participants to share what they had learned in the program and scheduling of extended maintenance sessions at six-monthly or yearly intervals.

4. Discussion

The need for integrated intervention approaches that facilitate mastery of fluency techniques, increased self-efficacy and engagement, and positive communication attitudes in the clinical management of stuttering disorders is well-documented in contemporary literature (Carter et al., 2019; Connery et al., 2019; Croft & Watson, 2019; Smith & Weber, 2017; Venkatagiri, 2009). Intervention effectiveness is typically reported in terms of quantitative findings from analysis of pre- and post-intervention data. However, Yaruss (2010) states that there is no consensus as to what constitutes singularly effective therapy outcomes. As the field of speech-language pathology continues to embrace the person-centred model of care within the broader application of evidence-based practice, it is important to ensure that the collective consumer voice is acknowledged alongside the contribution of clinician expertise and available research evidence, and that AWS are directly involved in the evaluation of the intervention programs in which they participate.

The present study evaluated the intervention experiences of AWS who participated in a novel and integrated fluency and psychosocial intervention, known as the fACTS Program. Descriptive statistics from the program evaluation statements included in the participant evaluation questionnaire indicated that, AWS perceived positive psychosocial changes within themselves, found the content of the program both useful and enjoyable, and in most cases, would recommend the program to other AWS.

Qualitative findings from the participant evaluation survey and semi-structured interviews were divided into two major themes. Firstly, participants discussed factors that were specific to the intervention itself, herein referred to as "specific factors" for the purpose of discussion. Secondly, participants described factors that were relevant to the therapeutic process more broadly, herein referred to as

"non-specific factors". In addition, participants also provided recommendations for future clinical application of the fACTS Program.

4.1. Specific factors

In the evaluation of therapeutic interventions, the individual components thought to be responsible for therapeutic change can be separated into unique ("specific") and common ("non-specific") factors (Chatoor & Krupnick, 2001). Specific factors relate to the therapeutic techniques that characterize, and are unique to, a particular intervention. Non-specific factors relate to dimensions or outcomes that may be shared across several interventions. Participants described four specific factors in their evaluations of the fACTS Program, identified as the following sub-themes: "Fluency techniques", "ACT techniques", "Integrating speech fluency and psychosocial components in intervention", and "Program content, delivery, and materials". Participants reported with high frequency their gratification for having access to fluency techniques from different treatment paradigms (i.e., fluency shaping and stuttering modification intervention approaches), as this allowed them to self-select the techniques that they felt most comfortable using, under the guidance of their SLP. Participants also described enjoyment of having the opportunity to practice their fluency techniques, without pressure or expectation to be fluent, or the necessity of using the techniques all of the time. These are positive findings that reflect Venkatagiri's (2009) recommendations for client-centred and flexible interventions for AWS.

Participants described their use of ACT techniques both within and beyond the intervention and articulated the manner in which they were able to apply these techniques to their daily lives. In addition, they reported the practical usefulness of such techniques. Within this broader sub-theme, further sub-themes were identified, including: "Relating differently to stuttering and life in general through acceptance and acknowledgement of thoughts and feelings", "Mindfulness of stuttering and general mindfulness", "Use of metaphors", "Clarifying and pursuing personal values", and "Setting goals and committing to action". Participants described in detail how their relationship with stuttering and themselves as a person who stutters had evolved during and after the program. With this evolution came greater acceptance of their thoughts and feelings related to stuttering, as well as greater acceptance of themselves as a person who stutters. Similar, positive changes in outlook were noted by Everard and Howell (2018) who used qualitative methodology to investigate the experiences of AWS engaged in stuttering modification intervention. Such attitudinal changes are important in the evaluation of interventions for stuttering, given that a recent review of qualitative research pertaining to the lived experience of AWS found that: "stuttering shapes self-identity", "stuttering leads to negative reactions" and "stuttering impacts relationships adversely" (Connery et al., 2019, p. 7). Participants in the present study reported enjoyment of intervention activities that encouraged clarification of their personal values and pursuit of these values through targeted goal-setting and committed actions. Interestingly, many of the values identified by the AWS who participated in this research related to the pursuit of meaningful relationships with others (e.g., values such as connection, friendliness, love, and self-development).

The deliberate, explicit manner in which the speech fluency and psychosocial components were integrated and the ways in which such content was delivered throughout the fACTS Program were prominent and positive themes in participant responses. Several participants indicated their surprise at the realization that speech fluency can be impacted greatly upon by psychosocial factors. For example, P16 remarked "*It's always somewhat connected to how I'm doing emotionally. It's just something I realized. I didn't before. Before I really just thought, 'Oh, I just have a stutter.' But then when I'm busy, stressed or stuff like that, that's when it gets increased.*" Speech fluency and psychosocial components, such as ACT techniques, were integrated flexibly in the fACTS intervention, as described by P20 "*In every session there was the physical component of speaking and also the psychological component… and you would spend equal time on both of them and doing both at the same time often and going back and forth between them.*"

4.2. Non-specific factors

Non-specific factors have been studied in psychotherapy research and underscore the important role they may play in accounting for intervention outcomes (Wampold, 2015). These common factors are considered to be closely related to treatment effectiveness, regardless of the selected intervention approach (Croft & Watson, 2019). Non-specific factors often include; client expectations, clinician empathy and competence, and the therapeutic alliance (Chatoor & Krupnick, 2001; Wampold, 2015). Clients attend intervention for stuttering with expectations of what the treatment will entail and what the outcomes may be, and these are often based on prior world experiences (Wampold, 2015). This notion is supported in the present study, as participants' expectations of the fACTS Program were found to be influenced predominantly by their previous treatment experiences and life experiences in general. Qualitative research by Everard and Howell (2018) has highlighted the importance of ensuring that AWS feel supported to share their experiences regarding stuttering in general for the provision of person-centred care.

Several participants interviewed (n 12) identified the therapeutic alliance as an important factor relevant to the intervention process. In Plexico et al. (2010) studied client perspectives of the therapeutic alliance during intervention for stuttering and found that over half of the AWS involved in the study, valued the importance of the therapeutic alliance in their treatment and found it to be conducive to successful therapy. More recently, AWS were found to associate the therapeutic alliance with positive treatment outcomes (Croft & Watson, 2019). In particular, AWS experienced greater satisfaction with treatment outcomes when they perceived an overall strong therapeutic alliance with their clinician (Croft & Watson, 2019). Research has suggested that more individuals withdraw prematurely from intervention after the initial session than at any other stage in the treatment period (Wampold, 2015). Therefore,

building the therapeutic alliance early in the treatment period is deemed important and the present study indicated this with a high completion rate of 97 %.

Participants also reported positive changes to their communicative self-efficacy and general self-efficacy, with many describing how they had begun to embrace new "challenges" in their daily lives. Self-efficacy has been shown to be an important variable for AWS, due to its associations with improved psychosocial well-being and quality of life (Boyle, 2018, 2019; Carter et al., 2017), as well as durability and maintenance of treatment outcomes (e.g., Bray, Kehle, Lawless, & Theodore, 2003; Ladouceur, Caron, & Caron, 1989; Langevin et al., 2006). Participants also endorsed the flexibility of the intervention approach and reported enjoyment of the creation of a "toolbox "of intervention techniques, in line with Venkatagiri (2009) recommendations.

4.3. Participant recommendations for future application of the fACTS Program

The major themes reported by participants in this project, included recommendations for; future applications of the fACTS Program, suggestions regarding content and materials, intervention modality, increasing practice opportunities and accountability, and access to ongoing support post-program. Recommendations differed across participants and reflected their unique experiences of the intervention. The majority of participants appreciated the format of the program, as well as the nature of the content and the materials and workbooks provided. Such findings support the acceptability and social validity of the fACTS Program for AWS. Participants were mixed in their recommendations for group versus individual intervention modalities, and responses were mostly dependent on whether the participant had taken part in group or individual treatment per se. A future recommendation therefore is to administer such an integrated intervention in either a group or individual modality, and base this decision upon the individual needs of the client, in order to further facilitate person-centred care.

Craig (1998) suggested that interventions for AWS should facilitate self-responsibility, and the complex nature of adult stuttering treatment typically involves long-term commitment on behalf of the client and SLP (Zebrowski, 2016). Several participants in this study recommended that future iterations of the fACTS Program contain additional practice opportunities and home-practice resources to ensure that that they remain accountable to the activities and home practice, whereas others requested less home-practice materials. Finally, significant numbers of participants discussed the need for access to ongoing support at the conclusion of intervention. Participants were provided with information for their local stuttering consumer support and self-help group at the completion of intervention, however, a recommendation is for future applications of the fACTS Program to include more structured appointments for maintenance of clinical support.

4.4. Limitations

This research was conducted by a qualified SLP and doctoral candidate who was involved in delivering intervention to the majority of participants (*n* 20). The research team also included an international SLP to administer the intervention to the nine international participants. To ensure validity, a research assistant unknown to the participants conducted the majority of post-program participant interviews. However, a potential confound is identified in the primary researcher's knowledge of the program that may have influenced participant responses.

The majority of participants had received some form of previous intervention for stuttering. The experiences of these participants may therefore be different to those who have not received formal intervention in the past. The length of time since formal intervention for stuttering and commencement of the fACTS program was not collected. Although no participants were enrolled in formal speech-language pathology intervention at the time of the study and had not attended speech-language intervention support in the previous three months, the researcher did not collect data pertaining to the length of time since formal intervention had occurred or the length of time spent receiving past speech-language instruction. It is recommended that data regarding the type and amount of intervention be quantified and collected in future studies in order to minimize temporal confounds.

All participants who completed the intervention (*n* 28) were invited to attend a post-program interview to explore their experiences. Twenty participants agreed to take part. The remaining eight participants (all of whom were male) either declined or did not respond to a request for an interview. Two of the participants who did not respond to a request for an interview also responded with "Disagree" to the statement "I would recommend the program to other people who stutter" in the online participant evaluation questionnaire. The evaluations of these individuals may differ from those who did in turn participate.

The gender difference in the group of participants, although in keeping with the typical 4:1 ratio of males-to-females who stutter (Smith & Weber, 2017), represents a potential confound. Research has highlighted the unique issues facing females who stutter, and the experiences of females who stutter may differ significantly to their male counterparts (Nang, Hersh, Milton, & Lau, 2018; Samson, Lindstrom, Sand, Herlitz, & Schalling, 2021).

4.5. Clinical implications and future directions

The present study explored participant evaluations of the fACTS Program, as an integrated fluency and psychosocial intervention for AWS. The findings support the acceptability, authenticity and social validity of the program across different treatment modalities

and across different clinicians. This highlights the clinical potential of this intervention for holistic management of adult stuttering. The findings of the present study lend support for explicit integration of traditional fluency techniques (e.g., fluency shaping and stuttering modification) with psychosocial interventions (e.g., ACT) as an effective means to concomitantly target and simultaneously benefit speech fluency and overall psychosocial wellbeing for AWS. The merit of the fACTS Program as a holistic, integrated intervention for AWS has been supported through such qualitative consumer findings. This study underscores the importance and benefit of understanding the lived experience of AWS in informing the development of clinical interventions for the treatment of adolescent and adult stuttering (Connery et al., 2019). Replication of these findings is recommended, in addition to larger-scale clinical trials and randomized control trials to determine the effectiveness and clinical validity of the intervention. Further research is also needed to ascertain the impact, if any, of gender and previous intervention, on client experiences of such an integrated intervention. Clinical outcome data examining the effectiveness of the fACTS Program, including quantitative measures of self-efficacy, quality of life, and stuttering severity, is addressed in a second paper by the current authors currently in preparation (Hart et al., in preparation).

5. Conclusion

Findings from this qualitative investigation reinforce the need for consumer feedback and consideration in the management of stuttering that concurrently and flexibly addresses the overt behavioural and covert cognitive and affective components of the disorder. The fACTS Program is one such intervention approach that has demonstrated positive preliminary data to this end.

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Declaration of Competing Interest

The authors report no conflicts of interest.

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Appendix A

Overview of the fACTS Program

Table A1, Table A2, Table A3

Table A1
fACTS Program Session Overview.

Session	Fluency Component[a]	ACT Component
1	Introduction to fluency techniques Practice of techniques at single sound, single word, and phrase level as appropriate	Introduction to ACT and values
2	Practice of fluency techniques in short sentences	Goal setting and introduction to mindfulness
3	Practice of fluency techniques in discourse (e.g., short paragraphs, extended reading passages, procedural narrative)	Tackling the "control agenda" and introduction of acceptance
4	Practice of fluency techniques in structured conversation	Defusion and acceptance
5	Generalisation of fluency techniques in semi-structured conversation	Introduction to "self-as-context"
6	Generalisation of fluency techniques during roleplay of feared speaking situations	Integration of defusion, acceptance, and self-as-context
7	Generalisation of fluency techniques during short presentation	Strategies to link values with committed action
8	Maintenance of fluency techniques during unstructured conversation Discussion of relevant ongoing support options to aid maintenance	Integration of all ACT processes: Psychological flexibility

[a] Fluency component comprised strategies taught in the Curtin University Stuttering Treatment Program (CUSP).

Table A2
fACTS Program Fluency Component.

Intervention Principle	Variations in the Literature	Aim	Speech Strategies Taught
Fluency shaping	Prolonged speech, smooth speech, speech restructuring, fluency enhancement	To achieve controlled fluency by modifying the articulatory and phonatory gestures required for speech production, in order to produce a speech pattern discordant with stuttering The focus is on control, rather than modification of, stuttered moments	Rate control Continuous airflow Soft articulatory contacts, gentle onsets, and light contacts Linkage and gliding between words
Stuttering modification	"Easier" stuttering	To stutter in a new, "easier" way, with less tension in the articulatory and phonatory gestures required for speech production To reduce negative communication attitudes, increase acceptance of stuttering, and increase self-awareness and self-acceptance	Symptom analysis Identify/describe primary overt and covert moments of stuttering and any secondary behaviours Desensitisation Pseudo-stuttering or voluntary stuttering Roleplay, working through situational hierarchy Modification Cancellations Pull-outs Preparatory sets

The "Fluency Component" of the fACTS Program embraced two complementary treatment principles commonly used within the Curtin University Stuttering Treatment Program (CUSP). A comprehensive overview of these intervention principles and associated speech strategies can be found in Guitar (2014); Manning and DiLollo (2018) and Yairi and Seery (2011). A selection of specific speech strategies detailed above were taught to individual participants, as deemed appropriate by the clinician's clinical expertise, whilst respecting the participants preference. Speech strategies were taught in three distinct phases – instatement[1], where new skills were learned and practiced; generalisation, where skills were practiced through systematic exposure to increasingly complex speaking situations; and maintenance, where skill practice continued and participants were encouraged to self-monitor and become 'their own clinician'.

[1]The length and complexity of utterances practiced by participants were manipulated by the treating clinician, based on clinician expertise. For example, target speech strategies may be practiced at the syllable, single syllable word, multisyllable word, sentence, paragraph, and discourse level, dependent upon the participants' presentation each week and readiness to progress to more complex targets.

Table A3
fACTS Program ACT Component.

ACT Process	Overview[a]	Targeted
Values	What matters most to the individual Act as a driving force to lead individuals on the path to creating a meaningful life, guided by their personal values	Session 1 onwards
Contacting the present moment	Mindfulness Ability to direct one's focus or awareness to their inner thoughts and emotions, or to the outer world, in order to engage with what is happening in the "here-and-now"	Session 2 onwards
Experiential acceptance	The process of "opening up" or "making room for" the full range of human feelings, sensations, and emotions Ability to demonstrate willingness to experience the full spectrum of human emotion, even those that are unpleasant or unwanted, in favor of valued living	Session 3 onwards
Cognitive defusion	The process of allowing thoughts to come and go, without effort to control or change them Ability to disengage from one's thoughts and relinquish the resultant impact that thoughts can have on one's behavior	Session 4 onwards
Self-as-context	Ability to recognise two distinct processes that ACT theorists posit as present in the human mind – 'thinking' and 'observing' The 'thinking' self may change frequently or over time, but the 'observing' self remains the same and is responsible for mindfulness processes	Session 5 onwards
Committed action	Actions taken to create a meaningful life, guided by personal values Actions must be congruent with one's personal values, regardless of the accompanying thoughts and feelings that may arise	Session 7 onwards

[a] For a comprehensive overview, please refer to Harris (2009).

References

American Speech-Language Hearing Association. (2016). *Code of ethics*. https://www.asha.org/Code-of-Ethics/.

Australian Commission on Safety and Quality in Health Care (ACSQHC). (2010). *Australian safety and quality framework for health care*. https://www.safetyandquality.gov.au/sites/default/files/migrated/Australian-SandQ-Framework1.pdf.

Australian Commission on Safety and Quality in Health Care (ACSQHC). (2011). *National safety and quality health service standards*. https://www.safetyandquality.gov.au/sites/default/files/migrated/NSQHS-Standards-Sept2011.pdf.

Baxter, S., Johnson, M., Blank, L., Cantrell, A., Brumfitt, S., Enderby, P., et al. (2015). The state of the art in nonpharmacological interventions for developmental stuttering. Part 1: A systematic review of effectiveness. *International Journal of Language & Communication Disorders, 50*(5), 676–718. https://doi.org/10.1111/1460-6984.12171.

Beilby, J. (2014). Psychosocial impact of living with a stuttering disorder: Knowing is not enough. *Seminars in Speech and Language, 35*(2), 132–143. https://doi.org/10.1055/s-0034-1371756.

Beilby, J., & Yaruss, J. S. (2018). Acceptance and Commitment Therapy for stuttering disorders. In B. J. Amster, & E. R. Klein (Eds.), *More than fluency: The social, emotional, and cognitive dimensions of stuttering* (pp. 111–130). Plural Publishing, Inc.

Beilby, J. M., Byrnes, M. L., & Yaruss, J. S. (2012). Acceptance and Commitment Therapy for adults who stutter: Psychosocial adjustment and speech fluency. *Journal of Fluency Disorders, 37*(4), 289–299. https://doi.org/10.1016/j.jfludis.2012.05.003.

Bloodstein, O., & Bernstein Ratner, N. (2008). *A handbook on stuttering* (6th ed.). Delmar Learning.

Blumgart, E., Tran, Y., & Craig, A. (2010). An investigation into the personal financial costs associated with stuttering. *Journal of Fluency Disorders, 35*(3), 203–215. https://doi.org/10.1016/j.jfludis.2010.03.002.

Bothe, A. K., Davidow, J. H., Bramlett, R. E., & Ingham, R. J. (2006). Stuttering treatment research 1970–2005: I. Systematic review incorporating trial quality assessment of behavioral, cognitive, and related approaches. *American Journal of Speech-language Pathology, 15*(4), 321–341. https://doi.org/10.1044/1058-0360(2006/031).

Bothe, A. K., Davidow, J. H., Bramlett, R. E., Franic, D. M., & Ingham, R. J. (2006). Stuttering treatment research 1970–2005: II. Systematic review incorporating trial quality assessment of pharmacological approaches. *American Journal of Speech-language Pathology, 15*(4), 342–352. https://doi.org/10.1044/1058-0360(2006/032).

Boyle, M. P. (2011). Mindfulness training in stuttering therapy: A tutorial for speech-language pathologists. *Journal of Fluency Disorders, 36*, 122–129. https://doi.org/10.1016/j.jfludis.2011.04.005.

Boyle, M. P. (2013). Assessment of stigma associated with stuttering: Development and evaluation of the Self-Stigma of Stuttering Scale (4S). *Journal of Speech Language and Hearing Research, 56*(5), 1517–1529. https://doi.org/10.1044/1092-4388(2013/12-0280).

Boyle, M. P. (2018). The importance of self-efficacy for individuals who stutter. In B. J. Amster, & E. R. Klein (Eds.), *More than fluency: The social, emotional, and cognitive dimensions of stuttering* (pp. 19–44). Plural Publishing, Inc.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa.

Bray, M. A., Kehle, T. J., Lawless, K. A., & Theodore, L. A. (2003). The relationship of self-efficacy and depression to stuttering. *American Journal of Speech-Language Pathology, 12*, 425–431. https://doi.org/10.1044/1058-0360(2003/088). Retrieved from https://ncbi.nlm.nih.gov/pubmed/14658994.

Carter, A., Breen, L., & Beilby, J. (2019). Self-efficacy beliefs: Experiences of adults who stutter. *Journal of Fluency Disorders, 60*, 11–25. https://doi.org/10.1016/j.jfludis.2019.03.002.

Carter, A., Breen, L., Yaruss, J. S., & Beilby, J. (2017). Self-efficacy and quality of life in adults who stutter. *Journal of Fluency Disorders, 54*, 14–23. https://doi.org/10.1016/j.jfludis.2017.09.004.

Chatoor, I., & Krupnick, J. (2001). The role of non-specific factors in treatment outcome of psychotherapy studies. *European Child & Adolescent Psychiatry, 10*, 19–25. https://doi.org/10.1007/s007870170004.

Connery, A., McCurtin, A., & Robinson, K. (2019). The lived experience of stuttering: A synthesis of qualitative studies with implications for rehabilitation. *Disability and Rehabilitation, 16*, 1–11. https://doi.org/10.1080/09638288.2018.1555623.

Craig, A. (1998). Relapse following treatment for stuttering: A critical review and corrective data. *Journal of Fluency Disorders, 23*(1), 1–30. https://doi.org/10.1016/S0094-730X(97)00027-2.

