

A Survey of Practice of Speech and Language Therapists
who Work with People who Stutter

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discipline of Speech and Language Therapy

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DEDICATION

I would like to dedicate this thesis to:

My family who have inspired me and journeyed with me on this endeavour.

Particularly to:

My mom and dad, Morag and Greg, who have encouraged me, made sacrifices for me and who have loved and supported me always.

My wonderful husband Rob, who I love so very much, and who has motivated, cajoled and done everything possible to help me the whole way through.

Mattie Moo, now I can come out and play!

And

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ABSTRACT

Background: A link between stuttering and social anxiety in adults has been established and the experience of living with a stutter has been documented. Adults who stutter (AWS) have reported themes of limitation and restriction in their lives, and negative responses to their stuttering. Although the Royal College of Speech and Language Therapists' (RCSLT) clinical guidelines recommend that the psycho-social implications of living with a stutter should be addressed in speech and language therapy (SLT) there is little empirical evidence to indicate how therapy in these areas is carried out or evaluated.

Aims: This study set out to answer the research questions: "What is current practice amongst speech and language therapists for addressing psychosocial issues with adults who stutter?" And "Can the potentially most effective interventions be identified, summarised, and described to form a protocol for a future clinical trial?"

Research Methods: A postal self-administered questionnaire was distributed to SLTs (N=349) who work with AWS and a response rate of 77% was achieved. The data were summarised and reduced using factor analysis and eleven components emerged. A modified Delphi technique was used to obtain expert consensus on the interpretation of these components.

Results: Analysis of the 191 completed questionnaires indicated that SLTs work on psychosocial issues with AWS, including targeting social anxiety related to stuttering, using cognitive, behavioural and reality testing techniques. Postgraduate training, experience and a special interest in stuttering affect the therapy choices when working with this client group. Significant differences in practice particularly in therapy goals and techniques were found between specialist and generalist therapists.

Conclusions: SLTs are treating the consequences of speech-related social anxiety by using cognitive behavioural techniques in therapy with AWS. The differences in practice indicate that NHS funding for AWS should be motivated towards funding specialist therapist sessions.

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ABBREVIATIONS AND GLOSSARY

AfC	Agenda for Change (A system of job evaluation, terms and conditions and pay scales)
AWS	Adults who stutter
Ax	Assessment
Block mod	Block Modification Therapy
BSA	British Stammering Association
CBT	Cognitive behaviour Therapy
City Lit	City Literary Institute in London
CWS	Children who stutter
DisOther	A term employed by Kathard et al (2004) to describe the identity formation of being different or abnormal
DSMIV	Diagnostic and Statistical Manual of Mental Disorders. Text Revision (Fourth ed.)
FA	Factor Analysis
FMRI	Functional magnetic resonance imaging
Hx	History (as in Case History)
ICF	International Classification of Functioning
NLP	Neurolinguistic programming
OASES	Overall Assessment of the Speaker's Experience of Stuttering

Persistent developmental stuttering

Stuttering which developed in childhood and continues into adulthood

PCT Personal Construct Therapy

Psychosocial

An adjective relating to the interrelation of social factors and individual thought and behaviour

PWS People who stutter

RCSLT Royal College of Speech and Language Therapists

SFBT Solution focused brief therapy

SIG Special interest group

SLT Speech and language therapy

SLTs Speech and language therapists

SSI Stuttering Severity Instrument

SSMP Successful Stuttering Management Program

STAI State Trait Anxiety Index

Stammer Same as stutter

Stutter An abnormally high frequency or duration of disruptions to the forward flow of speech

WASSP Wright and Ayre Stuttering Self-rating Profile

WHO World Health Organisation

CHAPTER 1: BACKGROUND AND INTRODUCTION

1.1 Introduction

The overall aim of this study was to strengthen the evidence base for managing psychosocial (social and psychological) issues in speech and language therapy (SLT) with adults who stutter (AWS)¹. A survey of speech and language therapists (SLTs)² was developed to gain information for a framework of good practice for speech and language therapists working with adults who stutter.

1.2 Background

Much has changed within the field of stuttering in the past ten years. New research has revealed that people who stutter (PWS) experience many negative adverse effects of living with a stutter which can result in a limited and restricted life (Corcoran & Stewart, 1998; Craig, Blumgart, & Tran, 2009; Crichton Smith, 2002; Kathard, Pillay, Samuel, & Reddy, 2004; Klompas & Ross, 2004; Plexico, Manning, & Levitt, 2009b). A strong link between social anxiety and stuttering has been established (Kraaimaat, Janssen, & Van Dam-Baggen, 1991; Kraaimaat, Vanryckeghem, & Van Dam-Baggen, 2002; Mahr & Torosian, 1999; Messenger, Onslow, Packman, & Menzies, 2004; Stein, Baird, & Walker, 1996), but in 2005 when this study began, the evidence base for treating psycho-social issues and social anxiety in AWS was very poor, and very few published clinical trial studies existed (Blood, 1995; McColl, Onslow, Packman, & Menzies, 2001b). The Royal College of Speech and Language Therapists' (RCSLT) clinical guidelines, published in 2005, advised that the psychological and emotional aspects associated with stuttering in adults may be the most debilitating aspects of the disorder in some people and therefore should be targeted in speech and language therapy. They advised the use of psychological approaches, and the evidence base they

¹ As most AWS or PWS are male, male gender pronouns are used to describe adults and people who stutter

² As most SLTs (93.7%) in this sample were female, female gender pronouns are used to describe the sample.

cited for this reasoning was expert opinion and professional consensus (Taylor-Goh, 2005).