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. https://doi.org/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. https://doi.org/10.1044/1092-4388(2011/10-0304).
Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage.
Croft, R. L., & Watson, J. (2019). Student clinicians' and clients' perceptions of the therapeutic alliance and outcomes in stuttering treatment. *Journal of Fluency Disorders, 61*, 1–10. https://doi.org/10.1016/j.jfludis.2019.105709.
Delaney, L. J. (2018). Patient-centred care as an approach to improving health are in Australia. *Collegian, 25*, 119–123. https://doi.org/10.1016/j.colegn.2017.02.005.
Delbanco, T., Berwick, D. M., Boufford, J. I., Edgman-Levitan, S., Ollenschlager, G., Plamping, D., et al. (2001). Healthcare in a land called People Power: Nothing about me without me. *Health Expert, 4*, 144–150. https://doi.org/10.1046/j.1369-6513.2001.00145.x.
DiLollo, A., & Favreau, C. (2010). Person-centred care and speech and language therapy. *Seminars in Speech and Language, 31*(2), 90–97. https://doi.org/10.1055/s-0030-1252110.
Dollaghan, C. A. (2007). *The handbook for evidence-based practice in communication disorders*. Paul H. Brookes.
Everard, R. A., & Howell, P. (2018). We have a voice: Exploring participants' experiences of stuttering modification therapy. *American Journal of Speech-Language Pathology, 27*, 1273–1286. https://doi.org/10.1044/2018_AJSLP-ODC11-17-0198.
Foster, S. L., & Mash, E. J. (1999). Assessing social validity in clinical treatment research: Issues and procedures. *Journal of Consulting and Clinical Psychology, 67*(3), 308–319. https://doi.org/10.1037/0022-006X.67.3.308.
Gerlach, H., Totty, E., Subramanian, A., & Zebrowski, P. (2018). Stuttering and labor market outcomes in the United States. *Journal of Speech-Language-Hearing Research, 61*, 1649–1663. https://doi.org/10.1044/2018_JSLHR-S-17-0353.
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. https://doi.org/10.1177/1525822X05279903.
Guitar, B. (2014). *Stuttering: An integrated approach to its nature and treatment* (4th ed.). Lippincott Williams & Wilkins.
Harris, R. (2009). *ACT made simple*. New Harbinger Publications, Inc.
Hayhow, R., & Stewart, T. (2006). Introduction to qualitative research and its application to stuttering. *International Journal of Language & Communication Disorders, 41*(5), 475–493. https://doi.org/10.1080/13682820500343057.
Helgadóttir, F. D., Menzies, R. G., Onslow, M., Packman, A., & O'Brian, S. (2014). A standalone Internet cognitive behavior therapy treatment for social anxiety in adults who stutter: CBTpsych. *Journal of Fluency Disorders, 41*, 47–54. https://doi.org/10.1016/j.jfludis.2014.04.001.
Howie, P. M., Tanner, S., & Andrews, G. (1981). Short- and long-term outcomes in an intensive treatment program for adult stutterers. *The Journal of Speech and Hearing Disorders, 46*, 104–109. https://doi.org/10.1044/jshd.4601.104.
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. https://doi.org/10.1044/1058-0360(2011/10-0091.
Johnson, M., Baxter, S., Blank, L., Cantrell, A., Brumfitt, S., Enderby, P., et al. (2016). The state of the art in non-pharmacological interventions for developmental stuttering. Part 2: Qualitative evidence synthesis of views and experiences. *International Journal of Language & Communication Disorders, 51*(1), 3–17. https://doi.org/10.1111/1460-6984.12182.
Ladouceur, R., Caron, C., & Caron, G. (1989). Stuttering severity and treatment outcome. *Journal of Behavior Therapy and Experimental Psychiatry, 20*(1), 49–56. https://doi.org/10.1016/0005-7916(89)90007-4.
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. https://doi.org/10.1016/j.jfludis.2006.06.001.
Manning, W., & DiLollo, A. (2018). *Clinical decision making in fluency disorders* (4th ed.). Plural Publishing.
Nang, C., Hersh, D., Milton, K., & Lau, S. R. (2018). The impact of stuttering on development of self-identity, relationships, and quality of life in women who stutter. *American Journal of Speech-Language Pathology, 27*(3), 1244–1258. https://doi.org/10.1044/2018_AJSLP-ODC11-17-0201.
O'Brian, S., Jones, M., Packman, A., Menzies, R., & Onslow, M. (2011). Stuttering severity and educational attainment. *Journal of Fluency Disorders, 36*, 86–92. https://doi.org/10.1016/j.jfludis.2011.02.006.
Plexico, L. W., Manning, W. H., & DiLollo, A. (2010). Client perceptions of effective and ineffective therapeutic alliances during treatment for stuttering. *Journal of Fluency Disorders, 35*, 333–354. https://doi.org/10.1016/j.jfludis.2010.07.001.
PwC. (2017). *Reimagining healthcare in Australia: Budget 2017 – Progress towards reform*. https://www.pwc.com.au/health/pwc-healthbudgetresponse-2017.pdf.
QSR International. (2018). *Nvivo 12 [Computer software]*. Available from http://www.qsrinternational.com.
Samson, I., Lindstrom, E., Sand, A., Herlitz, A., & Schalling, E. (2021). Larger reported impact of stuttering in teenage females, compared to males – A comparison of teenagers' result on Overall Assessment of the Speaker's Experience of Stuttering (OASES). *Journal of Fluency Disorders, 67*, 1–10. https://doi.org/10.1016/j.jfludis.2020.105822.
Smith, A., & Weber, C. (2017). How stuttering develops: The multifactorial dynamic systems pathways theory. *Journal of Speech Language and Hearing Research, 60*, 2483–2505. https://doi.org/10.1044/2017_JSLHR-S-16-0343.
Speech Pathology Australia. (2020). *Code of ethics*. https://www.speechpathologyaustralia.org.au/SPAweb/Members/Ethics/Code_of_Ethics_2020/SPAweb/Members/Ethics/HTML/Code_of_Ethics_2020.aspx?hkey a9b5df85-282d-4ba9-981a-61345c399688.
Stewart, T., & Richardson, G. (2004). A qualitative study of therapeutic effect from a user's perspective. *Journal of Fluency Disorders, 29*, 95–108. https://doi.org/10.1016/j.jfludis.2003.11.001.
Tetnowski, J., & Damico, J. (2001). A demonstration of the advantages of qualitative methodologies in stuttering research. *Journal of Fluency Disorders, 26*(1), 17–42. https://doi.org/10.1016/S0094-730X(01)00094-8.
Tichenor, S. E., & Yaruss, J. S. (2020). Recovery and relapse: Perspectives from adults who stutter. *Journal of Speech-Language-Hearing Research, 63*, 2162–2176. https://doi.org/10.1044/2020_JSLHR-20-00010.
Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*, 349–357. https://doi.org/10.1093/intqhc/mzm042.
Venkatagiri, H. S. (2009). What do people who stutter want-fluency or freedom? *Journal of Speech Language and Hearing Research, 52*(2), 500–515. https://doi.org/10.1044/1092-4388(2008/07-0019).
Wampold, B. E. (2015). How important are the common factors in psychotherapy? An update. *World Psychiatry, 14*, 270–277. https://doi.org/10.1002/wps.20238.
Wenn, J. (2017). *Development and testing of a metacognitive therapy for prolonged grief disorder: A randomised controlled trial* [Doctoral dissertation, Curtin University]. espace https://espace.curtin.edu.au/bitstream/handle/20.500.11937/59668/Wenn%20J%202017.pdf;jsessionid 0CBF1AA9BDED2276138825B4A2167E2E?sequence 1.
World Health Organisation. (2002). *Towards a common language for functioning, disability and health: ICF (Report)*. https://www.who.int/classifications/icf/icfbeginnersguide.pdf?ua 1.
Yairi, E., & Seery, C. (2011). *Stuttering: Foundations and clinical applications*. Pearson Education, Inc.
Yaruss, J. S. (2010). Assessing quality of life in stuttering treatment outcomes research. *Journal of Fluency Disorders, 35*(3), 190–202. https://doi.org/10.1016/j.jfludis.2010.05.010.

Yaruss, J. S., & Quesal, R. W. (2004). Stuttering and the international classification of functioning, disability, and health (ICF): An update. *Journal of Communication Disorders, 37*(1), 35–52. https://doi.org/10.1016/S0021-9924(03)00052-2.
Zebrowski, P. M. (2016). The high cost of stuttering. *The ASHA Leader, 21*, 6–7. https://doi.org/10.1044/leader.FMP.21072016.6.
Zebrowski, P. M., & Arenas, R. M. (2011). The "Iowa Way" revisited. *Journal of Fluency Disorders, 36*(3), 144–157. https://doi.org/10.1016/j.jfludis.2010.08.001.

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Chapter 6

Discussion

Chapter 6: Discussion

The body of work presented for this doctoral thesis contained several areas of investigation. The findings from each of the three studies conducted will be discussed in turn. The major findings will then be discussed in terms of their application to the clinical management of stuttering disorders.

Summary of Major Findings

Study One

Study One (Chapter 2) was a qualitative exploration of the nature of the self-efficacy beliefs of AWS (AWS), the findings of which informed an integrated behavioral and psychosocial intervention for this population. Findings provided the foundation for the structure and content of the fACTS Program and individual session activities. Thematic analysis of interviews with 29 AWS revealed a complex and inextricable link between fluency and confidence. Participants all agreed that stuttering had a significant impact on their confidence at some stage in their lives, and many highlighted the need for management of stuttering that addressed both the overt and covert features of the disorder (Carter et al., 2019) in order to support their confidence and speech fluency. Contemporary management of stuttering disorders is shifting towards holistic management that encompasses behavioral and psychosocial techniques (Beilby et al., 2012; Hart et al., 2021; Manning & DiLollo, 2018; Menzies et al., 2008; Smith & Weber, 2017; Venkatagiri, 2009). These aims were supported by the fACTS Program, where speech fluency was targeted alongside psychosocial targets such as mindfulness skills, acceptance, coping strategies, and positive changes in perspective.

Study Two

The purpose of Study Two was to examine the clinical validity and effectiveness of the fACTS Program in simultaneously targeting the behavioral and psychosocial components

of stuttering. Statistically significant changes were observed in all variables of interest, i.e., stuttered speech frequency, self-efficacy, psychological flexibility, and overall psychosocial impact of stuttering, with medium-to-large effect sizes. Each variable will be discussed in turn, with additional noteworthy findings highlighted.

Stuttered speech frequency. Statistically significant reductions in stuttered speech frequency (as measured by the percentage of syllables stuttered [%SS]) were observed post-intervention, with a large effect, $d = .88$. These changes were maintained at both three- and six-month follow-up periods, with large, $d = .92$, and medium, $d = .53$, effect sizes respectively, for the participants treated by Therapist 1. Participants treated by Therapist 2 were excluded from analysis of maintenance data for all outcome variables due to reduced sample size.

Freud et al. (2020) piloted a program that targeted ACT and fluency techniques (i.e., stuttering modification) sequentially. Similar to the present study, Freud et al. (2020) noted a reduction in stuttered speech frequency post-intervention, however, the authors did not report statistical significance. Whilst Freud et al.'s (2020) preliminary results were promising, the sample size was small ($n = 6$) compared with the present study ($n = 28$) and that of Beilby et al. (2012; $n = 20$).

The findings of the present study replicate those of Beilby et al. (2012) who administered an integrated fluency and ACT intervention to AWS and found positive changes to stuttered speech frequency post-intervention and at three-month follow-up. The results of the present study extend upon Beilby et al.'s (2012) work by including maintenance data up to and including six-months post-intervention, with positive results. It is important to note that both the fACTS Program and the work of Beilby et al. (2012) integrated fluency and ACT techniques simultaneously, in a manner which allowed participants to practice both fluency and ACT concurrently in each intervention session.

Both of the aforementioned programs also adopted fluency enhancement and stuttering modification techniques within the fluency component. The practicality and flexibility of these approaches tailored to the needs of the individual participants, may help to account for the significant and long-lasting changes observed in stuttered speech frequency.

Many AWS who seek support from SLPs for their stuttering often do so with the expectation of reducing their stuttering behaviors, most often stuttered speech frequency (Boyle, 2018). As such, the positive impacts of the fACTS Program on stuttered speech frequency is demonstrated as both clinically important and valid.

Self-efficacy. Statistically significant increases in self-efficacy, as measured by the *SESAS* (Ornstein & Manning, 1985), were observed post-intervention, with a large effect, $d = .73$. These positive changes to self-efficacy were maintained at three-month follow-up, with a medium-large effect, $d = .70$, and at six-month follow-up, with a large effect, $d = .93$, for Therapist 1. Interestingly, the GLMM conducted to detect changes in self-efficacy scores pre- and post-intervention identified a statistically significant main effect of Therapist. Mean scores on the *SESAS* (Ornstein & Manning, 1985) were lower at both pre- and post-intervention for participants treated by Therapist 2 compared to Therapist 1 (see Table 5 and 6), however, both groups responded positively to the intervention with statistically significant increases in self-efficacy scores post-intervention, and both groups increased their *SESAS* scores by an average of 11.78 points.

To the best of my knowledge, this is the first study that has directly examined changes in self-efficacy as a result of an integrated fluency and ACT intervention. Such positive findings are clinically important as self-efficacy has been found to predict a client's ability to enact and sustain behavioral changes (Boyle, 2018), to predict quality of life (Carter et al., 2017), to support longevity of treatment outcomes (Langevin et al., 2006), to act as a protective mechanism against anxiety and depression in fostering resilience (Boyle,

2018; Craig et al., 2011; 2015), and to facilitate greater communicative participation and engagement (Boyle et al., 2018a; 2018b). The fACTS Program has demonstrated effectiveness in augmenting AWS' self-efficacy for verbal communication, with positive improvements maintained up to six-months post-intervention.

Psychological flexibility. Findings of the present study indicated statistically significant improvements in psychological flexibility, with scores on the *AAQ2* (Bond et al., 2011) decreasing from pre- to post-intervention, with a medium effect, $d = .56$. These positive changes were maintained for Therapist 1 at three-month follow-up, with a medium effect, $d = .69$, and also at six-month follow-up, with a large effect, $d = 1.01$.

These findings support the work of Beilby et al. (2012) who also found statistically significant changes in psychological flexibility post-intervention and at three-month follow-up. Again, the present study expands upon Beilby et al.'s (2012) findings by demonstrating maintenance of gains in psychological flexibility six-months post-intervention. The 2020 study by Freud and colleagues included a measure of mindfulness skills to examine the effectiveness of the ACT component of their intervention, however, measures of psychological flexibility more broadly were not included and consequently cannot be compared to the present study.

Significant changes to psychological flexibility may be of importance in the clinical management of stuttering disorders. Psychological flexibility refers to the ability to remain present and be open to the experience of the full spectrum of human emotions (Harris, 2019). Adults who stutter with reduced psychological flexibility may find it difficult to engage fully with conversational partners due to past experiences and impact of negative emotional reactions to their stuttering (Boyle, 2018). These adults may also find it difficult to focus on the implementation of learned fluency enhancement or stuttering modification strategies (Boyle, 2018). By explicitly targeting and increasing psychological flexibility in stuttering

intervention, clinicians can help AWS to manage negative emotional reactions and assist them to remain present and open in communicative interactions. This in turn may prove liberating for the AWS and allow more complete attentional resources to the utilization of fluency techniques, if they so choose, and importantly, while engaging fully with their conversation partner and actively participating in the communicative exchange.

Totality of stuttering experience. Statistically significant improvements in the totality of the individuals' stuttering experience were found, indicated by a large and significant reduction in *OASES-A* and *OASES-T Total* (Yaruss & Quesal, 2016a, 2016b) scores at post-intervention, d =1.04. These were maintained at three, d = 1.15, and six-month follow-up, d = 1.64, with a large effect for both. The general post-intervention trend was the same across the groups treated by Therapist 1 and Therapist 2, where *OASES Total* scores decreased significantly post-intervention for both.

Significant positive improvements in the speaker's stuttering experience and psychosocial well-being support the fACTS Program addressed the affective components of stuttering. The improvements noted were in psychological flexibility, whereby participants learned to relate to their stuttering-related behaviors, thoughts, and feelings in new ways potentially helping to mitigate some of the negative impacts that stuttering may have had on the person's overall well-being. Positive changes to an individual's self-efficacy to engage in and manage the demands of verbal communication may also translate into positive changes to psychosocial well-being. This would benefit from more extensive exploration in future research.

Durability and maintenance of intervention outcomes. Study Two reported follow-up data at three- and six-months post intervention to measure the long-term maintenance and durability of outcomes from participation in the fACTS Program. Due to limited follow-up data obtained for participants treated by Therapist 2, only data from

participants treated by Therapist 1 were included in the complete analysis of maintenance data.

The research indicated positive therapeutic gains maintained up to six-months post-intervention for all variables studied, and in some instances, scores six-months post-intervention exceed those reported immediately post-intervention. Interestingly, at six-month follow-up, the effect sizes observed for changes in self-efficacy and psychological flexibility scores were greater than at post-intervention and three-month follow-up. Self-efficacy scores reported at six-months post-intervention (M = 76.96, SD = 16.56) were greater than those reported immediately post-intervention (M = 72.65, SD = 14.61) indicating a greater improvement in self-efficacy at follow-up. Psychological flexibility scores reported at six-months post-intervention (M = 19.44, SD = 8.81) were lower than those reported immediately post-intervention (M = 21.39, SD = 8.43) indicating a greater improvement in psychological flexibility over time. Similarly, totality of stuttering experience scores were lower six-months post-intervention (M = 2.18, SD = .57) than those reported immediately post-intervention (M = 2.44, SD = .56), showing greater improvement in psychosocial well-being over time. These findings may be described by self-efficacy and psychological flexibility developing over time as the individual practices the techniques learned in the fACTS Program. The six-month follow-up period afforded participants the time to engage in both familiar and new situations to practice and refine their new repertoire of skills. It has been demonstrated that self-efficacy is established and extended through mastery experiences (Bandura, 1977) and that time is needed to refine self-efficacy beliefs. In terms of the increased magnitude of change in psychosocial well-being at six-month follow-up, it is understandable that changes in the totality of the speaker's experience with stuttering would follow a similar trend to their changes in self-efficacy and psychological flexibility, as these factors contribute to the individual's overall sense of well-being. As expected, in this study,

participants experienced a slight increase in stuttered speech frequency as measured by *%SS* at six-month follow-up ($M = 4.26$, $SD = 4.28$) compared to immediately post-intervention ($M = 3.23$, $SD = 3.16$), however, they maintained significantly lower ratings of *%SS* compared to pre-intervention, even six-months post-intervention. Despite the innate variability of stuttered speech frequency, the improved trajectory from the pre-treatment scores to follow-up demonstrated in this study is important in supporting the treatment efficacy of this project.

Additional findings. The fACTS Program was administered in different domains including face-to-face and telepractice, and in individual and group intervention formats. Overall outcomes from the fACTS Program clinical trial yielded similar results to Beilby et al. (2012), with significant improvements noted in stuttered speech frequency, psychological flexibility, psychosocial well-being, as well as improvements in the previously unexplored outcome of self-efficacy for verbal communication. These findings position the fACTS Program as a holistic intervention with demonstrated effectiveness in addressing the behavioral and psychosocial needs of AWS.

The fACTS Program offers an additional layer of flexibility for SLPs in that it comprises eight integrated (i.e., concurrent fluency and ACT) intervention sessions, that can be administered at variable intervals (e.g., weekly, fortnightly, or monthly). There has been previous research, which has combined fluency treatment with psychosocial interventions such as ACT (e.g., Freud et al., 2020) and CBT (e.g., Helgadottir et al., 2014; Menzies et al., 2008), with different treatment intensity and structures. Freud and colleagues (2020) administered the ACT-only intervention over a period of eight weeks before administering the fluency-only intervention (i.e., stuttering modification) over a period of eight weeks. Participants were then offered a monthly maintenance session over a period of eight months (Freud et al., 2020). Of the eight participants who began the intervention, six continued for

the fluency-only intervention, and only three continued for the maintenance sessions (Freud et al., 2020). Menzies and colleagues (2008) administered CBT-only intervention over a period of 10 weeks before administering fluency-only intervention (i.e., stuttering modification) for a total of 14 hours. A control group of AWS was included who received 14 hours of fluency-only intervention (Menzies et al., 2008). The total sample size was 32. There was significant attrition in their study, whereby a total of seven participants withdrew from various stages of the study citing personal commitments or change in circumstances. The interventions described by Freud et al. (2020) and Menzies et al. (2008) differed from the fACTS Program in several ways, most notably in that the fluency and psychosocial components were administered sequentially rather than concurrently, and both required significant time commitments from participants and treating clinicians alike, compared to the eight 60-90 minute intervention sessions in the fACTS Program.

Given the considerations of flexible treatment modality, format, length, and intensity of clinical intervention, the fACTS program is situated as a holistic and flexible intervention for AWS. It also addresses some of the pragmatic challenges faced by speech-language pathologists in contemporary clinical practice. The flexible and low-intensity nature of the fACTS Program supports the intervention as both time and cost-effective, for clients and clinicians alike. The low attrition rate in this clinical trial of the fACTS Program suggests that the integrated and flexible nature of the intervention may not only be successful, but also agreeable to a variety of AWS. This is an important consideration, given that De Nardo and colleagues' (2016) study identified a positive correlation between perceived successful therapy outcomes and self-acceptance of stuttering in AWS.

Study Three

Study Three acknowledged that patient-centered care is at the forefront of the contemporary healthcare landscape (Delaney, 2018) and was respectful of the need for

consumer involvement in the evaluation of the fACTS Program. Study Three explored the social and clinical validity of the fACTS Program from the perspective of the AWS who participated in the intervention. Written survey results sampling the intervention experiences of AWS found that participants perceived they had positive psychosocial changes as a result of the fACTS Program and found the structure and content of the intervention to be both practical and rewarding. The majority of participants stated they would recommend the intervention to other AWS. Consumer acceptability and social validity of the fACTS Program were supported, highlighting the clinical potential of the intervention for management of both behavioral and psychosocial aspects of stuttering disorders in this integrated format. The flexible nature of the fACTS Program and the relatively short intervention duration may have contributed to the overall consumer acceptability, as it offered an alternative to clinically reported intervention programs that were of 12 months' duration, such as the intervention proposed by Freud and colleagues in 2020, and in addition, where significant attrition was also reported.

In addition to these quantitative findings, thematic analysis of semi-structured interviews explored participant involvement in the fACTS Program. Specific and non-specific therapeutic factors contributing to the individuals' successful experiences with the intervention were identified. Most notably, participants described their enjoyment of the integrated and flexible nature of the intervention, where equal time was spent addressing the behavioral and psychosocial components of the stuttering experience. In addition, participants positively responded to the option of choosing the specific fluency and ACT techniques they could practice in each session. Such positive findings reflect Venkatagiri's (2009) recommendations for clinical management of stuttering that is cognizant of consumer opinion and flexible in nature. They also underscore the unique experiences of AWS and how these experiences need to be addressed and respected in more individualized

interventions (Connery et al., 2019). Important feedback from the AWS who participated in the fACTS Program will inform future iterations of this program, and future interventions need to involve such consumer driven evaluations.

Strengths of the Project and Novel Contributions to Knowledge

This doctoral research was an acknowledgement of, and investigation into, the importance of holistic, integrated interventions for the clinical management of stuttering disorders in AWS. The results from this body of work have successfully positioned the fACTS Program as a positive, integrated psychosocial intervention for AWS. The research also addresses some of the challenges faced by SLPs who work with AWS, including the highlighted necessity to simultaneously target speech fluency and self-efficacy, facilitation of necessary greater engagement for their clients, and the maintenance and durability of successful treatment outcomes.

This body of work investigated the self-efficacy beliefs of AWS in order to achieve an enhanced understanding of their lived experience and how self-efficacy might be augmented in the management of their stuttering treatment. Findings regarding the self-efficacy beliefs of AWS were used to inform the design of a novel and integrated fluency and psychosocial intervention – the fACTS Program, which was detailed with comprehensive clinician and client workbooks (see Appendix C). The fACTS Program was written primarily by the doctoral candidate, co-authored and supervised by Associate Professor Janet Beilby, a certified-practising SLP, with input from the co-supervisor and psychologist Professor Lauren Breen. It is one of the first detailed fluency and ACT intervention protocols in the field of fluency disorders. The resources contained within the fACTS Program may be utilized by SLPs who work with AWS to simultaneously target and benefit speech fluency and self-efficacy in their clients. The fACTS Program resources

provide a detailed yet practical framework for SLPs to incorporate fluency and ACT techniques into their clinical management of stuttering disorders in AWS.

The depth of this research included consumer evaluations and thematic insights regarding their support for this program with the background of a very low attrition rate. Participant responses to written and oral survey questions regarding the structure, content, and usefulness of the fACTS Program were very positive. In addition, the rate of participant attrition throughout this research was extremely low whereby 29 AWS were recruited, with 28 adults completed all the pre- and post-intervention measures. Of these 28 participants, only one did not attend the final session (recap of previous sessions) but was able to complete the program activities at home. Other studies of a similar nature have reported much higher attrition rates (e.g., combined ACT and fluency intervention; Freud et al., 2020; combined fluency and CBT intervention; Helgadottir et al., 2014; Menzies et al., 2008). The 97% participation rate reported in this body of work provides further support that an integrated fluency and psychosocial intervention such as the fACTS Program is considered acceptable and socially valid to consumers.

The clinical utility of ACT for management of stuttering disorders has garnered increased interest in contemporary research. As such, interest in the findings of the present research has been received from clinicians and researchers internationally. The inclusion of 19 participants based in Western Australia, nine participants from the United States of America, and one participant based in South Africa, position this work with a valuable international perspective.

Novel Contributions to Clinical Practice

This body of research highlighted and supported the clinical and research needs for holistic interventions that address the behavioral aspects of stuttering (i.e., speech fluency) alongside the psychosocial aspects (i.e., self-efficacy, engagement, and psychosocial

wellbeing) in order to effect meaningful and long-lasting change for AWS. The results of Study 2 (Chapter 4) demonstrated the strength of combining these components into an integrated intervention program that was both effective and accepted by consumers. In addition, the findings of Study 1 (Chapter 2) underscore the importance of exploring, understanding, and addressing the self-efficacy beliefs of AWS in assessment and intervention, in order to provide the most effective treatment (Boyle, 2018).

The fACTS Program itself was flexible to administer in terms of its intervention format, modality, and frequency. The program presented was low-intensity, comprising only eight intervention sessions, which is cost-effective for AWS and clinicians alike. The low attrition rate reported in Study 2 also suggests that the integrated and flexible nature of the intervention was acceptable to AWS, which may address some of the challenges faced by clinicians in motivating clients in clinical practice. The practical nature of the fluency and ACT strategies taught in the fACTS Program ensured that these strategies were readily available to participants to draw upon and apply outside of the program. This likely contributed to the program's success, and thus may provide SLPs who work with AWS with a range of strategies that may be adopted for AWS in clinical practice and beyond.

Acceptance and Commitment Therapy is a psychosocial intervention with relevance to communication disorders, given its primary aim is to equip individuals with the necessary skills to lead a rich and meaningful life that aligns with their personal values. The present body of work has provided additional support for the clinical utility of ACT for AWS, and ACT principles can potentially be applied to other communication and swallowing disorders in speech-language pathology where individuals may be restricted in their abilities to communicate in daily living.

Limitations and Future Directions

The clinical trial described in Study Two (see Chapter 4) was conducted to determine the feasibility of an integrated fluency and psychosocial intervention (i.e., fluency and ACT intervention) for addressing the speech fluency and self-efficacy of AWS. Given the preliminary nature of this work and the priorities for treatment imposed by the international pandemic, a control group was not viable to be included in the clinical trial. The lack of control group has introduced a threat to the internal validity of the clinical trial and therefore findings should be interpreted with caution. A future randomized controlled trial comparing fluency-only, ACT-only, and integrated fluency and ACT treatment is important to determine the contribution of the integrated nature of the intervention. In addition, a randomized controlled trial comparing ACT to an alternative psychotherapy (e.g., CBT) is warranted to ascertain the magnitude of change in speech fluency and self-efficacy.

The clinical trial described in Study Two adopted multiple treatment modalities (i.e., face-to-face versus telepractice), formats (i.e., individual versus group), and delivery options (i.e., weekly versus fortnightly). Due to uneven groupings and a relatively small sample size in each group, potential effects of these factors could not be analyzed reliably. It is recommended for future studies of this nature that the potential effects of treatment modality, format, and delivery using GLMM be explored. This would assist in to determining whether time-related changes in the variables of interest are influenced by such factors, or due to the result of the intervention alone.

The method of participant recruitment and participant treatment and support group status may also affect the generalizability of the research findings. Participants were recruited by way of convenience sampling, which has resulted in reduced variability in the stuttered speech frequency in the sample, with the majority of participants' stuttered speech frequency categorized as "moderate" in severity. This may have impacted the magnitude of

change observed in stuttered speech frequency, as measured by *%SS*. In line with most research conducted with AWS; the vast majority of participants (*n* = 23; 79%) had also received some form of formal stuttering intervention in the past. In fact, almost 95% of respondents at an NSA conference reported having received formal intervention for stuttering in the past (Yaruss et al., 2002). This meant that many of the participants in the present research were somewhat familiar with the fluency shaping and/or the stuttering modification techniques taught in the fACTS Program. In addition, some participants had also had some level of involvement with self-help or support group organizations (*n* = 9). The life experiences of these AWS may be different to those of AWS who have not received previous intervention or have not previously attended stuttering consumer support groups. To mitigate the effects of the sampling method and participant experience in future research, purposeful sampling of AWS to include more participants with representative "severe" stuttered speech frequency diagnoses and those who have not participated in intervention for stuttering or attended support groups for stuttering is recommended.

Conclusion

In order to provide clinical intervention to AWS that is holistic, client-centered, and effective, SLPs would benefit from addressing the behavioral and psychosocial aspects of stuttering simultaneously. This research has positioned the fACTS Program to be a successful clinical intervention for AWS to achieve these aims, by integrating speech fluency with self-efficacy strategies culminating in the positive maintenance and durability of successful treatment outcomes.

References

Arch, J., Eifert, G. H., Davies, C., Vilardaga, J. C., Rose, R. D., & Craske, M. G. (2012). Randomized clinical trial of Cognitive Behavioral Therapy (CBT) versus Acceptance and Commitment Therapy (ACT) for mixed anxiety disorders. *Journal of Consulting and Clinical Psychology, 80*(5), 750-765. https://doi.org/10.1037/a0028310

American Speech-Language Hearing Association [ASHA]. (2016). *Code of ethics*. https://www.asha.org/Code-of-Ethics/

American Speech-Language-Hearing Association [ASHA]. (2022). *About special interest group 4, fluency and fluency disorders.* ASHA. https://www.asha.org/sig/04/about-sig-4/

ANZCTR. (2022). *Australian New Zealand Clinical Trials Registry.* ANZCTR. https://anzctr.org.au/default.aspx

Australian Commission on Safety and Quality in Health Care (ACSQHC). (2010). *Australian safety and quality framework for health care*. https://www.safetyandquality.gov.au/sites/default/files/migrated/Australian-SandQ-Framework1.pdf

Australian Commission on Safety and Quality in Health Care (ACSQHC). (2011). *National safety and quality health service standards*. https://www.safetyandquality.gov.au/sites/default/files/migrated/NSQHS-Standards-Sept2011.pdf

Babbitt, E., & Cherney, L. (2010). Communication confidence in persons with aphasia. *Topics in Stroke Rehabilitation, 17*(3), 214-223. https://doi.org/10.1310/tsr1703-214

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. https://doi.org/10.1037/0033-295X.84.2.191

Bandura, A. (2008). An agentic perspective on positive psychology. In S. J. Lopez (Ed.), *Positive psychology: Exploring the best in people*. Praeger.

Bandura, A. (2011). A Social Cognitive perspective on Positive Psychology. *Revista de Psicología Social, 26*(1), 7-20. https://doi.org/10.1174/021347411794078444

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bandura, A., Adams, N., Beyer, J., & Greenwald, A. (1977). Cognitive processes mediating behavioral change. *Journal of Personality and Social Psychology, 35*(3), 125-139. https://doi.org/10.1037/0022-3514.35.3.125

Baxter, S., Johnson, M., Blank, L., Cantrell, A., Brumfitt, S., Enderby, P., et al. (2015). The state of the art in nonpharmacological interventions for developmental stuttering. Part 1: A systematic review of effectiveness. *International Journal of Language & Communication Disorders, 50*(5), 676–718. https://doi.org/10.1111/1460-6984.12171

Beilby, J. (2014). Psychosocial impact of living with a stuttering disorder: Knowing is not enough. *Seminars in Speech and Language, 35*(2), 132-143. http://link.library.curtin.edu.au/p?cur_dspace_dc20.500.11937/10681

Beilby, J., & Byrnes, M. L. (2012). Acceptance and Commitment Therapy for people who stutter. *Perspectives on Fluency and Fluency Disorders, 22*(1), 34-46. http://journals.asha.org/perspectives/

Beilby, J., & Yaruss, J. S. (2018). Acceptance and Commitment Therapy for stuttering disorders. In B. J. Amster & E. R. Klein (Eds.), *More than fluency: The social, emotional, and cognitive dimensions of stuttering* (pp. 111-130). San Diego, CA: Plural Publishing, Inc.

Beilby, J. M., Byrnes, M. L., & Yaruss, J. S. (2012). Acceptance and Commitment Therapy for adults who stutter: Psychosocial adjustment and speech fluency. *Journal of Fluency Disorders, 37*(4), 289-299. https://doi.org/10.1016/j.jfludis.2012.05.003

Blomgren, M., Roy, N., Callister, T., & Merrill, R. M. (2005). Intensive stuttering modification therapy: A multidimensional assessment of treatment outcomes. *Journal of Speech, Language & Hearing Research, 48*(3), 509-523. https://doi.org/10.1044/1092-4388(2005/035)

Bloodstein, O. (1995). *A handbook on stuttering* (5th ed.). Singular.

Bloodstein, O., & Bernstein-Ratner, N. (2008). *A handbook on stuttering* (6th ed.). Delmar Learning.

Blumgart, E., Tran, Y., & Craig, A. (2010). An investigation into the personal financial costs associated with stuttering. *Journal of Fluency Disorders, 35*(3), 203–215. https://doi.org/10.1016/j.jfludis.2010.03.002

Bohlmeijer, E. T., Fledderus, M., Rokx, T.A. J. J., & Pieterse, M. E. (2011). Efficacy of an early intervention based on acceptance and commitment therapy for adults with depressive symptomatology: Evaluation in a randomized controlled trial. *Behaviour Research and Therapy, 49,* 62-67.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy, 42,* 676-688.

Borrelli, B. (2011). The assessment, monitoring, and enhancement of treatment fidelity in public health clinical trials. *Journal of Public Health Dentistry, 71*(1), 52-63. http://dx.doi.org/10.1111/j.1752-7325.2011.00233.x

Bothe, A. K., Davidow, J. H., Bramlett, R. E., & Ingham, R. J. (2006). Stuttering treatment research 1970–2005: I. Systematic review incorporating trial quality assessment of behavioral, cognitive, and related approaches. *American Journal of Speech-language Pathology, 15*(4), 321–341. https://doi.org/10.1044/1058-0360(2006/031)

Bothe, A. K., Davidow, J. H., Bramlett, R. E., Franic, D. M., & Ingham, R. J. (2006). Stuttering treatment research 1970–2005: II. Systematic review incorporating trial quality assessment of pharmacological approaches. *American Journal of Speech-language Pathology, 15*(4), 342–352. https://doi.org/10.1044/1058-0360(2006/032)

Boyle, M. P. (2011). Mindfulness training in stuttering therapy: A tutorial for speech-language pathologists. *Journal of Fluency Disorders, 36,* 122-129. https://doi.org/10.1016/j.fludis.2011.04.005

Boyle, M. P. (2013). Assessment of stigma associated with stuttering: Development and evaluation of the Self-Stigma of Stuttering Scale (4S). *Journal of Speech, Language and Hearing Research (Online), 56*(5), 1517-1529. https://search.proquest.com/docview/1473653260?accountid=10382

Boyle, M. P. (2015). Relationships between psychosocial factors and quality of life for adults who stutter. *American Journal of Speech - Language Pathology (Online), 24*(1), 1-12. https://search.proquest.com/docview/1660150983?accountid=10382

Boyle, M. P. (2016, November). *Relations between stuttering disclosure and self-empowerment in adults who stutter*. American Speech-Language-Hearing Association Annual Convention, California.

Boyle, M. P. (2018). The importance of self-efficacy for individuals who stutter. In B. J. Amster & E. R. Klein (Eds.), *More than fluency: The social, emotional, and cognitive dimensions of stuttering* (pp. 19-44). Plural Publishing, Inc.

Boyle, M. P., & Fearon, A. N. (2017). Self-stigma and its associations with stress, physical health, and health care satisfaction in adults who stutter. *Journal of Fluency Disorders, 56,* 112-121. https://doi.org/10.1016/j.jfludis.2017.10.002

Boyle, M. P., Beita-Ell, C., Milewski, K., & Fearon, A. (2018). Self-esteem, self-efficacy, and social support as predictors of communicative participation in adults who stutter. *Journal of Speech, Language & Hearing Research, 61*(8), 1893-1906. https://doi.org/10.1044/2018_JSLHR-S-17-0443

Brassington, L., Ferreira, N. B., Yates, S., Fearn, J., Lanza, P., Kemp, K., & Gillanders, D. (2016). Better living with illness: A transdiagnostic acceptance and commitment therapy group intervention for chronic physical illness. *Journal of Contextual Behavioral Science, 5*(4), 208-214. https://doi.org/10.1016/j.jcbs.2016.09.001

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Bray, M. A., Kehle, T. J., Lawless, K. A., & Theodore, L. A. (2003). The relationship of self-efficacy and depression to stuttering. *American Journal of Speech-Language Pathology, 12*, 425-431. https://doi.org/10.1044/1058-0360(2003/088)

Bricker-Katz, G., Lincoln, M., & Cumming, S. (2013). Stuttering and work life: An interpretative phenomenological analysis. *Journal of Fluency Disorders, 38*(4), 342-355. https://doi.org/10.1016/j.jfludis.2013.08.001

Brundage, S. P., Bernstein Ratner, N., Boyle, M. P., Eggers, K., Everard, R., Franken, M., Kefalianos, E., Marcotte, A. K., Millard, S., Packman, A., Vanryckeghem, M., & Yaruss, J. S. (2021). Consensus guidelines for the assessments of individuals who stutter across the lifespan. *American Journal of Speech-Language Pathology, 30*(6), 2379-2393. https://doi.org/10.1044/2021_AJSLP-21-00107

Buhrman, M., Skoglund, A., Husell, J., Bergström, K., Gordh, T., Hursti, T., . . . Andersson, G. (2013). Guided internet-delivered acceptance and commitment therapy for chronic pain patients: A randomized controlled trial. *Behaviour Research and Therapy, 51*(6), 307-315. https://doi.org/10.1016/j.brat.2013.02.010

Carter, A., Breen, L., Yaruss, J. S., & Beilby, J. (2017). Self-efficacy and quality of life in adults who stutter. *Journal of Fluency Disorders, 54*, 14-23. https://doi.org/10.1016/j.jfludis.2017.09.004

Carter[4], A. K., Breen, L. J., & Beilby, J. M. (2019). Self-efficacy beliefs: Experiences of adults who stutter. *Journal of Fluency Disorders, 60*, 11-25. https://doi.org/10.1016/j.jfludis.2019.03.002

Carminati, L. (2018). Generalizability in qualitative research: A tale of two traditions. Qualitative Health Research, 28(13), 2094–2101. https://doi.org/10.1177/1049732318788379

Cheasman, C., & Everard, R. (2013). Embrace your demons and follow your heart: An Acceptance and Commitment Therapy approach to work with people who stammer. In C. Cheasman, R. Everard, & S. Simpson (Eds.) *Stammering therapy from the inside: New perspectives on working with young people and adults.* (pp. 267-302). J & R Press, Inc.

Chatoor, I., & Krupnick, J. (2001). The role of non-specific factors in treatment outcome of psychotherapy studies. *European Child & Adolescent Psychiatry, 10*, 19–25. https://doi.org/10.1007/s007870170004

[4] This paper is published under the doctoral student's maiden name.

Cicerone, K. D., & Azulay, J. (2007). Perceived self-efficacy and life satisfaction after traumatic brain injury. *Journal of Head Trauma Rehabilitation, 22*(5), 257-266. https://doi.org/10.1097/01.HTR.0000290970.56130.81

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Connery, A., McCurtin, A., & Robinson, K. (2019). The lived experience of stuttering: A synthesis of qualitative studies with implications for rehabilitation. *Disability and Rehabilitation, 16*, 1–11. https://doi.org/10.1080/09638288.2018.1555623

Constantino, C. D., Manning, W. H., & Nordstrom, S. N. (2017). Rethinking covert stuttering. *Journal of Fluency Disorders, 53*, 26-40. https://doi.org/10.1016/j.jfludis.2017.06.001

Corcoran, J. A., & Stewart, M. (1998). Stories of stuttering: A qualitative analysis of interview narratives. *Journal of Fluency Disorders, 23*(4), 247-264. https://doi.org/10.1016/S0094-730X(98)00020-5

Craig, A. (1998). Relapse following treatment for stuttering: A critical review and corrective data. *Journal of Fluency Disorders, 23*(1), 1–30. https://doi.org/10.1016/S0094-730X(97)00027-2

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. https://doi.org/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. https://doi.org/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. https://doi.org/10.1016/j.jfludis.2015.03.001

Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.

Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage Publications.

Croft, R. L., & Watson, J. (2019). Student clinicians' and clients' perceptions of the therapeutic alliance and outcomes in stuttering treatment. *Journal of Fluency Disorders, 61*, 1–10. https://doi.org/10.1016/j.jfludis.2019.105709

Dalrymple, K. L., & Herbert, J. D. (2007). Acceptance and Commitment Therapy for generalized social anxiety disorder: A pilot study. *Behavior Modification, 31*(5), 543-568. https://doi.org/10.1177/0145445507302037

Delaney, L. J. (2018). Patient-centered care as an approach to improving health are in Australia. *Collegian, 25*, 119–123. https://doi.org/10.1016/j. colegn.2017.02.005.

Delbanco, T., Berwick, D. M., Boufford, J. I., Edgman-Levitan, S., Ollenschlager, G., Plamping, D., et al. (2001). Healthcare in a land called People Power: Nothing ¨ about me without me. *Health Expert, 4*, 144–150. https://doi.org/10.1046/j.1369-6513.2001.00145.x

DiLollo, A., & Favreau, C. (2010). Person-centered care and speech and language therapy. *Seminars in Speech and Language, 31*(2), 90–97. https://doi.org/10.1055/s-0030-1252110

Dollaghan, C. A. (2007). *The handbook for evidence-based practice in communication disorders*. Paul H. Brookes.