The fact that an evidence base could not be cited indicated that the evidence base for treating the psychosocial aspects of living with a stutter needed strengthening, and ways of developing and improving the evidence base were investigated. A well-recognised five stage framework for designing and evaluating complex interventions proposed starting with developing a protocol for a clinical trial. This process should begin at the preclinical stage, where the intervention is designed, described and defined based on theory and existing clinical knowledge and experience. It advised that outcome measures and ways of evaluating the intervention be established (Campbell, et al., 2000; Campbell, et al., 2007; Craig, et al., 2008).

On a theoretical level, examination of the recommended treatments for social anxiety in the psychological literature showed that cognitive behaviour therapy (CBT) was strongly advocated (Butler, Chapman, Forman, & Beck, 2006; Gould, Buckminster, Pollack, Otto, & Massachusetts, 1997; Taylor, 1996), and should be considered for treating the social anxiety associated with stuttering. As the RCSLT guidelines advised treating the psychosocial issues associated with stuttering by the use of psychological approaches, it was theorised that many SLTs were likely to be doing so in their therapy practice. On a clinical level, it appeared logical to ask SLTs whether they were treating the psychosocial aspects of stuttering in adults, and if they were doing so, how they were going about it. It was suspected that SLTs were recognising and treating the facets of social anxiety using techniques similar to CBT, but might not be using that terminology since social anxiety was not mentioned in the RCSLT clinical guidelines.

1.3 Research Questions and Study Design

To improve the evidence base for treating AWS the research questions which needed addressing were:

What is current practice amongst speech and language therapists for addressing psychosocial issues with adults who stutter? And

Can most effective interventions (those in line with research recommendations) be identified, summarised, defined and described to form a protocol for a clinical trial?

It was decided that the best way of answering the research questions was to attain a description of current SLT practice by asking SLTs how they managed psychosocial issues with their adult clients who stutter. It was thought that using a comprehensive sample of SLTs working with AWS in Great Britain and Northern Ireland would result in knowledge about a wide range of practice within the United Kingdom. This practice could then be considered. Practice that was in line with the theory and current recommendations from the RCSLTs could be described and compared to see whether any factors such as training affected clinical practice. It was postulated that the best way of gaining this information would be through a postal survey to SLTs working with adults who stutter in the United Kingdom.

The survey aimed to address the research questions by tackling the following sub questions and address the following hypotheses:

1. *What is current speech and language therapy practice in the United Kingdom for addressing psychosocial issues in AWS?*

a. *Do SLTs assess areas such as psychosocial issues related to stuttering with their AWS as recommended by the RCSLT Clinical Guidelines?*

It was hypothesised that:

- SLTs would assess areas of practice such as type of stuttering, family history and speech behaviours as recommended by the RCSLT clinical guidelines.
- SLTs would assess the psycho-social aspects of living with a stutter.
- SLTs would use formal published tests to assess AWS.

b. *Are SLTs reporting that clients describe similar issues to them as AWS recount in the published literature?*

It was hypothesised that:

- AWS would have reported features of social anxiety and negative adverse effects of stuttering to their SLTs

c. Are SLTs recognising and addressing facets of social anxiety within therapy?

It was hypothesised that:

- SLTs would recognise and treat the features of social anxiety in AWS, even if they did not call it social anxiety

d. Are SLTs using CBT related techniques?

It was hypothesised that:

- SLTs would use cognitive behaviour therapy techniques to manage social anxiety.

e. How do SLTs evaluate the success of therapy with AWS? Do therapists use established outcome measures to evaluate therapy?

It was hypothesised that:

- Therapists would use a number of ways to evaluate practice.
- Some therapists may not evaluate their practice adequately.
- Some therapists would not be using established outcome measures to evaluate therapy.

f. Do SLTs have in place protocols for the long term management of stuttering? What criteria do SLTs use when discharging clients who stutter?

It was hypothesised that:

- There would be variability between different SLTs on whether there is provision for the long term management of stuttering, and when a client is discharged.
- Some clinicians would discharge based on lack of resources, or department specific service limitations rather than clinical need even though this is not considered by the RCSLT to be acceptable.

2. *What are the factors that affect the therapy choices made by therapists? Do training, experience, special interest and specialism affect clinical practice?*

It was hypothesised that:

- There would be a wide skill mix of SLTs with differing levels of experience and training working with AWS.
- SLTs who have a special interest in AWS would have more training and experience in working with this client group.
- There would be wide variation in the practice of SLTs working with this client group based on experience, training and interest.