Eadie, T. L., Yorkston, K. M., Klasner, E. R., Dudgeon, B. J., Deitz, J. C., Baylor, C. R., & ... Amtmann, D. (2006). Measuring communicative participation: a review of self-report instruments in speech-language pathology. American Journal of Speech-Language Pathology, 15(4), 307-320. https://doi.org/10.1044/1058-0360(2006/030)

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. https://doi.org/10.3109/09638288.2010.525287

Everard, R., & Cheasman, C. (2020). Integrating Acceptance and Commitment Therapy into stammering therapy. In T. Stewart (Ed.), *Stammering resources for adults and teenagers: Integrating new evidence into clinical practice* (pp. 161-184). Routledge.

Everard, R., & Howell, P. (2018). We have a voice: Exploring participants' experiences of stuttering modification therapy. *American Journal of Speech-Language Pathology, 27*, 1273–1286. https://doi.org/10.1044/2018_AJSLP-ODC11-17-0198

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 1149-1160. http://www.gpower.hhu.de/fileadmin/redaktion/Fakultaeten/Mathematisch-Naturwissenschaftliche_Fakultaet/Psychologie/AAP/gpower/GPower3-BRM-Paper.pdf

Freud, D., Levy-Kardash, O., Glick, I., & Ezrati-Vinacour, R. (2020). Pilot program combining Acceptance and Commitment Therapy with stuttering modification therapy for adults who stutter: A case report. *Folia Phoniatrica et Logopaedica, 72*(4), 290-301. https://doi.org/10.1159/000501078

Foster, S. L., & Mash, E. J. (1999). Assessing social validity in clinical treatment research: Issues and procedures. *Journal of Consulting and Clinical Psychology, 67*(3), 308–319. https://doi.org/10.1037/0022-006X.67.3.308

Fung, K., Lake, J., Steel, L., Bryce, K., & Lunsky, Y. (in press). ACT Processes in Group Intervention for Mothers of Children with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders.* https://doi.org/10.1007/s10803-018-3525-x

Gerlach, H., Totty, E., Subramanian, A., & Zebrowski, P. (2018). Stuttering and labor market outcomes in the United States. *Journal of Speech-Language-Hearing Research, 61*, 1649–1663. https://doi.org/10.1044/2018_JSLHR-S-17-0353

Graham, C. D., Gouick, J., Krahé, C., & Gillanders, D. (2016). A systematic review of the use of Acceptance and Commitment Therapy (ACT) in chronic disease and long-term conditions. *Clinical Psychology Review, 46*, 46-58. https://doi.org/10.1016/j.cpr.2016.04.009

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. https://doi.org/10.1177/1525822X05279903

Guitar, B. (2014). *Stuttering: An Integrated Approach to Its Nature and Treatment* (4th ed.). Lippincott Williams & Wilkins.

Harris, R. (2009). *ACT Made Simple.* New Harbinger Publications, Inc.

Harris, R. (2019). *ACT Made Simple* (2nd ed.). New Harbinger Publications, Inc.

Hart, A. K., Breen, L. J., & Beilby, J. M. (2021). Evaluation of an integrated fluency and Acceptance and Commitment Therapy intervention for adolescents and adults who stutter: Participant perspectives. *Journal of Fluency Disorders, 69*, 105852. https://doi.org/10.1016/j.jfludis.2021.105852

Hayhow, R., & Stewart, T. (2006). Introduction to qualitative research and its application to stuttering. *International Journal of Language & Communication Disorders, 41* (5), 475–493. https://doi.org/10.1080/13682820500343057

Helgadóttir, F. D., Menzies, R. G., Onslow, M., Packman, A., & O'Brian, S. (2014). A standalone Internet cognitive behavior therapy treatment for social anxiety in adults who stutter: CBTpsych. *Journal of Fluency Disorders, 41*, 47-54. https://doi.org/10.1016/j.jfludis.2014.04.001

Howie, P. M., Tanner, S. and Andrews, G. (1981). Short- and long-term outcomes in an intensive treatment program for adult stutterers. *Journal of Speech and Hearing Disorders*, *46*, 104–109. https://www.ncbi.nlm.nih.gov/pubmed/7206672

Hudock, D., & Yates, C. (n.d.). *An Acceptance and Commitment Therapy (ACT) approach to treat stuttering.* Northwest Center for Fluency Disorders: Interprofessional Intensive Stuttering Clinic.

Hulbert-Williams, L., Hochard, K., Hulbert-Williams, N., Archer, R., Nicholls, W., & Wilson, K. (2016). Contextual behavioral coaching: An evidence-based model for supporting behavior change. *International Psychology Coaching Review, 11*(2), 142-154. https://www.researchgate.net/publication/304630291_Contextual_behavioral_coaching_An_evidence-based_model_for_supporting_behavior_change

Ingham, R. and Andrews, G. (1973). An analysis of a token economy in stuttering therapy. *Journal of Applied Behavior Analysis*, *6*, 219–229. https://doi.org/10.1901/jaba.1973.6-219

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. https://doi.org/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. https://doi.org/10.1016/j.jfludis.2013.08.003

Johnson, M., Baxter, S., Blank, L., Cantrell, A., Brumfitt, S., Enderby, P., et al. (2016). The state of the art in non-pharmacological interventions for developmental stuttering. Part 2: Qualitative evidence synthesis of views and experiences. *International Journal of Language & Communication Disorders, 51*(1), 3–17. https://doi.org/10.1111/1460-6984.12182

Jones, F., & Riazi, A. (2011). Self-efficacy and self-management after stroke: a systematic review. *Disability and Rehabilitation, 33*(10), 797–810. https://doi.org/10.3109/09638288.2010.511415

Jones, F., Mandy, A., & Partridge, C. (2009). Changing self-efficacy in individuals following a first time stroke: preliminary study of a novel self-management intervention. *Clinical Rehabilitation, 23*, 522-533. https://doi.org/10.1177/0269215508101749

Kain, M., Bolker, B., & McCoy, M. (2015). A practical guide and power analysis for GLMMs: Detecting among treatment variation in random effects. *PeerJ, 3*(1226), 1-24. https://doi.org/10.7717/peerj.1226

Kadden, R., & Litt, M. (2011). The role of self-efficacy in the treatment of substance use disorders. Addictive Behaviors, 36(12), 1120–1126. https://doi.org/10.1016/j.addbeh.2011.07.032

Khashouei, M. M., Ghorbani, M., & Tabatabaei, F. (2017). The effectiveness of Acceptance and Commitment Therapy (ACT) on self-efficacy, perceived stress and resiliency in

Type II Diabetes patients. *Global Journal of Health Science, 9*(5), 18-24. https://doi.org/10.5539/gjhs.v9n5p18

Kim, H. (2013). Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics, 38*(1), 52-54. https://doi.org/10.5395/rde.2013.38.1.52

Ladouceur, R., Caron, C., & Caron, G. (1989). Stuttering severity and treatment outcome. *Journal of Behavior Therapy and Experimental Psychiatry, 20*(1), 49-56. https://doi.org/10.1016/0005-7916(89)90007-4

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. https://doi.org/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. https://doi.org/10.1044/1092-4388(2011/10-0116)

Latner, J. D., McLeod, G., O'Brien, K. S., & Johnston, L. (2013). The role of self-efficacy, coping, and lapses in weight maintenance. *Eating and Weight Disorders, 18*, 359-366. https://doi.org/10.1007/s40519-013-0068-1

Lee, J., Nam, S., Kim, A., Kim, B., Lee, M., & Lee, S. (2013). Resilience: A meta-analytic approach. Journal of Counseling & Development, 91(3), 269–279. https://doi.org/10.1002/j.1556-6676.2013.00095.x

Manning, W., & DiLollo, A. (2018). *Clinical decision making in fluency disorders* (4th ed.). Plural Publishing.

Martos-Méndez, M. J. (2015). Self-efficacy and adherence to treatment: the mediating effects of social support. *Journal of Behavior, Health & Social Issues, 7*(2), 19-29. https://doi.org/10.5460/jbhsi.v7.2.52889

Mays, N., & Pope, C. (1995). Rigour and qualitative research. *British Medical Journal, 311*(6997), 109-112. http://www.bmj.com.dbgw.lis.curtin.edu.au/content/311/6997/109

McGill, M., Siegel, J., & Noureal, N. (2021). A preliminary comparison of in-person and telepractice evaluations of stuttering. *American Journal of Speech-Language Pathology, 30*(4), 1737-1749. https://doi.org/10.1044/2021_AJSLP-19-00215

Menzies, R., O'Brian, S., Lowe, R., Packman, A., & Onslow, M. (2016). International Phase II clinical trial of CBTPsych: A standalone Internet social anxiety treatment for adults who stutter. *Journal of Fluency Disorders, 48*, 35-43. https://doi.org/10.1016/j.jfludis.2016.06.002

Menzies, R. G., O'Brian, S., Onslow, M., Packman, A., St. Clare, T., & Block, S. (2008). An experimental clinical trial of a cognitive-behavior therapy package for chronic stuttering. *Journal of Speech, Language & Hearing Research, 51*(6), 1451-1464. https://doi.org/10.1044/1092-4388(2008/07-0070)

Molander, P., Hesser, H., Weineland, S., Bergwall, K., Buck, S., Jäder Malmlöf, J., . . . Andersson, G. (2018). Internet-based acceptance and commitment therapy for psychological distress experienced by people with hearing problems: a pilot randomized controlled trial. *Cognitive Behaviour Therapy, 47*(2), 169-184. https://doi.org/10.1080/16506073.2017.1365929

Nang, C., Hersh, D., Milton, K., & Lau, S. R. (2018). The impact of stuttering on development of self-identity, relationships, and quality of life in women who stutter.

American Journal of Speech-Language Pathology, 27(3), 1244–1258. https://doi.org/10.1044/2018_AJSLP-ODC11-17-0201

O'Brian, S., Onslow, M., Cream, A., & Packman, A. (2003). The Camperdown Program: Outcomes of a new prolonged-speech treatment model. *Journal of Speech, Language & Hearing Research, 46*(4), 933-946. https://doi.org/10.1044/1092-4388(2003/073)

O'Brian, S., Jones, M., Packman, A., Menzies, R., & Onslow, M. (2011). Stuttering severity and educational attainment. *Journal of Fluency Disorders, 36*, 86–92. https://doi.org/10.1016/j.jfludis.2011.02.006

Ornstein, A., & Manning, W. (1985). Self-efficacy scaling by adult stutterers. *Journal of Communication Disorders, 18*(4), 313-320. https://doi.org/10.1016/0021-9924(85)90008-5

Patton, M. (1990). *Qualitative evaluation and research methods* (2nd ed.). Sage Publications.

Pahnke, J., Lundgren, T., Hursti, T., & Hirvikoski, T. (2013). Outcomes of an acceptance and commitment therapy-based skills training group for students with high-functioning autism spectrum disorder: A quasi-experimental pilot study. *Autism, 18*(8), 953-964. https://doi.org/10.1177/1362361313501091

Plexico, L.W., Erath, S., Shores, H., & Burrus, E. (2019). Self-acceptance, resilience, coping and satisfaction of life in people who stutter. Journal of Fluency Disorders, 59, 52–63. https://doi.org/10.1016/j.jfludis.2018.10.004

Plexico, L.W., Manning, W. H., & DiLollo, A. (2010). Client perceptions of effective and ineffective therapeutic alliances during treatment for stuttering. *Journal of Fluency Disorders, 35*, 333–354. https://doi.org/10.1016/j.jfludis.2010.07.001

Plexico, L.W., Manning, W., & Levitt, H. (2009). Coping responses by adults who stutter: Part II. Approaching the problem and achieving agency. Journal of Fluency Disorders, 34, 108–126. https://doi.org/10.1016/j.jfludis.2009.06.003

Pots, W. T. M., Fledderus, M., Meulenbeek, P. A. M., ten Klooster, P. M., Schreurs, K. M. G., & Bohlmeijer, E. T. (2016). Acceptance and commitment therapy as a web-based intervention for depressive symptoms: Randomized controlled trial. *British Journal of Psychiatry, 208*(1), 69-77. https://doi.org/10.1192/bjp.bp.114.146068

PwC. (2017). *Reimagining healthcare in Australia: Budget 2017 – Progress towards reform*. https://www.pwc.com.au/health/pwc-healthbudgetresponse-2017.pdf

QSR International (2018). Nvivo 12 [Computer software]. http://www.qsrinternational.com

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. https://doi.org/10.3389/fpsyg.2015.00073

Reitzes, P. (Host & Co-founder), Jackson, E. (Co-founder), & Snyder, G. (Co-founder). (2007-present). StutterTalk [Audio podcast]. StutterTalk. https://stuttertalk.com

Riley, G. (2009). *The Stuttering Severity Instrument for Adults and Children (SSI-4)* (4th ed.). Pro-Ed.

Samson, I., Lindstrom, E., Sand, A., Herlitz, A., & Schalling, E. (2021). Larger reported impact of stuttering in teenage females, compared to males – A comparison of teenagers' result on Overall Assessment of the Speaker's Experience of Stuttering (OASES). *Journal of Fluency Disorders, 67*, 1–10. https://doi.org/10.1016/j.jfludis.2020.105822

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs.* (pp. 35-37). NFER-NELSON.

Smith, A., & Weber, C. (2017). How stuttering develops: The multifactorial dynamic pathways theory. *Journal of Speech, Language & Hearing Research, 60,* 2483-2505. https://doi.org/10.1044/2017_JSLHR-S-16-0343

Speech Pathology Australia. (2017). *Clinical guideline: Stuttering management.* http://www.speechpathologyaustralia.org.au/spaweb/Document_Management/Restricted/Clinical_Guidelines.aspx

Speech Pathology Australia. (2020). *Code of ethics*. https://www.speechpathologyaustralia.org.au/SPAweb/Members/Ethics/Code_of_Ethics_2020/SPAweb/Members/Ethics/HTML/Code_of_Ethics_2020.aspx?hkey=a9b5df85-282d-4ba9-981a-61345c399688

Stewart, T., & Richardson, G. (2004). A qualitative study of therapeutic effect from a user's perspective. *Journal of Fluency Disorders, 29*, 95–108. https://doi.org/10.1016/j.jfludis.2003.11.001

Tetnowski, J., & Damico, J. (2001). A demonstration of the advantages of qualitative methodologies in stuttering research. *Journal of Fluency Disorders, 26*(1), 17–42. https://doi.org/10.1016/S0094-730X(01)00094-8

Tichenor, S. E., & Yaruss, J. S. (2020). Recovery and relapse: Perspectives from adults who stutter. *Journal of Speech-Language-Hearing Research, 63*, 2162–2176. https://doi.org/10.1044/2020_JSLHR-20-00010

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. https://doi.org/10.1111/j.1467-9450.2009.00731.x

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups.

International Journal for Quality in Health Care, 19, 349–357. https://doi.org/10.1093/intqhc/mzm042

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. https://doi.org/10.1016/j.jvoice.2007.01.011

Venkatagiri, H. S. (2009). What do people who stutter want-fluency or freedom? *Journal of Speech Language and Hearing Research, 52*(2), 500–515. https://doi.org/ 10.1044/1092-4388(2008/07-0019)

Wampold, B. E. (2015). How important are the common factors in psychotherapy? An update. *World Psychiatry, 14*, 270–277. https://doi.org/10.1002/wps.20238

Wenn, J. (2017). *Development and testing of a metacognitive therapy for prolonged grief disorder: A randomized controlled trial* (Doctoral dissertation). https://espace.curtin.edu.au/bitstream/handle/20.500.11937/59668/Wenn%20J%202017.pdf;jsessionid=0CBF1AA9BDED2276138825B4A2167E2E?sequence=1

Whittingham, K., Sanders, M. R., McKinlay, L., & Boyd, R. N. (2016). Parenting intervention combined with Acceptance and Commitment Therapy: A trial with families of children with Cerebral Palsy. *Journal of Pediatric Psychology, 41*(5), 531-542. https://doi.org/10.1093/jpepsy/jsv118

World Health Organization. (2002). *Towards a common language for functioning, disability and health: ICF* (Report). http://www.who.int/classifications/icf/icfbeginnersguide.pdf?ua=1

Yairi, E., & Seery, C. (2011). *Stuttering: Foundations and clinical applications.* Pearson Education, Inc.

Yairi, E., Ambrose, N., & Cox, N. (1996). Genetics of stuttering: A critical review. *Journal of Speech, Language, & Hearing Research, 39*, 771-784. https://www.ncbi.nlm.nih.gov/pmc/articles/

Yaruss, J. (2010). Assessing quality of life in stuttering treatment outcomes research. *Journal of Fluency Disorders, 35*(3), 190-202. https://doi.org/10.1016/j.jfludis.2010.05.010

Yaruss, J. S., & Quesal, R. W. (2004). Stuttering and the International Classification of Functioning, Disability, and Health (ICF): An update. *Journal of Communication Disorders, 37*(1), 35-52. https://doi.org/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. http://www.ncbi.nlm.nih.gov/pubmed/16620945

Yaruss, J., & Quesal, R. (2016a). *Overall Assessment of the Speaker's Experience of Stuttering: Adult.* Stuttering Therapy Resources, Inc.

Yaruss, J., & Quesal, R. (2016b). *Overall Assessment of the Speaker's Experience of Stuttering: Teen.* Stuttering Therapy Resources, Inc.

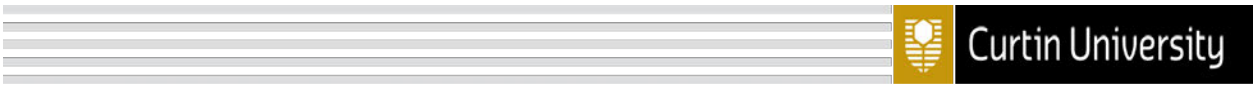
Zebrowski, P. M. (2016). The high cost of stuttering. *The ASHA Leader, 21*, 6–7. https://doi.org/10.1044/leader.FMP.21072016.6

Zebrowski, P. M., & Arenas, R. M. (2011). The "Iowa Way" revisited. *Journal of Fluency Disorders, 36*(3), 144–157. https://doi.org/10.1016/j.jfludis.2010.08.001

Zyzanski, S. J., McWhinney, I. R., Blake Jr, R., Crabtree, B. F., & Miller, W. L. (1992). Qualitative research: Perspectives on the future. In B. F. Crabtree, & W. L. Miller (Vol. Eds.), *Research methods for primary care* (pp. 231-248). Sage Publications.

Appendix A

Human Research Ethics Committee Approval



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18-Sep-2018

Name: Janet Beilby
Department/School: School of Occ Therapy, Social Work and Speech Path
Email: J.Beilby@curtin.edu.au

Dear Janet Beilby

RE: Ethics Office approval
Approval number: HRE2018-0624

Thank you for submitting your application to the Human Research Ethics Office for the project **An Integrated Fluency and Psychosocial Treatment for Adults Who Stutter: Addressing Stuttering and Self-Efficacy with Acceptance and Commitment Therapy**.

Your application was reviewed through the Curtin University Low risk review process.

The review outcome is: **Approved**.

Your proposal meets the requirements described in the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007).*

Approval is granted for a period of one year from **18-Sep-2018** to **17-Sep-2019**. Continuation of approval will be granted on an annual basis following submission of an annual report.

Personnel authorised to work on this project:

Name	Role

Beilby, Janet	Supervisor
Carter, Alice	Student
Breen, Lauren	Supervisor

Approved documents:

Document

Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
   - proposed changes to the approved proposal or conduct of the study
   - unanticipated problems that might affect continued ethical acceptability of the
   - project

   major deviations from the approved proposal and/or regulatory guidelines
   serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)
4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project
5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project
7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
8. Data and primary materials must be retained and stored in accordance with the Western Australian University Sector Disposal Authority (WAUSDA) and the Curtin University Research Data and Primary Materials policy
9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
11. Approval is dependent upon ongoing compliance of the research with the Australian Code for the Responsible Conduct of Research, the National Statement on Ethical Conduct in Human Research, applicable legal requirements, and with Curtin University policies, procedures and governance requirements
12. The Human Research Ethics Office may conduct audits on a portion of approved projects. **Special Conditions of Approval** None.

This letter constitutes low risk/negligible risk approval only. This project may not proceed until you have met all of the Curtin University research governance requirements.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely

Catherine Gangell
Manager, Research Integrity

Appendix B

Co-Author Attribution Statements

Attribution Statement for Paper 1 (Carter et al., 2019) - percentage contribution by field of activity:

	Conception and Design	Acquisition of Data	Analysis and Statistical Method	Interpretation and Discussion	Final Approval	Total % Contribution
Co-Author 1 Lauren Breen	X			X	X	10%

Co-Author 1 Acknowledgment:

I acknowledge that these represent my contribution to the above research output and I have approved the final version.

Signed: [redacted]

	Conception and Design	Acquisition of Data	Analysis and Statistical Method	Interpretation and Discussion	Final Approval	Total % Contribution
Co-Author 2 Janet Beilby	X			X	X	15%

Co-Author 2 Acknowledgment:

I acknowledge that these represent my contribution to the above research output and I have approved the final version.

Signed: [redacted]

Attribution Statement for Paper 2 (Hart et al., 2021) - percentage contribution by field of activity:

	Conception and Design	Acquisition of Data	Analysis and Statistical Method	Interpretation and Discussion	Final Approval	Total % Contribution
Co-Author 1 Lauren Breen	X			X	X	10%

Co-Author 1 Acknowledgment:

I acknowledge that these represent my contribution to the above research output and I have approved the final version.

Signed: [redacted]

	Conception and Design	Acquisition of Data	Analysis and Statistical Method	Interpretation and Discussion	Final Approval	Total % Contribution
Co-Author 2 Janet Beilby	X		X	X	X	15%

Co-Author 2 Acknowledgment:

I acknowledge that these represent my contribution to the above research output and I have approved the final version.

Signed: [redacted]

Appendix C

Study 2 – The fACTS Program – Clinician Workbook

The fACTS Program: Fluency + Acceptance and Commitment Therapy for Stuttering
Therapist Guidelines

Authors:
Ms. Alice Hart
Associate Professor Janet Beilby

School of Allied Health, Curtin University, Perth, Western Australia

This document outlines an integrated treatment approach intended for use by speech-language pathologists participating in a Curtin University study on the evaluation of the fACTS Program. The primary aim of the fACTS Program is to simultaneously target the behavioral and psychosocial components of stuttering in order to provide holistic care to adolescents and adults who stutter.

This document is strictly not for distribution or use outside of the fACTS Program Study approved by Curtin University, ethics approval number HRE-2018-0624.

Foreword

This treatment package is intended for use by speech-language pathologists participating in a Curtin University study on the evaluation of the fACTS Program and who are familiar with Acceptance and Commitment Therapy principles. The program was developed as part of the first author's doctoral research into improving psychosocial outcomes for adults who stutter. We believe that successful management of childhood-onset fluency disorders in adulthood requires an integrated approach that simultaneously addresses the behavioral and psychosocial components of the disorder in a supportive environment. The treatment activities are designed in such a way that clients can practice their fluency management techniques whilst participating in the Acceptance and Commitment Therapy (ACT) treatment components each week. The program was written by two certified practising speech-language pathologists.

The first part of this treatment package will provide you with a brief overview of traditional fluency management techniques and ACT. The second part of this treatment package will provide you with a framework to implement this integrated program in clinical practice. The framework is presented as an 8-week, 1-2hr x weekly, group intervention program for adults who stutter. However, the framework and the associated treatment activities may be adapted for use with individual clients. The third and final part of this package comprises the Appendix which houses the in-session and at-home practice materials that you will refer to each week – the appendices are named after the corresponding week of treatment (e.g., the resource for week one, activity three is titled "Appendix 1C", the resource for week 2, activity one is titled "2A" and so on).

You will receive a separate fACTS Program Client Workbook. Your client(s) should bring this workbook to each session as it contains an overview of each session and the relevant in-session and at-home practice materials. By printing this workbook for your clients prior to the commencement of treatment, you will not need to re-produce any of the session materials ahead of each session – however, they are included in the Appendix of this booklet for your reference.

If you are interested in learning more about Acceptance and Commitment Therapy, we highly recommend visiting Russ Harris' websites at: www.ActMindfully.com.au, www.TheHappinessTrap.com and www.ImLearningACT.com. The majority of ACT activities and worksheets contained within the client workbook (see Appendix) have been adapted from Russ Harris' freely available resources located at the aforementioned web addresses. The majority of illustrations contained within the client workbook were created by Louise Gardner – you can view her work via her Twitter account, @ACTAuntie.

If you have any questions about the information contained within this treatment package, please feel free to contact the first author at: Alice.Hart@postgrad.curtin.edu.au.

Thank you for your interest in being part of the evaluation of the fACTS Program, we hope you enjoy it! We will be in contact with you at the conclusion of the program to invite you to take part in a short interview at a time and location convenient to you to explore your experiences in using the Program.

Program Objectives

1. To provide holistic, integrated management of the behavioral (i.e., stuttering) and psychosocial (e.g., self-efficacy, communication attitudes, quality of life) components of childhood-onset fluency disorders for adults who stutter.
2. To provide speech-language pathologists working with adults who stutter with a basic framework for incorporating Acceptance and Commitment Therapy activities into clinical practice.

Overview of Traditional Stuttering Treatment

This treatment program combines principles from the two most common approaches to the behavioral modification of stuttering – fluency enhancement and stuttering modification. The second author has successfully combined fluency enhancement and stuttering modification techniques in clinical practice with adults who stutter for over 30 years with great success (Curtin University Stuttering Program for Adults [CUSPA], 2019). These behavioral techniques are well-documented with strong evidence for instilling fluency in the short-term (e.g., Blomgren, Roy, Callister, & Merrill, 2005; Ingham & Andrews, 1973; Howie, Tanner, & Andrews, 1981; Langevin et al., 2006). However, durability and maintenance of gains for both treatments remains a significant challenge with relapse occurring in 30-60% of cases (Howie et al., 1981).

1. Fluency Enhancement/Fluency Shaping/Prolonged Speech/Smooth Speech
    a. The overall aim of fluency enhancement strategies is controlled fluency.
    b. This is achieved via modification to the articulatory and phonatory gestures required for speech production to produce a speech pattern incompatible with stuttering, rather than modifying instances of stuttering.
    c. Strategies are based on the parameters of forward-moving speech described by Williams (1975), including a rate control component:
        i. Continuous airflow – continuous airflow through the glottis, no vocal cord adduction, 'breathy' onset of syllables and words.
        ii. Soft articulatory contacts – use light contact of the articulators to reduce tension in the speech mechanism.
        iii. Linkage and gliding between words – reduce jerky phonatory movements and 'on/off' speech quality.
2. Stuttering Modification/Easier Stuttering
    a. The aim of stuttering modification is for the client to learn to stutter in a new, easier way that is acceptable to them through reducing tension. This includes strategies to reduce negative communication attitudes, increase acceptance of stuttering, and increase self-acceptance.
    b. Stuttering modification strategies are learned in stages.
        i. Identification phase.
            1. Symptom analysis - clients work on identifying and describing moments of stuttering, including the overt (e.g., repetitions, prolongations, blocks) and covert (e.g., negative reactions, thoughts) characteristics and any secondary behaviors (e.g., eye-blinking, facial tension, grimacing).
        ii. Desensitization phase.
            1. Pseudostuttering – also known as 'voluntary stuttering', clients are encouraged to stutter on purpose. This allows the client, not the stutter, to be in control and teaches that stuttering can happen without negative reactions.
        iii. Modification phase.
            1. Cancellations – clients finish the stuttered word, pause, and then repeat the same word in an easier way with less tension (e.g., if a client blocks on the word 'but', they may pause and say 'b-but' in an easier manner). This technique is used to modify the stutter *after* it has occurred.
            2. Pull-outs – clients hold their position when stuttering on a word, then relax their speech mechanism and complete the word with less tension. This technique is used to modify the stutter *while* it is occurring.
            3. Preparatory sets – clients anticipate a moment of stuttering and try to get their articulators into position *prior* to the stutter occurring.
            4. **Note**: Strategies in the 'Modification Phase' are taught in the above order but should be applied in real-life situations in the reverse order.
        iv. Stabilization Phase:
            1. Practice and monitor speech to encourage automaticity of techniques.

The above information has been adapted with thanks from Beilby (2019), CUSPA (2019), Manning and DiLollo (2018), and Yairi and Seery (2011).

Overview of Acceptance and Commitment Therapy

Acceptance and Commitment Therapy, more commonly known as "ACT", is a new wave of behavioral psychotherapy that promotes psychological flexibility and experiential acceptance in order to create a rich and meaningful life. It must be stated that the primary aim of ACT is not symptom reduction; rather, ACT promotes positive experiential living guided by an individual's core values (Harris, 2009). Symptom reduction is often noted post-treatment; as the individual accepts more (and struggles less) with their disorder. Psychological flexibility is at the very heart of ACT and rests upon six core processes: contacting the present moment, cognitive defusion, acceptance, self-as-context, client values, and committed action. These core processes, described briefly below, interact in complex ways to create the "ACT Hexaflex" (see Figure 1).

1. *Contacting the present moment* refers to the "here-and-now" process of flexibly directing focus or awareness (inward to our psychological world or outward to the physical world) in order to engage completely with what is happening at a given moment in time.
2. *Cognitive defusion* refers to the process of disengaging from one's thoughts and relinquishing the control these thoughts have on your actions.
3. *Acceptance* refers to the process of "opening up and making room for painful feelings, sensations, urges, and emotions" (Harris, 2009, p. 9). Acceptance does not mean that the individual 'likes' or 'wants' these things but instead chooses not to let them become all-consuming.
4. *Self-as-context.* ACT theorists recognize the human mind as two entities: the thinking self and the observing self. The 'thinking self' is responsible for our thoughts, memories, perceptions, and decisions, whereas the 'observing self' simply notices and brings awareness to these things in any given moment. While the 'thinking self' may change, the 'observing self', or 'self-as-context', remains constant and observing throughout our lives.
5. *Values* refers to "chosen life directions" in ACT (Harris, 2009, p. 10) as they relate to the things in life that matter most to the individual. Values act as the driving force that guides individuals on the path to creating a rich and meaningful life.
6. *Committed action* refers to taking action that is consistently congruent with one's values, no matter the action or the feelings (pleasant or otherwise) that accompany the action, in order to create a personally meaningful life for oneself.

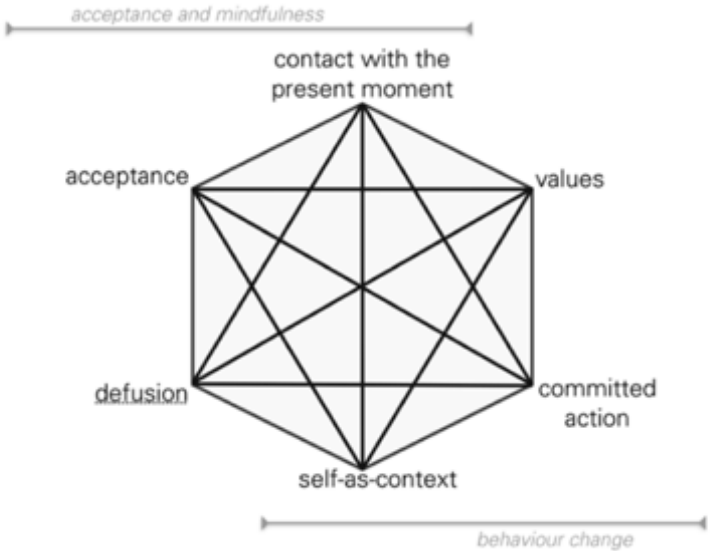

Figure 1. The ACT Hexaflex (Hulbert-Williams et al., 2016). Retrieved from https://www.researchgate.net/publication/304630291_Contextual_behavioral_coaching_An_evidence-based_model_for_supporting_behavior_change/figures

Additional Information and Tips Before You Start

Before the Program

- ⇒ Providing your clients with the 'fACTS Program: Client Workbook' prior to the commencement of treatment means that you will not need to re-produce any of the session materials ahead of each session – although, they are included in this package for your reference.
- ⇒ Some of the intervention sessions require audio and visual technology (e.g., for listening to mindfulness exercises, watching video explanations/demonstrations).
- ⇒ All sessions begin with the practice of fluency techniques. Many clients are likely to have received some form of speech pathology intervention in the past and are therefore likely to be familiar with the fluency techniques taught in this program. The fluency exercises are considered 'safe territory' for the clients and will be practiced before learning the new ACT skills each week. This also provides the clients with an opportunity to continue practicing their fluency techniques during the ACT activities.
- ⇒ For clients who have received fluency intervention in the past, it is at the discretion of the treating therapist to determine the hierarchy of fluency tasks (e.g., to start at single word versus discourse level). These decisions should be based on your clinical experience and professional judgement, as well as consultation and collaboration with the client.
- ⇒ Participants in this clinical trial completed several baseline measures:
    - %SS (stuttering frequency)
    - Self-Efficacy Scale for Adult Stutterers (SESAS; Ornstein & Manning, 1985; self-efficacy for verbal communication)
    - Overall Assessment of the Speaker's Experience of Stuttering (OASES; Yaruss & Quesal, 2006; psychosocial impact)
    - Acceptance and Action Questionnaire 2 (AAQ-2; Bond et al., 2011; psychological flexibility)
- ⇒ The treating therapist should determine appropriate baseline and follow-up measures based on their clinical experience, professional judgement and available evidence in order to measure treatment success.

During the Program

- ⇒ Taking a brief case-history is important from an ACT perspective – we want to learn two key things to effectively guide therapy, and you will notice this in Week 2:
    - 1) What valued direction does the client want to move in? (i.e., values clarification)
    - 2) What currently stands in the client's way? (i.e., barriers to mindful, valued living)
- ⇒ When assisting client(s) to formulate ACT goals, remember that we want to make our goals "live person's goals" as opposed to "dead person's goals". For example – a "dead person's goal" is anything that a corpse could do better than a live human being – like never feeling sad, never having a panic attack, never yelling at their children. For example, "I want to stop feeling anxious when speaking to my colleagues" is a "dead person's goal". On the other hand, "I want to engage more with my colleagues" is a "live person's goal". To make a "live person's goal", think about what you *would be doing differently* – what would you do more of or start doing?
- ⇒ We will often ask clients to focus primarily on one aspect of their private experience (e.g., thoughts, feelings, sensations etc.) at a time – this is simply to teach them an important skill for daily life. The purpose of this skill is to highlight that when distressing thoughts or feelings arise, we can accept and make room for them as just *one* aspect of our awareness, rather than something that dominates it.
- ⇒ When practicing the ACT skills each week, we may ask clients to bring up an unwanted private experience (e.g., a thought or emotion) related to stuttering – this might be thoughts of inadequacy, worthlessness, or feelings of shame and anxiety. Remind clients that they do not have to do this if they do not want to – but the more they practice these skills, the more benefit they will get.
    - It may even be helpful to have client(s) envision the 'worst case scenario' in stuttering and guide them through this situation to see that they can still take valued action.
- ⇒ "Acceptance" may be a confusing concept to grasp early on, or some clients may simply not like the term. Rather than encouraging clients to "accept" thoughts/feelings/sensations as they are, try using language like "You don't have to like it, want it, or approve of it – but simply…
    - … allow it to be (simply because it already is);
    - … give it permission to be here;
    - … let go of the struggle with it;
    - … stop fighting with it;
    - … expand and make room for it;
    - … open up around it;
    - … open up and breathe into it;
    - … stop using up your energy to push it away."

⇒ Mindfulness exercises have a simple formula – have a go at making your own mindfulness exercises!
    - Start with focusing on an 'anchor' – e.g., the breath or the body;
    - Shift focus to another aspect of experience – e.g., sounds or sensations;
    - Then expand to become aware of multiple aspects of experience at once – e.g., sounds, thoughts, posture, breathing, sensations etc.

⇒ Remind clients that it's OK for their mind to 'wander' during mindfulness exercises – this is natural for all of us. When it does happen, encourage them to notice that their attention has strayed, acknowledge what it was that distracted them, and then bring their attention back to the present.

⇒ Remember that the purpose of mindfulness exercises is not relaxation or elimination of thoughts/ feelings and so on – these are all part of the control agenda. The point is to contact the present moment and "be here now" – sometimes thoughts/feelings will show up and try to hook client(s), but we will teach them valuable skills to unhook and defuse from their thoughts and expand around uncomfortable feelings.

⇒ Acceptance exercises also have a simple formula. The quick formula for emotional acceptance is:
    - Observe: Bring awareness to the feelings or sensations in your body.
    - Breathe: Take deep breaths. Breathe into, and around, the feelings or sensations.
    - Expand: Create space for the feelings and sensations - make room for them.
    - Allow: Let the feelings or sensations be there. Make peace with them.

⇒ We have provided a script for many of the activities – please feel free to play with the script and use language that you are comfortable with.

⇒ Read through all task explanations and exercises slowly with +++ pausing.

⇒ Remember to de-brief all ACT exercises.

⇒ The week 1 fluency activities are outlined considering a client with limited or no speech pathology intervention in the past – feel free to tailor the fluency therapy to the level that your client is currently at.

Week 1
Fluency: Introduction to Fluency Management Techniques
ACT: Introduction to ACT and Values

1. Therapist Introduction & Housekeeping

   Therapist(s) to introduce themselves to client(s) and share a little bit about themselves (*e.g., name, background, where you're from etc.)*.

   Therapist to discuss group expectations if required.

   Therapist to provide client(s) with a copy of the "Client Workbook" to bring to each session.

2. Client Introduction

   Invite client(s) to introduce themselves to therapist(s) and each other and share a little bit about themselves (*e.g., name, background, hobbies/interests, insights from their stuttering journey etc.)*.

3. Introduction to Fluency Management Techniques

   At this stage, the therapist may wish to incorporate their own typical introductory spiel *(e.g., providing education about stuttering origin, treatment techniques, stages of therapy, spontaneous vs controlled fluency, mild vs acceptable stuttering and so on)*.

   Speak with client(s) and explore what happens when they stutter *(e.g., primary and secondary behaviors, thoughts, feelings, reactions, perceived listener reactions).*

   Provide overview of "Fluency Enhancement" techniques. Introduce "Fluency Enhancement" techniques individually, demonstrate to client(s), and provide client(s) with an opportunity to practice with a peer. Re-group and repeat with "Stuttering Modification" techniques. Demonstrate techniques and encourage practice at a **sound in isolation, syllable and/or single word level** as appropriate.

   Therapist to move around the room and provide feedback to client(s) on fluency management techniques. Therapist to ask client(s) to share which technique(s) resonated with them personally and the techniques that they would like to continue to practice. Therapist to recommend any additional strategies dependent on client presentation. Take note of individual client preference and therapist recommendations for later use.

4. Introduction to ACT

   a. Introduction to ACT and Informed Consent.

   "In addition to the fluency techniques that we have discussed, we are also going to be working together to use a type of therapy called "Acceptance and Commitment Therapy", more commonly known as ACT. The name reflects a key message: accept the things that are out of your personal control and commit to action that improves your life. In these sessions, we help you to learn new skills that will allow you to handle thoughts, feelings, and sensations more effectively, so that these things have less impact and influence over your life. A key part of this therapy involves your active participation to learn these skills each session, and then take them home and practice them in-between sessions. You don't have to do that, of course - but like most things, the more you practice, the more benefit you will get.

   ACT also involves clarifying your values – these are the things that matter most to you. They include what you want to stand for in life, the strengths and qualities that you want to develop, and how you want to treat yourself and others around you.
   ACT also involves taking action to solve problems, face challenges, and do things that enrich your life. Importantly, we want you to leave each session with an action plan – something practical to take home and use to enrich your life.

   Sometimes therapy might feel like a bit of a roller-coaster ride, but know that during those times, we will be sitting here, right beside you, as will everyone else in this group. We might ask you at times to try new things that may pull you out of your comfort zone – like learning new skills to handle difficult thoughts and feelings – but you never have to do them. You are always free to say no to anything we suggest. Now, I know that we have given you a lot of information – but is everyone open to giving this a go?" (wait for response).

b. "Mountain Metaphor" & Pressing Pause.

"A lot of people might come to a therapy like this and assume that the therapist has no issues of their own and has everything together. But I don't pretend to have all of the answers – you can think of it like this: You and I are both climbing our own mountains. You're on this mountain over here, and I'm across the valley over here on my own mountain. No one is higher up the mountain than the other – we both have our own obstacles to face. But over here, from my mountain, I can offer you some perspective on the path you are travelling. I might be able to see obstacles that might lead you to slip or see a different path that you can take.

So, my job here is to provide you with the perspective that helps you travel on the path where you really want to go. But I'd hate for you to think I've reached the top of my own mountain and I'm just sitting back, taking it easy. Basically, we are all the same – we are all climbing every day. But the thing is – you can get better and better at climbing, and better at learning to appreciate the journey. And that's what the work we do together will be about. So, is everyone willing to try something a little bit different?

Last of all, can I have everyone's permission to "press pause" every now and then in the sessions? So, if I see you doing something that looks like it might be helpful in dealing with your problems and improving your life, can I slow the session down a bit and get you to notice what you are doing? Or, on the other hand, can I "press pause" if I see you doing something that contributes to your problems so that we can slow down and address it together? (wait for response). *Is everyone willing to give this a go?"* (wait for response).

5. Overview of ACT - Choice Point

Direct client(s) to the "Choice Point" activity (see Appendix 1B).

Therapist to draw the Choice Point on the whiteboard and explain each segment to the client(s) as it is being drawn.

"I'd like to draw something for you – a bit of a road map for helping us to work together effectively over the next few weeks. Essentially, everyone in the world is always doing "something". We eat, drink, walk, talk, sleep, play – always something. Even if it's just staring into space – that's still something.

Some of the things that we do are pretty useful and help us move towards the life that we want for ourselves. Let's call these things "towards moves". Towards moves are basically the things you want to start doing, or do more of. When we are doing these towards moves, we are acting effectively, behaving like the sort of person we want to be, and doing things that are likely to make our lives rich and fulfilling.
(Draw arrow and write: "Towards Moves").

The problem is – that's not all we do. There are other things that we all do that have the opposite effect – they take us away from the life we really want to build for ourselves and all the things we want to do. Let's call these things "away moves". When we are doing these away moves, we are acting ineffectively, behaving unlike the person we want to be, and doing stuff that tends to make things worse in the long run.
(Draw arrow and write: "Away Moves").

These away moves are hopefully things that you will do less and less over the coming weeks. And this applies to us all – right? All day long, we each do our own towards and away moves, and it changes from day-to-day, moment-to-moment.

Let's think about this related to stuttering. When your stuttering isn't getting in the way and things are going okay, when you're getting where you want to go in life, it's a lot easier to choose the towards moves. But as you know, it's not always like that – sometimes your stuttering gets in the way and some of the time it stops you from getting where you want to go. So, throughout the day you're going to encounter all sorts of difficult situations, and difficult thoughts and feelings are going to arise.
(Write: "Situation: Stuttering" and then "Thoughts & Feelings" underneath).

The unfortunate thing is, our default setting as human beings is to get "hooked" by difficult thoughts and feelings when they show up. These thoughts and feelings can hook us, reel us in, jerk us around, and pull us all over the place. Do you ever feel like that? They might hook us physically so we respond in various ways with our arms, legs, and our mouth. Or they might hook our attention so instead of

focusing on the task at hand, we get lost in our inner world. The more tightly we're hooked, the more we do those away moves.
(Write: "Hooked" alongside the 'away moves' arrow).

Everyone does this stuff to some extent – it's a normal part of being human. No one's perfect. But if this kind of thing happens a lot, it can create problems. However, there are times when we are able to unhook ourselves from these difficult thoughts and feelings and do towards moves instead. And the better we can get at unhooking – the more we can do the things we want to do.
(Write: "Unhooked" alongside the 'towards moves' arrow).

So when we are in these challenging situations, and these difficult thoughts and feelings arise, there's a choice we can make – how are we going to respond to them? The more hooked we get, the more likely we are to do away moves. But the more we can unhook ourselves, the more we can do towards moves.
(Write: "Choice Point" where the 'away' and 'towards' arrows converge)

If we want to get better at doing towards moves, we need to do two things: Learn some unhooking skills, and get clear about the towards moves we want to make. Once that's in place, we've got more choice about how to respond to the difficult things – in this case, stuttering. And that's basically what this therapy is all about – learning how to unhook from this stuff (point to thoughts and feelings), *learning how to cut back on this stuff* (point to away moves), *and helping you get better at doing this stuff* (point to towards moves)."

Client(s) to complete "Choice Point 2.0". See Appendix 8C. This worksheet serves to reinforce all ACT concepts and will assist client(s) to develop an action plan. Therapist to walk around the room to facilitate.

6. Introduction to Values

"Values are your heart's deepest desires for how you want to behave as a human being. They aren't concerned with what you want to get or achieve – but values are about how you want to behave on a daily basis. There are hundreds of values, and everyone is different – no value is 'right' or 'wrong'. Think of it like your taste in pizza – I like ham and pineapple, and you might hate pineapple – but it just means we have different tastes. And that's okay. And we may have different values too, and that's just fine. I want you to spend some time at home this week, thinking about your values. Please complete the worksheet "A Quick Look at Your Values" for us to discuss together next week.

Note: there is no need for client(s) to defend their chosen values or rationalise why they are important.

7. De-Brief and Homework

a) Re-cap fluency management techniques and encourage home practice of techniques at an **individual sound, syllable, and/or single word level.** See client workbook (Appendix 1A) for word lists.
b) Re-cap essence of ACT.
c) Clients to complete the "A Quick Look at Your Values" (Appendix 1C) and "Bullseye" (Appendix 1D) worksheets in their workbook ahead of next session. It may be helpful for client(s) to reflect on their completed "Choice Point" (Appendix 1B) when completing the "Bullseye".
These worksheets will provide the therapist with a sense of (1) what valued direction the client wants to move in, and (2) what currently stands in the way of this to enable setting of behavioral treatment goals in the next session.
d) Direct clients to the "Informal Mindfulness Practice" handout (Appendix 1E).

Week 2
Fluency: Instatement Phase
ACT: Goal-Setting and Introduction to Mindfulness

1. Practice of Fluency Management Techniques

   Re-cap fluency management techniques from previous week. It may be helpful to write these on the white board and suggest the most appropriate context for each technique.

   Check-in with client(s) to identify issues with home practice of fluency techniques at an individual sound/syllable, or single word level. Provide corrections/suggestion as needed.

   Client(s) to practice fluency management techniques in structured task at single word and phrase level (either with peers or 1:1 with therapist). See Appendix 2A for resources.
   Therapist to emphasise the features of each fluency technique and provide advice to client(s) on implementation of the techniques.

   Encourage client(s) to continue practice of fluency management techniques when participating in group discussions during ACT exercises.

2. Re-cap of Previous Session

   Re-cap introduction to ACT.
   (e.g., an active therapy that doesn't aim to get rid of uncomfortable thoughts and feelings, but instead provides us with new skills to handle them more effectively and do the things that matter to us).

3. Case Conceptualisation & Establishment of Treatment Goals

   Refer to client(s) completed home practice worksheets - "A Quick Look at Your Values" and "Bullseye". Thank client(s) for completing of worksheets. Check-in with client(s) to identify any issues that arose when completing the worksheets.

   Explore with client whether or not stuttering has ever interfered with living life according to their personal values. Commence early goal-setting process.

   *"In order to move forward now with ACT, let's talk about what you want to get out of this therapy. Let's have a look at the "Bullseye" you completed during the week. If you had to pick just one of these life domains to work on, which would it be? How has your stuttering impacted this? What kind of changes do you wish to make in this area of your life? And how do you want to improve it? I want you to really think about and focus on what you want to **do**, not necessarily how you want to **feel**."*

   You may wish to use the "Magic Wand" Metaphor to turn emotional/behavior cessation goals into values-congruent goals.

   "Let's suppose I had a magic wand here – I wave this wand, and all the thoughts and feelings that you struggle with related to your stuttering are no longer a problem for you. What would you then do differently? What things might you start doing, or maybe do more of? How would you behave differently towards others or yourself?"

   Therapist to move around the room and assist clients to formulate behavioral treatment goals. Goals to be recorded in client workbook using Appendix 2B ("My ACT Goals"). Re-group and broadly summarise treatment goals.

4. Introduction to Mindfulness

   Reflect back on "away moves" and problematic behaviors. These problematic behaviors can be linked back to (1) getting tangled with thoughts, (2) struggling with feelings, and (3) unworkable actions. Therapist to point out that (i) thoughts and feelings are not the problem – but getting caught up in them (fusion) and struggling with them (avoidance) is problematic and (ii) thoughts and feelings do not control our actions.

   "By being more mindful of our thoughts and feelings, we can start to become aware of when our mind is hooking us. The more we become aware of this, the easier it will be for us to unhook from this – remember the choice point? The more effective we get at unhooking, the easier it will be for us to choose towards moves."

a. **"Dropping Anchor"**

"So, we have identified something very important – our thoughts and feelings are not the problem – instead, the problems occur when we get hooked on, or tangled up with, our thoughts and feelings and struggle with them. In the rest of this session and the weeks to come, we are going to start learning some new skills to help us better handle uncomfortable thoughts and feelings and take action that brings us closer to our values. This next exercise we are going to do, we call "Dropping Anchor" – and it's a really useful tool to use if you ever feel yourself getting swept up by your thoughts and emotions when you are stuttering. In an emotional storm, thoughts and feelings can whirl around in your mind and body, and drag you here, there, and everywhere. And you can't do anything useful until you drop an anchor.

In order to demonstrate this, I'm going to ask you to do something that might be a little bit difficult – to think about some uncomfortable thoughts or feelings you have when stuttering, or the worst-case scenario when you are stuttering. Now you don't have to do this if you do not want to. If you are willing to give it a go, I want you to bring up an uncomfortable thought or feeling that bothers you when you are stuttering. Allow yourself to get all caught up in that thought or worst-case scenario.

Now, I want you to plant your feet into the floor. Push your feet down – notice the floor beneath you, supporting you. Feel the carpet through your shoes. Notice the muscle tension in your legs as you push your feet down. Notice your strength. Now notice your entire body – notice the feeling of gravity flowing down through your head, your spine, and legs into your feet. Now look around and notice what you can see and hear around you. Notice five things you can see, and five things you can hear. Notice where you are. Notice what you are doing. Clench your fists. Then flex your fingers. Shrug your shoulders. Wiggle your toes. Take a deep breath in through your nose, out through your mouth. Do this again. Notice that you are the one in control. Notice that even in the presence of uncomfortable thoughts or feelings, you are here, and in this moment, you are in control."

DE-BRIEF EXERCISE

5. <u>De-Brief and Homework</u>

a) Re-cap session activities.
b) Practice fluency management techniques and encourage home practice of short phrases and sentences. See Appendix 2C for lists.
c) Client(s) to complete "Mindfulness of Away Moves" Worksheet in their workbook. See Appendix 2D. Now that the client has identified their common "away moves", we can incorporate some mindfulness techniques in order to:
    i. Enhance client(s) self-awareness of what thoughts/feelings/sensations they are trying to avoid by having them notice their thoughts and feelings **before** engaging in an "away move" (e.g., avoiding answering the door/telephone, declining/cancelling a social engagement etc.).
    ii. Enhance client(s) self-awareness of their thoughts/feelings/sensations **during** engagement in an "away move". Simply practicing mindfulness skills and bringing attention to the behavior may be enough to disrupt it.
d) Listen to Russ Harris' audio recording of "Dropping Anchor" (7 minutes) via www.actmindfully.com.au/free-stuff/free-audio/. Encourage client(s) to try the longer and shorter versions, too.
e) Practice "Dropping Anchor" technique once a day during the week when client(s) feel themselves caught up in an emotional storm. You can find a script for "Dropping Anchor" in Appendix 2E.

Week 3
Fluency: Instatement Phase
ACT: Confronting the "Control Agenda" & Acceptance

1. Practice of Fluency Management Techniques

Check-in with client(s) to identify any issues with home practice of fluency techniques. Provide solutions and guidance where necessary.

Client(s) to demonstrate home practice of fluency techniques using the sentence list and short paragraphs provided in the client workbook (see Appendix 3A and 3B).

Client(s) to move on to practice of simple conversational utterances (see Appendix 3C).

Encourage client(s) to continue practice of fluency management techniques when participating in group discussions during ACT exercises.

2. Mindfulness Exercise

"5-5-5" Exercise
"Now, I'd like you to pause for a moment. Look around the room. Notice five things you can see. Now listen carefully. Notice five things you can hear. Now, pause and notice five things you can feel in contact with your body – this might be your jeans against your leg, your feet on the floor. Finally, notice all of these things simultaneously."

De-Brief Exercise
"This is another simple exercise that will help you to centre yourself and engage more fully with your environment. Try to practice this during the day, especially if you find yourself getting swept away by your thoughts and feelings."

3. Re-cap of Previous Session and Homework

Check-in with client(s) to see how they felt about practicing mindfulness at home – what worked and what didn't? Did the exercises make any difference? If not, what got in the way? What happened when they practiced the exercises?
Suggest alternative exercises if necessary.

4. Addressing the "Control Agenda" – Why is Control a Problem?

a. **"Creative Hopelessness" Exercise**
The purpose of this exercise is to confront the agenda of emotional control (i.e., the tendency to believe that changing/getting rid of uncomfortable thoughts/feelings is the answer to having a good life). This so-called "control agenda" often leads to high experiential avoidance, which we know to be common for adults who stutter. We want to encourage the "acceptance agenda" instead.

Ask client(s) to write down the private experiences that they struggle with – e.g., what thoughts/ emotions/sensations do they want to avoid or get rid of? See Appendix 3D.

Note: terms like "depression" are not a thought or feeling – we are interested in the many different thoughts/emotions/memories/sensations that this term refers to. Invite clients to share their responses with the group and write responses on a whiteboard. Be sure to validate all responses.

i) Step One: What Have You Tried?
"Thank you for sharing some of the private experiences related to stuttering that you struggle with. All of us, naturally try to get rid of uncomfortable or painful thoughts and feelings – we are only human after all! The aim of this exercise is to get you thinking about the methods you currently use to escape or avoid these private experiences, and what effects these methods may have had in the long-term. The aim is to consider whether these methods are workable *– i.e., do they help you in the long-term to have a rich and meaningful life? Please do this exercise non-judgementally – there is no right or wrong, and no method is good or bad – treat this exercise with openness and genuine curiosity."*

Therapist to write the D.O.T.S acronym on the whiteboard and fill in as you speak.

"Some of the common methods you might use to escape or avoid uncomfortable thoughts or feelings related to stuttering include: distracting yourself, opting out of things, thinking

strategies, and other strategies. Have you ever tried distracting yourself from feelings of XYZ? What are the different ways you've tried? How about opting out? Have you ever withdrawn from an activity to avoid XYZ? What about thinking? Have you ever tried to talk logically and rationally to yourself to avoid XYZ? And then there's substances and other strategies. Has anyone ever tried self-help books, or over-eating to avoid XYZ?"

Client(s) to work through "Joining the D.O.T.S" worksheet in their workbook (Appendix 3E). Therapist to walk around and facilitate as necessary.

ii) Step Two: How Has That Worked?
Be sure to respectfully validate the methods that client(s) have used in the past.

"I can see that you've put a lot of time, effort, and energy into trying to get rid of XYZ thoughts/feelings about stuttering. And that's difficult. Am I correct in saying that most of those methods have given you some short-term relief from XYZ? But in the long-term – has anything you've tried gotten rid of XYZ for good? How long do you get relief before XYZ returns? Then what happens?"

iii) Step Three: What Has it Cost?
"You've put in all the hard-work to try to avoid or escape XYZ. But what has it cost you? What has it cost you in terms of time, work, health, money, energy, relationships, missing out, giving up on important things? …. Doing all this stuff to get rid of XYZ has really cost you, it's taken a huge toll on ABC."

"Overall, would you say that the time and energy you have spent struggling with XYZ has increased or decreased over time? Overall, would you say that the impact of XYZ on your life and wellbeing is getting lesser or greater over time?"

iv) Step Four: What's That Like for You?
"Let's take a moment to reflect. You've tried so hard, for such a long time, to get rid of XYZ. And you've tried many ways to get short-term relief. But in the long-term, it keeps coming back. And all of this stuff that you're trying, is really taking a toll on your life. What's that like for you?...."

Be sure to respond with +++ compassion and validate client(s) responses.

"That must be really rough. It's a hard realization. It hurts. I know you've tried really hard here – no one can say that you haven't put in the time or effort. And of course, you've tried all this stuff! So many of the things you've tried are recommended by therapists, doctors, society in general, self-help books, well-meaning family and friends. And yes, these methods work in the short-term as you've seen. But unfortunately, in the long-term, they don't – and the struggle with XYZ remains.

"You might be feeling some uncomfortable things right now. And that is a perfectly normal reaction when we realize that all of the things we've been trying really hard at, aren't working."

It's important to introduce self-compassion here.

"Take a moment, close your eyes. What are you feeling right now? Where are you feeling it? What does the feeling look like? Give it a shape, give it a colour. Give it a name – 'There's sadness, there's frustration, there's hopelessness'.

Open your eyes now and look down at your hands. Imagine you could fill your hands with warmth and compassion. Fill them up to the brim. Now close your eyes again. Place your hands over the place where you are feeling strong emotions. Let your hands sit there. Let your hands infuse some warmth and compassion into that feeling. Now see if you can change the colour of that feeling. Change the shape of it. Can you move it around? Can you just let it sit there?

Come back to the exercise now, and think about what you might say to someone you love, if they had been caught in the same trap as you for so long, and they were feeling the way you are feeling right now?"

v) Step Five: Are You Open to Something Different?

"You've struggling with XYZ for so long. The costs have been huge. Are you open to trying something a little bit different with me here today? Something that might work better in terms of building a better life? It's a very different way of dealing with XYZ – it's radically different to anything else you've ever tried."

If client(s) are open to a new approach, we can move onto our next exercise.

5. Introduction to Acceptance/Willingness

"Pushing Away Paper" Exercise
Ask client(s) if they have any neck/shoulder issues. If not, proceed to exercise.

"*Imagine in front of you is everything that matters: the people, places, activities you love. And all the real-life problems and challenges you need to deal with. (e.g., study, financial issues, health issues). And all the tasks you need to do to make your life work (e.g. looking after your family, doing your tax return).*

Now I want you to pick up the piece of paper where you have written down the things that you struggle with. On this piece of paper is all the thoughts & feelings you don't want. Take it in both hands, and push it away from you, as hard as you can! Straighten your elbow. Push hard. Get it as far away as you can. That's it, keep pushing."

Encourage pushing ideally for at least a minute – but titrate as needed.

"Now keep pushing there and notice 3 things:
1) How tiring is it?
2) How distracting is it? How difficult is it to fully engage or connect with the things and people that matter? How difficult is it to keep your attention focused on the task at hand or the problem you face?
3) How difficult is it to take action, to do the things that make your life work?

Now stop pushing the paper away. Instead, I want you to hold the paper right in front of your face so that you can't see me anymore (therapist to demonstrate). *Hold it tightly. What's it like trying to engage with me right now while you're all caught up in XYZ? Do you feel connected with me? Can you read my facial expressions? If I got up right now and started tap-dancing, would you be able to see it? What is your view of the room like right now? You're missing out. Notice, that while you're all caught up, you're missing out on a lot. You're disconnected from me and the world around you. What if I asked you to cuddle a baby, hug your loved ones, or drive a car right now while you're holding on tightly to all of this – could you do it?*

So, while you're caught up in all this stuff, how hard is it to take action and do the things that make your life work? You lose contact with the world around you and with yourself.

Now let's try something else. Please rest the paper on your lap. (Pause). *Now, how much less effort is that? How much easier is it to engage and connect, or keep your attention focused on the task or problem facing you? Move your arms and hands around* (therapist to demonstrate) - *how much easier is it now to take action? If I asked you to cuddle a baby, hug a loved one, or drive a car – could you do it with this paper in your lap?*

And notice your thoughts & feelings haven't disappeared (point to the paper as you say this). *But you have a new way of responding to them, so they don't hold you back or tie you down or stop you taking effective action and engaging in your life. And of course, if you can use them, do so. Thoughts and feelings often give us important information we can make good use of. But if not, you just let them sit there.*

So, in the past – we've been holding our thoughts and feelings tightly, and the struggle is exhausting. But moving forward – let's try to hold our thoughts and feelings lightly."

"Dropping Anchor" Exercise
"It's been a big day today. No doubt we have touched on some uncomfortable thoughts and feelings. But we have also paved the way to move forward. Before we leave today, I want to make sure that we weather the emotional storm together. So please follow my instructions. Push your feet hard into the floor. Sit nice and straight in your chair. Press your fingertips together, move your elbows, roll your shoulders forward and back. Feel your arms moving, all the way from your fingers to shoulder blades.

Now, notice, there's a lot of uncomfortable thoughts and feelings here that you've been struggling with and may be struggling with right now. And... there's also a body around that pain – a body that you can move and control. Take a moment to notice your whole body now – notice your hands, notice your feet, notice your back. Reach up and have a stretch. Press your feet firmly into the floor and try to feel the carpet through your shoes.

Now, look around the room and notice 5 things you can see. And also notice 3 or 4 things you can hear. And also notice you and I, and your peers, working here together, as a team.

So, notice, there could be something very painful or uncomfortable here that you're struggling with and... also notice your body in the chair… move it... have a stretch... take control of your arms and legs. And also notice the room around you. And there's all of us here, working together as a team. Notice again there might be uncomfortable thoughts or feelings. And notice there might also be some good thoughts or feelings. And notice your body. Wriggle your toes, flex your fingers. Notice that you are here, and you can move and take control. Notice that all of these things can still be here, but you can still do what you need to do. "

6. <u>De-Brief and Homework</u>

a) Debrief ACT exercises for the day.
    a. Do you notice any difference now? Are you less caught up in the emotional storm (or 'difficult thoughts and feelings')?
    b. Are you less swept away or pushed around?
    c. Is it easier for you to engage with me, to be present, to focus?
    d. Do you have more control over your actions? Over your arms and legs and mouth?
    e. How could the exercises that we've done be helpful outside the room?
b) Continue practice of fluency management techniques at a sentence and short paragraph level. Use Appendix 3A and 3B utilized in-session for resources or supply additional resources.
c) Select a conversation partner (e.g., family member, partner, friend, neighbour, acquaintance) and practice fluency techniques in simple conversation. See Appendix 3C for example topics.
d) Practice fluency techniques in an extended reading passage. See Appendix 3F. Encourage client(s) to utilize other resources at home (e.g., book, newspaper, magazine etc).
e) Practice "Dropping Anchor" technique once a day during the week when client(s) feel themselves caught up in an emotional storm. You can find a script for "Dropping Anchor" in Appendix 2E.
f) Complete the "Getting Hooked" Worksheet. See Appendix 3G.
g) Complete the activities on the "Self-Compassion" Handout. See Appendix 3H.

Week 4
Fluency: Instatement Phase
ACT: Defusion

1. Practice of Fluency Management Techniques

   Check-in with client(s) to identify any issues with home practice of fluency techniques. Ask client(s) to discuss who they selected as their conversation partner, what they spoke about, any issues they encountered with implementing the techniques and so on. Provide solutions and guidance where necessary.

   Client(s) to practice their preferred fluency management techniques in a picture description task and structured conversation tasks before moving to spontaneous conversation. See Appendix 4A and 4B. Therapist to place emphasis on rate control and smooth forward-moving flow of utterances.

   Therapist to discuss situational hierarchies with client(s) to understand the types of structured roleplays that will be most beneficial for future sessions. Client(s) to complete Appendix 4C.

   Encourage client(s) to continue practice of fluency management techniques when participating in group discussions during ACT exercises.

2. Mindfulness Exercise

   "Leaves on a Stream"

   "Find a comfortable position. Feel free to close your eyes or keep them open and fix them gently on a spot inside the room. Picture yourself sitting beside a gently flowing stream. Floating on the surface of the water are some leaves. For the next few minutes, take each thought that enters your mind and place it on one of the leaves. Let it float by. Do this with every thought that pops into your mind – positive, negative, or neutral. Even if you have an amazing, joyful thought – place it on a leaf and let it float by. If your thoughts stop for a moment, continue to watch the stream – sooner or later, a thought will pop up. Let the stream flow at its own pace – don't try to speed it up or slow it down. You aren't trying to rush the leaves along or get rid of your thoughts. You are just noticing them, allowing them to come and go at their own pace. If your mind tells you 'This is dumb', 'This isn't working', 'I'm bored', or 'I can't do it' – that's fine, just put your thoughts on the leaves and let them pass. If a leaf gets stuck, let it hang around until it's ready to float by. If it comes up again, pop it back on the leaf and let it float by. If a difficult or uncomfortable feeling comes up, simply acknowledge it. Say to yourself, 'I notice myself having a feeling of boredom/impatient/anxiety', or 'There's stress/frustration/anger'. Put those thoughts on leaves too and let them float along the stream. Every now and then, your thoughts might hook you and distract you from being present in this exercise. Remember, this is normal! As soon as you realize you have been hooked, gently bring your attention back to the leaves on the stream."

3. Re-cap of Previous Session and Homework

   Tug of War Analogy
   "Last week we learned that trying to control our thoughts and emotions can sometimes be unhelpful or unworkable in trying to live with stuttering. It's a little bit like having a tug of war with a monster. You're holding the rope as tight as you can, pulling with all of your might, and then on the other side of a big, dark, pit is a monster pulling just as hard. The monster starts to pull you towards the pit so naturally you pull even harder. But the harder you pull, the harder the monster pulls. Does this sound familiar? Notice that this has been going on for some time. The monster hasn't pulled you into the pit yet, but you haven't managed to get rid of the monster by pulling it into the pit yet either. It's almost like you're both hanging in there, trying to beat the other one, and not really going anywhere. Does it almost feel like sometimes you're stuck? So, what can you do? If you saw someone else in the tug of war with a monster, what could they do? Drop the rope! Drop the struggle. The monster is still there, but you're no longer caught up in the struggle and you are free to get on with whatever is important to you. Something we can do to help us to drop the rope is to notice when our mind hooks us into picking it up. We can do this by being mindful of our thoughts and noticing them. Dropping Anchor, the technique you learned last week, can be helpful here too."

   Check-in with client(s) to see how they experienced the "Dropping Anchor" exercise at home. De-brief with the following questions:
   a. Did you notice any difference? Were you less caught up in your emotions or difficult thoughts/feelings?
   b. Were you less swept away or pushed around?

c. Was it easier for you to engage with others, to be present, to focus?
d. Did you have more control over your actions?

4. Learning About Thoughts

"Just take a few moments to think about what you're going to do on the weekend. And as you're thinking about it, take a good look at your thoughts, and notice what form they take. Close your eyes, and do this for about a minute."

A simple analogy here is that images are more like pictures on a TV screen, whereas thoughts are more like voices on a radio, and sensations are what you feel in your body.

"But what exactly *is a thought? A thought is made of sounds and words – just little bits of language. Thoughts are not rules. Thoughts are not facts. Thoughts are just thoughts – we can choose whether we want to tune in and listen or not."*

5. Learning Defusion Strategies

a. Learning About Fusion

*"Quite often, as humans, we can get caught up in our thoughts and emotions. Sometimes we get so fused and stuck with them that it can be difficult to take effective action. So, when your mind is really beating you up about stuttering, really pushing you around and getting stuck into you – if I could listen inside your mind, what kind of things would I hear?.... (*Invite examples from the group and add them to the whiteboard)… *So, let me get this right – your mind says, X, Y, and Z? What else does your mind tell you?"*

Be sure to acknowledge and validate how difficult these thoughts are for the client(s). It may be useful to link the thoughts back to the six broad categories of fusion and share these with the client(s).

1) Past (includes rumination, regret, idealizing the past, confusing past and future)
2) Future (includes worrying, catastrophizing, anticipating negativity, idealizing future)
3) Self (includes positive/negative self-judgment, over-identifying with a role/label)
4) Rules (includes things identified by words like: should/have to/must/right/wrong/fair/unfair or conditions like: can't until/shouldn't unless/mustn't because/refuse to allow/will not tolerate)
5) Reasons (includes all the reasons why I can't/won't change, 'I'm too shy/stupid/worthless', 'Bad things might happen, 'I've tried before and failed', 'It's too hard/pointless/scary', 'I don't have time/money/energy', 'I stutter/can't communicate/am worthless')
6) Judgments (includes positive/negative judgments of past/future, self/others, thoughts/feelings, life, body, the world)

b. Introducing Defusion through "Hands as Thoughts" Metaphor'

"Now, we are going to do a similar exercise to the "Pushing Away Paper" activity last week. I want you to look over to this corner of the room and imagine in front of you is everything that matters: the people, places, and activities that you love. And also imagine, in this corner of the room, are all the ***real life problems and challenges*** *you need to deal with. And all the tasks you have to do to make your life work.*

Bring up some of these thoughts again (Therapist gestures to the whiteboard). *Pick a couple of your thoughts and now pretend that your hands are these thoughts and feelings and hold them like this.* (Therapist to demonstrate hands splayed like the pages of a book). *Now copy me - get caught up/ hooked/fused/tangled up in your thoughts and feelings.* (Therapist to lift hands up to your face until covering your eyes). *What is your mind telling you now? Did you notice how your mind just hooked you?*

Notice 3 things:
1) How much are you missing out on? How disconnected and disengaged are you from the people and things that matter?
2) How difficult is it to keep your attention focused on the task you want to do well or the challenge you face or the problem you need to solve?
3) How difficult is it to take action, to do the things that make your life work?

Now, copy me and slowly separate/unhook/detach/defuse/untangle from your thoughts and feelings (Therapist to lift hands away from face, slowly lowering them to rest in your lap). *Notice what happens when we unhook ourselves. If your favourite person were here now, imagine how much easier it would be to connect with them. If you had something important to do, how much easier would it be*

to focus on it? If your favourite movie were playing, how much more would you enjoy it? How much easier would it be to perform an action like driving a car, sending an e-mail, cuddling a baby?

Notice these things (Therapist to wave hands) *haven't disappeared. If you can use them, do so. Thoughts and feelings often give us important information we can make good use of. But if not, just let them sit there. We are learning important techniques to remind ourselves that ultimately, we are in control and do not need to be swept away by our thoughts and feelings."*

c. Introducing Defusion Strategies

"So, you might be wondering, how exactly can we unhook/defuse/detach/untangle ourselves from our thoughts and make room for our feelings so that they have less power over us? There are a number of different techniques, and we will go through some of them together today. Now, some of these may work for some people and not for others – and that's absolutely fine – but let's trial a few together and see what feels the most comfortable and effective for you.

So, we've talked about some of the painful, uncomfortable, and unhelpful thoughts that make your life more difficult or hold you back. I bet we have only scratched the surface – if you're anything like me, there's no shortage of uncomfortable thoughts to work with. But there's a reason for this – you see, the human mind has evolved over time to think negatively. Hundreds of years ago, our ancestors lived in a world of danger – and your mind had to be on the lookout, anticipating that anything you came across could possibly hurt you. If you were a caveman and your mind didn't do this – you'd be in big trouble! So, our mind has basically evolved to be a "don't get killed machine" – it's constantly trying to warn you of anything that mind go wrong. 'You'll mess up the presentation', 'She might reject you', 'They might laugh at you'. It's perfectly normal – and everyone's mind thinks like this. Our mind is trying to do it's number one job – to protect us and keep us alive."

Play video – "How the Mind Evolved to Create Human Suffering" narrated by Russ Harris.
https://youtu.be/kv6HkipQcfA
Available via https://www.actmindfully.com.au/free-stuff/free-videos/

Resume exercise.

"Now let's bring back another one of those uncomfortable thoughts or situations (Therapist gestures to the whiteboard). *I want you to put your thought into a short sentence – e.g. 'I am X'. Now fuse with this thought for ten seconds – get tangled up in it and believe it as much as you can. Now silently replay the thought with this phrase in front of it – 'I'm having the thought that X'. Now replay the thought one more time, but add this phrase in front of it – 'I notice that I'm having the thought that I am X. Notice what you are feeling, where you're feeling it, what it looks like – what colour is it? How big is it? See if you can open up and expand around the feeling – can you make room and let it be there?"*

De-brief with client(s). What happened? Remind client(s) that this technique can be used for emotions and urges as well. Ask client(s) if they would be willing to try talking this way in future sessions and express their thoughts/emotions/urges to the therapist or other group members.

Using the script above, test out some of the other defusion strategies with the client(s) (e.g., thoughts on a computer screen, leaves on a stream etc). Example defusion strategies are found in Appendix 4D.

Talk to client(s) about the difference between being hooked and unhooked. Relate back to the "Choice Point" where possible.

6. <u>De-Brief and Homework</u>

a) Debrief ACT exercises for the day.
    a. Do you notice any difference now? Are you less caught up in the emotional storm (or 'difficult thoughts and feelings')?
    b. Are you less swept away or pushed around?
    c. Is it easier for you to engage with me, to be present, to focus?
    d. Do you have more control over your actions? Over your arms and legs and mouth?
    e. How could the exercises that we've done be helpful outside the room?

b) Select a new conversation partner (e.g., family member, partner, friend, neighbour, acquaintance, cashier) and practice fluency techniques in spontaneous conversation every day. Keep a brief daily journal and make note of: who you spoke with, what you spoke about, the techniques you used, what worked/what didn't, what you'd like to try differently next time, how you felt in the situation, and any ACT resources you utilized at the time, or could utilize in future. Be prepared to discuss next week.

c) Encourage client(s) to practice the Defusion techniques in Appendix 4D whenever they are caught up in their thoughts.
d) Complete the Defusion homework sheets in Appendix 4E.
e) Continue "Dropping Anchor" (Appendix 2E) on a regular basis.
f) Complete self-compassion home practice. See Appendix 4F.

Week 5
Fluency: Generalization Phase
ACT: Acceptance

1. Practice of Fluency Management Techniques

   Check-in with client(s) to identify any issues with home practice of fluency techniques. Ask client(s) to discuss who they selected as their conversation partner, what they spoke about, any issues they encountered with implementing the techniques and so on. Provide solutions and guidance where necessary.

   Client(s) to practice their preferred fluency management techniques in structured tasks based on situational hierarchy discussed in the previous week. Example roleplay activities may include: making a telephone call, partaking in a job interview, asking someone for directions, ordering a coffee and so on. Client(s) can devise preparation strategies using Appendix 5A. Client(s) can reflect on roleplay activity using Appendix 5B.

   Encourage client(s) to continue practice of fluency management techniques when participating in group discussions during ACT exercises.

2. Mindfulness Exercise

   "Accepting Emotions" Exercise
   "I'm going to ask you now to think of a situation that you worry about because of your stutter. It might be answering the telephone, it might be ordering food at a restaurant, or it might be giving a talk at work. Whatever it is, think about the worst-case scenario. Remember, you don't have to do this if you do not want to. But if you are willing to give it a go, please follow my instructions. Think about how you would feel in this situation – what thoughts and feelings are showing up for you?

   Now I want you to take a few slow, deep, breaths. Scan your body from head to toe. You may notice several uncomfortable sensations – find the strongest one, the one that bothers you the most. This might be a lump in your throat, an ache in your chest, or a knot in your tummy.

   Now I want you to focus your attention on that sensation. Pretend you are a curious scientist, discovering something new. Observe it carefully. Notice where it starts and where it ends. Learn as much about it as you can while you observe it. If you had to draw a line around the sensation, what would the outline look like? Is it on the surface of the body, or inside you, or both? How far inside you does it go? Where is the sensation most intense? Where is it weakest? How is it different in the center than around the edges? Is there any pulsation, or vibration within it? Is it light or heavy? Moving or still? What is its temperature? What colour is it? See if you can infuse your palms with kindness. Hold your palm over the area where you're feeling the emotions the most.

   Take another few deep breaths, and when you breathe out, let go of your struggle with the sensation. Breathe into the sensation. Imagine that your breath is flowing in and around the sensation. Now make room for it. Expand around it. Loosen up. Allow the sensation to be there. You don't have to like it, or want it, or agree with it. But simply let it be, as it is.

   I want you to observe the sensation – just notice it. You don't need to think about it. If your mind starts commenting on it, just say 'Thanks, mind!' or 'That's an interesting thought!' and come back to observing it. You might find this tricky – you might want to fight the sensation, push it away, or try to hide from it. If this happens, just acknowledge this urge, but don't give into it. You can simply acknowledge it by nodding your head. But then bring your attention back to the sensation.

   Don't try to change it or get rid of it. If it does change or go way, that's fine. Or if it doesn't change and sticks around, that's fine too. Our goal is not to change it or get rid of it.
   Continue to focus on this sensation as long as you need to, until you've stopped struggling with it. Take your time. You're learning a valuable skill.

   Once you're finished, scan your body again. Is there another strong sensation bothering you? If so, repeat the procedure again. You can do this for as long as you like, or as many times as you need to. Keep going until you no longer feel that you are struggling with your feelings.

   As you do this exercise, one of two things will happen: either your feelings will change, or they won't. And it doesn't matter anyway. You aren't trying to change your feelings. You are showing willingness to make space for them, let them be there, accept them, and drop the struggle with them.

Try saying quietly to yourself "I don't like this feeling, but I can make room for it", or "It doesn't feel pleasant, but I am willing to let it be there."

3. Re-cap of Previous Session and Homework

   Check-in with client(s) to see how they felt about practicing defusion at home – what worked and what didn't? Suggest alternate techniques if necessary.

4. Introducing Acceptance Techniques

   Play video – "The Struggle Switch" narrated by Russ Harris.
   https://youtu.be/rCp1l16GCXI
   Available via https://www.actmindfully.com.au/free-stuff/free-videos/

   Discuss Acceptance techniques (Appendix 5C) with client and provide opportunities for practice of each technique. De-brief after trial of each technique and link back to the "Struggle Switch".

5. Making Room for Emotions & Contacting Values Exercise

   The "Sweet Spot" Exercise.
   "Bring to mind a memory that conveys some of the sweetness and richness of life. This can be any memory – it doesn't have to be some big, monumental event – it can be any memory that is important to you. **It may be helpful for the therapist to share their own memory here.** *Pick a vivid memory and recall the "sweet" emotions that accompany it. Now think about where you were. Think about what you were doing. What could you see? What could you hear? What could you feel? Where did you feel it? Who else was there? Think about those feelings again. Make room for all of the feelings and let them be here now. Pick three words to describe those feelings and share them with the group."*

   Client(s) do not need to share their memory with the group but should be encouraged to share the three feelings.

6. De-Brief and Homework

   a) Debrief ACT exercises for the day.
   b) Practice fluency management techniques. Encourage client(s) to choose three or four different speaking situations from their situational hierarchy and practice them during the week. Remind client(s) to utilize the ACT strategies learned before, during, and after their fluency practice. Encourage client(s) to keep a brief daily journal (using Appendix 5D) and make note of: the speaking situation, how they prepared for it, when they practiced, who they spoke with, what they spoke about, the techniques they used, what worked/what didn't, what they'd like to try differently next time, how they felt in the situation, and any ACT resources they utilized at the time, or could utilize in future.
   c) Encourage client(s) to practice the Acceptance techniques in Appendix 5C whenever they are caught up in their thoughts.
   d) Complete the Acceptance homework sheets in Appendix 5E.
   e) Re-cap "Sweet Spot" exercise. Encourage client(s) to engage in an activity every day this week that brings the same feelings. Client(s) do not have to share their "Sweet Spot" memory but will be asked to share the feelings associated with the memory and the activities that they chose to engage in during the week. Client(s) to answer the following questions using Appendix 5F:
      a. What does this memory reveal about what matters to you?
      b. What personal qualities were you showing?
      c. What does this suggest about the way you'd like to behave, or the things you'd like to do, moving forwards?
   f) Continue "Dropping Anchor" (Appendix 2E) and practicing defusion (Appendix 4D) and self-compassion strategies.

Week 6
Fluency: Generalization Phase
ACT: Defusion, Acceptance, & Self-As-Context

1. Practice of Fluency Management Techniques

   Check-in with client(s) to identify any issues with home practice of fluency techniques. Ask client(s) to discuss who they selected as their conversation partner, what they spoke about, any issues they encountered with implementing the techniques and so on. Provide solutions and guidance where necessary.

   Client(s) to practice their preferred fluency management techniques in structured tasks. This week, tasks from previously specified situational hierarchy are to be performed beyond the clinic environment with unfamiliar listeners – e.g., on campus, at the nearby shop/café and so on. *Example tasks may include: asking someone for directions, asking someone to take part in a short survey, ordering a coffee, making small talk about the weather and so on.* Client(s) can devise preparation strategies using Appendix 6A.

   Client(s) to roleplay the tasks with peers or 1:1 with therapist before moving out of the clinic environment. Therapist to remind client(s) of ACT techniques to draw on during tasks *(e.g., Dropping Anchor, 10 Breaths, Leaves on a Stream)*. Reassure client(s) you will be close by overseeing the task. Client(s) can reflect on roleplay activity using Appendix 6B.

2. Re-cap of Previous Session and Homework

   Check-in with client(s) to see how they are managing with practicing defusion and acceptance at home. Troubleshoot issues and make alternative suggestions where necessary.

   Encourage client to share reflections of the "Sweet Spot" exercise.

3. Self-As-Context

   This exercise aims to highlight the difference between the 'thinking-self' and the 'observing-self' and encourage the client(s) to notice that whilst one part of them is producing and experiencing thoughts, there is another part that is simply noticing this process.

   "Close your eyes, or leave them open if you prefer, and simply notice what your mind is doing. Be on the lookout for thoughts or images. Pretend now that you are a wildlife photographer, waiting for an exotic animal to appear any moment. If no thoughts or images appear, just sit back and watch – one will appear sooner or later.

   Now I want you to notice some things – first, I want you to notice where your thoughts seem to be located. Are they in front of you, above you, next to you, behind you, or within you? Second, I want you to notice whether your thoughts are moving or still? If your thoughts are moving, what direction are they going? How fast are they going?

   While you are doing this – sit back and notice that there are two separate processes in your mind right now – 'thinking' and 'observing'. One part of you is thinking – generating a stream of thoughts – but another part of you is observing, or noticing, those same thoughts.

   Let's try that exercise again. Step back and observe your thoughts. Where are they located? Are they moving or still? What direction are they going? How fast are they moving?
   As you are doing this, your 'observing self' is watching your 'thinking self'.

   Now, sit back in your chair, back nice and straight. Close your eyes. Now bring your attention to your feelings. What are you feeling now? Where do you feel it? Does it change? As you notice these feelings, be aware that you are noticing them. Your feelings change all the time. Sometimes you're happy, sometimes you're grumpy. Sometimes you're stressed, sometimes you're calm. The 'you' that notices these feelings doesn't change. Once again, notice the feelings in your body, and be aware that you are noticing. There's your feelings, and then there's you. See if you can open up, expand around your feelings, and let them be there, as they are.

   Now let's try something different. Sit comfortably in your chair. Eyes open. Now bring your attention to your body. What are you feeling now? What are you feeling in your toes? In your legs? Your tummy? Your arms? Your neck? What can you see? As you notice your body, be aware that you are noticing it. Your body changes all the time. It's not the same body you had as a baby. As a child. As a

teenager. As a young adult. You may have had bits put in or bits cut out. You have scars, and wrinkles, and moles and blemishes, that weren't there necessarily there before. You get a whole new set of skin every 6 weeks. Over a period of 7 years, every single cell in your body gets replaced by new cells. At the atomic level, 95% of the atoms in your body are replaced by new ones in the space of one year. The part of you that notices your body doesn't change. Once again, notice your body, and be aware that you are noticing. There's your body, and then there's you."

"Sky and Weather" Metaphor
"It's a bit like this – think of your 'observing self' like the sky, while your 'thinking' self that generates all of your thoughts, feelings, sensations, and images is like the weather. The weather is constantly changing throughout the year, throughout the month, throughout the week, and throughout the day even. But whatever the weather is, the sky always has room for it. No matter how bad the weather, how terrible the storm, how severe the sun is – the sky cannot be damaged in any way. Even cyclones and tsunamis, that wreak havoc on the land, cannot hurt the sky. And as time passes, the weather will continue to change, but the sky will remain as pure and clear as ever.

Linking Self-As-Context with Defusion Exercise

Play video "Internal Struggle" (Chess board metaphor) narrated by Russ Harris.
https://youtu.be/dz_nexLqY_8
Available via https://www.actmindfully.com.au/free-stuff/free-videos/

Now that the thinking-self and the observing-self have been introduced to the client(s), it may be helpful to remind them that thoughts are simply words and pictures created by our mind – our observing-self can choose to be swept away by them, or we can simply acknowledge them. Run through any number of the following metaphors with the client(s), and then encourage the client(s) to think of their own metaphors and share with the group. Client(s) can record metaphors using Appendix 6C.

"Thoughts are like…
- *… clouds floating, or birds flying, across the sky;*
- *… luggage passing by on a conveyor belt;*
- *… cars passing by on the street outside your window;*
- *… leaves floating down the stream;*
- *… waves in the sea – you can watch from the shore, without being swept away;*
- *… trains coming and going while you watch from the platform – you don't have to get on the train;*
- *… guests entering a hotel. You can be the doorman – you greet the guests, but you don't have to take them to their rooms;*
- *… wild horses running through a field – you can watch them with wonder, but you don't have to chase them;*
- *… actors on a stage – you can watch the play, but you don't need to get on stage and perform;*
- *… 'pop-ups' on the internet – you can see them, but you don't have to click on them."*

4. Linking Defusion, Acceptance, and Self-As-Context

"Your Mind is Like a Radio" Metaphor
"We can think of our mind as being a bit like a radio. Some of the time it's stuck on the 'Radio Doom & Gloom Show', broadcasting things we don't want to listen to. My radio reminds me of bad things from my past ('You made a mistake there!'), warns me of bad things in the future ('You can't do that presentation!'), and gives us regular updates on everything that is wrong in our lives ('You'll never finish your studies!'). Does anyone else's mind broadcast the same station? But once in a while, it does broadcast something useful or cheerful – though it's not very often. Imagine if we were constantly tuned into this radio, listening intently – and worse – believing everything we heard – then we would have a guaranteed recipe for stress and misery.

Unfortunately – this radio doesn't have an off switch. Even Zen masters would be unable to switch this radio off. Sometimes the radio might cut off for a few seconds of its own accord (or even, rarely, for a few minutes). But we don't have the power to make it stop – unless we short-circuit it with drugs, alcohol, or brain surgery. In fact, in general the more we try to make this radio stop, the louder it plays.

But there is something different we can try! Have you ever heard a radio playing in the background, but you were so wrapped up in what you were doing that you didn't really listen to it? You could hear it playing, but you weren't paying it much attention? Last week we learned some defusion skills – you know, where we might label our thoughts just as a 'thought', or remind ourselves 'I notice I'm having the thought that…', or say our thoughts in silly voices. Well, in practicing these defusion skills, we are ultimately aiming to do the same with our thoughts – just letting the radio play on in the background. Once we know that our thoughts are really just bits of language, we can treat them like background noise – we can allow them to come and go without focusing on them and without being hooked or bothered by them. This is best exemplified by the "Thanking Your Mind" technique: an unpleasant thought appears, but instead of focusing on it you simply acknowledge its presence, thank your mind, and return your attention to what you're doing.

So, here's what we're aiming for with all these defusion skills:
• If the thinking self is broadcasting something unhelpful, the observing self need not pay attention. The observing self can instead focus its attention on what you're doing right now.
• If the thinking self is broadcasting something useful or helpful, then the observing self can tune in and pay attention.

This is very different from approaches such as positive thinking, which are like airing a second radio show, 'Radio Happy and Cheerful', alongside 'Radio Doom and Gloom', in hopes of drowning it out. It's pretty hard to stay focused on what you're doing when you have two radios playing different tunes in the background.

Notice, too, that letting the radio play on without giving it much attention is very different from actively trying to ignore it. Have you ever heard a radio playing and tried not to listen to it? What happened? The more you tried not to hear it, the more it bothered you, right?

So, are you willing to let the radio play, and tune in when you need to? Willingness doesn't mean that you like, want, enjoy, desire, or even approve of it. But willingness means that you'll allow it, make room for it, or let it be in the background – in order to focus your attention on something you value. Willingness means that we make room for the uncomfortable thoughts and feelings, in order to create a meaningful life for ourselves."

5. <u>De-Brief and Homework</u>

   a) Debrief ACT exercises for the day.
   b) Practice fluency management techniques. Encourage client(s) to choose another three or four additional speaking situations from their situational hierarchy and practice them during the week. These activities should be further along the hierarchy (e.g., more difficult). Remind client(s) to utilize the ACT strategies learned before, during, and after their fluency practice. Encourage client(s) to keep a brief daily journal (using Appendix 6D) and make note of: the speaking situation, how they prepared for it, when they practiced, who they spoke with, what they spoke about, the techniques they used, what worked/what didn't, what they'd like to try differently next time, how they felt in the situation, and any ACT resources they utilized at the time, or could utilize in future.
   c) Client(s) to prepare a short (5 – 10 minute) presentation on a topic of their choice to present in-session next week. Client(s) can use Appendix 6E to record presentation notes.
   d) Continue "Dropping Anchor" (Appendix 2E) and practicing defusion (Appendix 4D), acceptance (Appendix 5C), and self-compassion strategies.

Week 7
Fluency: Generalization Phase
ACT: Linking Values with Committed Action

1. Practice of Fluency Management Techniques

   Check-in with client(s) to identify any issues with home practice of fluency techniques. Ask client(s) to discuss who they selected as their conversation partner, what they spoke about, any issues they encountered with implementing the techniques and so on. Provide solutions and guidance where necessary.

   Client(s) to practice their preferred fluency management techniques in short presentation task (see homework from last week). Encourage client(s) to practice any preferred ACT activities prior to undertaking the presentation. Client(s) can reflect on presentation using Appendix 7A.

   Client(s) to practice their preferred fluency management techniques in structured tasks from previously specified situational hierarchy. This can be completed within or outside the clinic environment. Client(s) can prepare for roleplays using Appendix 7B and reflect on these using Appendix 7C.

   Encourage client(s) to continue practice of fluency management techniques when participating in group discussions during ACT exercises.

2. Mindfulness Exercise

   "Ten Breaths"
   "Pause for a moment. Take ten, slow, deep breaths. Focus on breathing out as slowly as you can, until your lungs are completely empty. Now use your diaphragm to breathe in, until your lungs are completely full. Notice the sensations of your lungs emptying, and your ribcage falling, as you breathe out. Now notice the rise and fall of your abdomen. Take a moment to notice what thoughts are passing through your mind now. Notice the feelings that are passing through your body. Observe these thoughts and feelings. Don't judge them as good or bad. Don't try to change them, avoid them, or hang onto them. Just observe them. Notice what it's like to observe those thoughts and feelings with an attitude of willingness to let them be there. See if you can let your thoughts come and go as if they are just passing cars, drive past outside your house. Expand your awareness – simultaneously notice your breath and your body. Take a look around the room – notice what you can see, hear, smell, touch, and feel."

3. Re-cap of Previous Session and Homework

   Discuss "Self-As-Context" with client(s) and check-in regarding use of defusion and acceptance techniques at home.

4. Re-Visiting Client Values

   "80th Birthday Party" Exercise.
   "In this exercise, I'm going to ask you to close your eyes and imagine you are 80 years old, and that there is a birthday celebration in your honour. Imagine this any way you like. Some people imagine in vivid pictures, as on a TV screen. Others imagine more with words or sounds or abstract ideas. Whatever or however you choose to imagine this is up to you. Also, remember this is your imagination – it doesn't have to obey the rules of logic. It's okay if your parents are there and they're 120 years old. It's okay if your friends are there and they look exactly the same as they do today. Also, look out for the thousands of sneaky ways your mind will try to pull you out of this exercise. Any time your mind starts interfering, simply say 'Thanks, mind!' and come back to the exercise.

   So, close your eyes now and imagine you are 80 years old, and that there is a birthday celebration in your honour – and everybody you care about is there to honour you – friends, family, work colleagues. Now imagine one person who you really care about – friend, family member, colleague, you choose; anyone who is important to you – imagine that person gets up to make a short speech about you – about the person you are, the life you've lived, what you stood for in life, and what you meant to them. Imagine that they say and mean whatever it is you would most like to hear them say and mean. Notice how you feel as they say these things.

   Now imagine another person who you really care about – friend, family member, colleague, you choose; anyone who is important to you – imagine that person gets up to make a short speech about you – about the person you are, the life you've lived, what you stood for in life, and what you meant to

them. Imagine that they say and mean whatever it is you would most like to hear them say and mean. Notice how you feel as they say these things.

Finally imagine one last person who you really care about – friend, family member, colleague, you choose; anyone who is important to you – imagine that person gets up to make a short speech about you – about the person you are, the life you've lived, what you stood for in life, and what you meant to them. Imagine that they say and mean whatever it is you would most like to hear them say and mean. Notice how you feel as they say these things.

Now take a moment to reflect on what you've heard, and to consider: what does this tell you about your values? About what really matters to you, deep in your heart?"

5. Goal Setting and Committed Action

Using the "Goal-Setting Tips" (Appendix 7D) and values clarified in previous exercise, therapist to talk-through goal setting with client(s). It may be useful to write the tips on the whiteboard as you discuss.

Client(s) to complete "Goal Setting" worksheet. See Appendix 7E. Therapist to assist as necessary to help client to develop an action plan going forward.

6. De-Brief and Homework

a) Debrief ACT exercises for the day.
b) Practice fluency management techniques. Encourage client(s) to choose another three or four additional speaking situations from their situational hierarchy and practice them during the week. These activities should be further along the hierarchy (e.g., more difficult). Remind client(s) to utilize the ACT strategies learned before, during, and after their fluency practice. Encourage client(s) to keep a brief daily journal (Appendix 7F) and make note of: the speaking situation, how they prepared for it, when they practiced, who they spoke with, what they spoke about, the techniques they used, what worked/what didn't, what they'd like to try differently next time, how they felt in the situation, and any ACT resources they utilized at the time, or could utilize in future.
c) Complete "Overcoming F.E.A.R" Worksheet. See Appendix 7G.
d) Continue "Dropping Anchor" (Appendix 2E) and practicing defusion (Appendix 4D), acceptance (Appendix 4E), and self-compassion strategies.

Week 8
Fluency: Maintenance Phase
ACT: Psychological Flexibility and Bringing it all Together

1. Practice of Fluency Management Techniques

   Check-in with client(s) to identify any issues with home practice of fluency techniques.

   "Table Topics" or debate activity. Choose one debate topic at a time from Appendix 8A. Client is given 2 minutes to prepare an answer to the question and persuade the listener for/against. Therapist to demonstrate and encourage appropriate rate control, link and flow of utterances, smooth forward-moving speech etc.

   Client(s) to practice their preferred fluency management techniques in unstructured conversational tasks. Encourage client(s) to share what they took from the workshop, what they found most/least helpful, what committed action they plan to take moving forward and so on. See Appendix 8B.

   Encourage client(s) to continue practice of fluency management techniques when participating in group discussions during ACT exercises.

2. Re-cap of Previous Session and Homework

   Check-in with client(s) to de-brief homework worksheets.

3. Mindfulness Exercise

   Client encouraged to choose their own mindfulness exercise – can be from previous sessions, home practice, or their own variation to share with the therapist. Client and therapist can run through the activity together. Alternatively, therapist selects their own mindfulness exercise to use.

4. Psychological Flexibility

   "Unwanted Party Guest" Metaphor.
   Play video "The Unwanted Party Guest – An ACT Metaphor" narrated by Joe Oliver.
   https://www.youtube.com/watch?v=VYht-guymF4
   De-brief.

5. Where to Now?

   Play video "Values vs Goals" narrated by Russ Harris.
   https://youtu.be/T-lRbuy4XtA
   Available via https://www.actmindfully.com.au/free-stuff/free-videos/

   Complete Action Plan
   Client(s) to complete an "Action Plan". See Appendix 8C. Therapist to walk around the room to facilitate.

   Seeking Support
   Provide client(s) with contact details for their local stuttering support group (e.g., Speak Easy). Provide client(s) with therapist contact details for any follow-up questions or concerns. Remind client(s) that there is an 'open-door' policy, and they are free to contact us for support at any time

6. Celebrate the Journey and De-Brief

   a) Thank client(s) for their participation in the fACTS Program and commend their efforts during the program.
   b) Hand out "Graduation Certificates".
   c) Encourage client(s) to re-visit their action plan in Appendix 8C and re-visit ACT Map in Appendix 8D.
   d) Invite client(s) to participate in a short interview with an external researcher at a later date to discuss their experiences with the program.
   e) Remind client(s) to complete post-program questionnaires within 48 hours.

References

American Parkinson Disease Association. (2003). Speaking effectively: A strategic guide for speaking and swallowing. Retrieved from http://www.parkinsons.org.pk/download/Speaking%20Effectively.pdf

Fairbanks, G. (1960). *Voice and articulation drillbook* (2nd ed.). New York: Harper & Row.

Grammar Bank. (2018). Short reading comprehension passages. Retrieved from https:// www.grammarbank.com/short-reading-comprehension-passages html

Guitar, B. (2014). *Stuttering: An integrated approach to its nature and treatment* (4th ed.). Philadelphia, PA: Lippincott Williams & Wilkins

Harris, R. (2007). *The happiness trap: Stop struggling, start living.* Australia: Exisle Publishing.

Harris, R. (2009). *ACT made simple.* Oakland: New Harbinger Publications, Inc.

Harris, R. (2011a). *The confidence gap: A guide to overcoming fear and self-doubt.* United States: Shambhala Publications, Inc.

Harris, R. (2011b). *The reality slap: How to find fulfilment when life hurts.* Australia: Exisle Publishing.

Harris, R. (2013). *Getting Unstuck in ACT: A clinician's guide to overcoming common obstacles in Acceptance and Commitment Therapy.* United States: New Harbinger Productions.

Harris, R. (2018). The complete set of client handouts and worksheets from ACT books**.** Retrieved from https:// www.actmindfully.com.au/wp-content/uploads/ 2018/06/2018_COMPLETE_WORKSHEETS_FOR_RUSS_HARRIS_BOOKS.pdf

Manning, W., & DiLollo, A. (2018). *Clinical decision making in fluency disorders* (4th ed.). San Diego, CA: Plural Publishing.

University of York. (n.d.). Standardized reading. Retrieved from https://www.york.ac.uk/media/ languageandlinguistics/documents/currentstudents/linguisticsresources/Standardized-reading.pdf

Yairi, E., & Seery, C. (2011). *Stuttering: Foundations and clinical applications.* Upper Saddle River, New Jersey: Pearson Education, Inc.

This document is strictly not for distribution or use outside of the fACTS Program Study approved by Curtin University, ethics approval number HRE-2018-0624. As such, Appendices containing home practice materials have been removed.

Please contact alice.hart@curtin.edu.au or j.beilby@curtin.edu.au for more information.

Appendix D

E-mail Permission for ACT Resources

From: "admin@actmindfully.com.au" <admin@actmindfully.com.au>

Date: Wednesday, 16 March 2022 at 12:28 pm

To: Alice Hart <alice.hart@postgrad.curtin.edu.au>

Subject: RE: Copyright enquiry

Hi Alice

I am sorry we missed your previous email. Our usual copyright standard email is below.

Thanks for asking permission to use my materials. You are free to reproduce and use any or all of my materials as desired, at no cost, provided you: a) leave copyright details and/or contact details intact; and b) do not charge money for them (aside from any printing costs).

Good luck with your work,

All the best.

Russ Harris

Sent on behalf of Dr Harris

Kind regards

ILANA MENESES

Psychological Flexibility Pty Ltd

ABN 91 803 275 031

PO Box 31 Ringwood VIC 3134 Australia

Email: admin@actmindfully.com.au

Live workshops: www.actmindfully.com.au

Online learning: www.imlearningact.com

Appendix E

Participant Information Sheet and Consent Form

HREC Project Number:	HRE2018-0624
Project Title:	An Integrated Fluency and Psychosocial Treatment for Adults Who Stutter: Addressing Stuttering and Self-Efficacy with Acceptance and Commitment Therapy
Principal Investigator:	Associate Professor Janet Beilby School of Occupational Therapy, Social Work, and Speech Pathology
Co-Investigator	Associate Professor Lauren Breen School of Psychology
HDR Student:	Alice Carter Speech Pathologist & PhD Candidate School of Occupational Therapy, Social Work, and Speech Pathology
Version Number & Date:	4, 21/05/2019

What is the project about?

The aim of this project is to evaluate an integrated treatment program titled the fACTS Program (traditional fluency treatment combined with Acceptance and Commitment Therapy [ACT]) for adults who stutter. Specifically, the project will investigate the impact of the program on the stuttered speech frequency, self-efficacy, and overall wellbeing of adults who stutter. Self-efficacy refers to an individual's confidence in their ability to carry out certain actions. It has been shown in recent years to be an important factor to consider in the assessment and treatment of stuttering disorders.

The project is being conducted by Alice Carter, a Speech Pathologist and PhD candidate, and seeks to add new knowledge regarding self-efficacy in the treatment of stuttering disorders. This project involves an 8-week individual or group intervention program conducted by qualified Speech Pathologists trained in the intervention protocol and may take place in-person or via video-conferencing delivery (e.g., Skype/FaceTime/Zoom etc.). Each session will take between 1-2 hours.

Why am I being asked to take part and what will I have to do?

You are being asked to take part because you have identified yourself as an adult who stutters. The intervention program will be conducted at no cost to you. You will not be paid for participating in this project. If you choose to participate in this project, you will be asked to attend all 8 intervention sessions. Access to the intervention will cease after 8 weeks. With your permission, sessions may be video-recorded for viewing by the research team only. The purpose of this is to review the therapist who is providing the treatment as a method of quality control to ensure that we are providing optimum treatment. You will also be asked to complete a series of questionnaires at four different intervals – prior to the program, immediately after the program, and three- and six-months after the program. At the completion of the program, you will be asked to complete a short evaluation survey of your overall satisfaction with the program. You will also be invited to attend a short, 20-minute interview to informally discuss your experiences during the program. This interview will be audio-recorded so that we can concentrate on what you have to say rather than taking notes.

After the interview, a full written copy will be made. Your responses to the questionnaires, evaluation survey, and interview questions will not be identifiable.

Are there any benefits to being in the research project?

You will receive the integrated fluency and ACT treatment program at no cost to yourself and will receive practical resources during the program to assist with the maintenance of treatment outcomes at the

conclusion of the program. By participating in this project, you will be assisting researchers and clinicians alike to improve treatment outcomes for adults who stutter.

Are there any risks, side-effects, discomforts or inconveniences from being in the project?

Apart from volunteering your time, we do not anticipate that there will be any inconvenience to you for taking part in this project. The project is considered low-risk, with the only foreseeable risk being potential feelings of discomfort during the completion of surveys or program activities. We have been careful to make sure that the questions in the surveys and the activities in the program do not cause you any distress. But, if you feel anxious about any of the questions or activities, you do not need to complete them. If anything causes any concerns to you, we can refer you to a counsellor. Information will be provided to you on how you can seek support if it is required.

Who will have access to my information?

The information collected during the project will be assigned a unique code. This means that your identity will be protected, and only members of the research team can re-identify your data in the event that it is necessary to do so. Any information we collect will be treated as confidential and used only in this project unless otherwise specified. Only the research team (comprising the PhD student and the respective supervisors and statisticians) will have access to the information collected in this research. Electronic data will be password-protected and hard copy data will be kept in locked storage. The information we collect in this study will be kept under secure conditions at Curtin University for 7 years after the research has ended and then it will be destroyed. All information collected during the study is strictly confidential. You have the right to access, and request correction of, your information in accordance with relevant privacy laws. The results of this research may be presented at conferences or published in professional journals. You will not be identified in any results that are published or presented, and your confidentiality will be maintained at all times.

Will you tell me the results of the research?

At the conclusion of the research (2021), we will write to you to summarise the findings. Results will not be individual but based on all the information we collect and review as part of the research.

Do I have to take part in the research project?

Taking part in this project is strictly voluntary. It is your choice to take part or not. Should you decline the invitation to participate in this project, or choose to withdraw your consent from this project, your current and/or ongoing treatment relationship with your referring therapist or Curtin University will not be affected in any way. If you choose to withdraw from the project we will destroy any data collected from you.

What happens next and who can I contact about the research?

If you wish to find out more details, please contact the researcher, Alice Carter, on 0419 675 703 or Alice.Carter@postgrad.curtin.edu.au. Alternatively, you may direct your enquiries to the research supervisors, Associate Professor Janet Beilby (9266 7463, J.Beilby@curtin.edu.au) or Associate Professor Lauren Breen (9266 7943, Lauren.Breen@curtin.edu.au). If you decide to take part in this project, we will ask you to sign the consent form below. By signing it is telling us that you understand what you have read and what has been discussed. Signing the consent form indicates that you agree to be in the research project and have your health information used as described. Please take your time and ask any questions you have before you decide what to do. You will be given a copy of this information and the consent form to keep.

Curtin University Human Research Ethics Committee (HREC) has approved this study (approval number HRE2018-0624). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au.

HREC Project Number:	HRE2018-0624
Project Title:	An Integrated Fluency and Psychosocial Treatment for Adults Who Stutter: Addressing Stuttering and Self-Efficacy with Acceptance and Commitment Therapy
Principal Investigator:	Associate Professor Janet Beilby School of Occupational Therapy, Social Work, and Speech Pathology
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HDR Student:	Alice Carter Speech Pathologist & PhD Candidate School of Occupational Therapy, Social Work, and Speech Pathology
Version Number & Date:	4, 21/05/2019

- I confirm that I have read and understood the information statement above and understand its contents.
- I believe I understand the purpose, extent, and possible risks of my involvement in this project.
- I was provided with the opportunity to ask any questions and received satisfactory answers.
- I understand that participation is strictly voluntary, I am free to withdraw consent at any time without penalty or reason and this will not affect in any way, ongoing or future services.
- If I choose to participate in an interview after the program, I agree to be audio-taped during the interview. Recordings will be transcribed and stored as a re-identifiable document. All recordings will be destroyed at the conclusion of the project.
- I agree to be audio- or video-taped during the treatment sessions to enable the research team to review the therapist providing the treatment. All recordings will be destroyed at the conclusion of the project.
- I understand that the privacy and confidentiality of my data will be maintained by researchers in this study.
- I understand that my exact words may be used in the project write-up, though they will be anonymous.
- I understand that information I provide may be made available for teaching purposes and publications, though all information will be made anonymous.
- I understand that this project has been approved by Curtin University Human Research Ethics Committee and will be carried out in line with the National Statement on Ethical Conduct in Human Research (2007).
- I understand I will receive a copy of this Information Statement.
- I voluntarily consent to take part in this research project.

Participant Name	
Participant Signature	
Date	

Declaration by researcher: I have supplied an Information Letter and Consent Form to the participant who has signed above, and believe that they understand the purpose, extent and possible risks of their involvement in this project.

Researcher Name	
Researcher Signature	
Date	