3. *Can these factors help identify practitioners using practice that is in line with current research and understanding of stuttering?*

It was hypothesised that

- Specialist clinicians could be identified and their practice described and defined to help develop a protocol for a clinical trial.

4. *Can the practice of expert clinicians be described and defined?*

It was hypothesised that

- Expert clinicians could be identified and their practice described and defined to help develop a protocol for a clinical trial.

The survey was sent to a carefully updated list from the British Stammering Association of 349 SLTs and a response rate of 77% resulted. There were 191 completed surveys returned and analysed. Design considerations for the survey were informed by the literature and other published sources, and followed the format of a generic therapeutic framework. Likert type scales were used wherever possible but where information did not exist for statements for Likert type scales, open questions were used. Exploratory factor analysis, descriptive and inferential statistics and content analysis were used to analyse the data. A modified Delphi technique was used to help interpret the results of the survey.

It was found that the facets of social anxiety were being recognised and treated by many SLTs, and that many SLTs used CBT type techniques. A sub

group of specialist SLTs could be statistically identified by their practice which was in line with recommendations from current research.

1.4 Structure of Thesis

This thesis starts by describing the literature (chapter two) and emerging gaps in the research in this field, and the motivators for this study and development of the final research questions. It goes on to describe the methods (chapter three) used to answer the research questions; particularly the development of the survey instrument. The results of the survey are presented across five chapters (chapters four to eight), detailing the particular methods of analysis used for each section of the results. The results, interpretations and implications are debated in the discussion chapter (chapter nine) and the conclusions (chapter ten) are presented.

1.5 Funding

This study was funded by the Dominic Barker Trust, a charity whose aims are to:

- Fund research into stammering;
- Raise awareness of the issues surrounding stammering;
- Encourage understanding in those who meet people who stammer;
- Devise better programmes to help overcome this disability.

The Trustees requested that this PhD study should further the work that had already been undertaken by the Trust. As will be shown by the literature review, work by Isobel Crichton Smith funded by the Trust and published in the Journal of Fluency Disorders helped highlight gaps in the research, which this research planned to address by establishing a better evidence base.

1.6 Summary

This thesis reports on the development and results of a survey of the practice of speech and language therapists who work with AWS. The results were analysed and different factors which affect the decisions made by SLTs were

established. A group of therapists, whose practice were statistically different from the rest and was in line with the latest research recommendations (due to experience and training and interest in this field), was identified. Their practice was described as the basis of a framework or protocol of good practice.

The next chapter describes a review of the literature and the development of the research questions.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter will describe how the research questions for this thesis developed from the literature. It will discuss why the treatment of persistent developmental stuttering (stuttering which developed in childhood and continues into adulthood) in adults needs investigation. It will do this by defining what is meant by stuttering and how recent research around psychosocial aspects of stuttering have resulted in the realisation that treating the psychosocial aspects of stuttering is necessary. In particular it will examine the relationship between anxiety and stuttering and the likely most appropriate treatment for this aspect of the disorder. It will review the treatment of persistent developmental stuttering in adults, including the treatment of the “whole” person and not only the speech dysfluency. It will then discuss how to go about establishing an evidence-based treatment for psychosocial aspects of stuttering and the context in which this study took place. Finally the research questions will emerge from this review of the literature.

This project was started in July 2005. Since then the evidence base for the treatment of psychosocial issues associated with stuttering has developed considerably. The research questions, however, emerged from the evidence that existed when this study was designed, in December 2005.

Stuttering has a multi-dimensional nature. The literature on the topic is vast ranging across a wide range of aspects including genetics, neurophysiology and treatment options including therapeutic treatment programs, pharmacological options and fluency devices. This study has chosen to focus on a very small aspect of the field of stuttering: psychosocial aspects. The literature review will explain why this area has been chosen to be the focus of this study.

Stuttering, an abnormally high frequency or duration of disruptions to the forward flow of speech (Guitar, 1998), has been reported as having an incidence of approximately 2.1% in adults (Craig, Hancock, Tran, Craig, &

Peters, 2002). It can have a severe and negative influence on the life choices of people who stutter (Crichton Smith, 2002; Klompas & Ross, 2004). Despite this, there is a lack of evidence base for treating the psychosocial issues of people who stutter. Until recently, clinical trials for persistent developmental stuttering were dominated by speech modification treatment programs, which aimed to change dysfluent speech either by teaching a new way of speaking (speech restructuring) or by modifying moments of stuttering (stuttering modification) (Bothe, Davidow, Bramlett, & Ingham, 2006; Packman, Onslow, & Menzies, 2000; Taylor-Goh, 2005). This was despite the recognition of a high incidence of relapse after treatment was completed (Craig, 1998) and the recognition that psychosocial issues (those issues related to both psychological and social behaviour) played a significant role in the impact of having a stutter (Guntupalli, Kalinowski, & Saltuklaroglu, 2006; Taylor-Goh, 2005; Yaruss & Quesal, 2004). Treating a person holistically has been encouraged (Guntupalli, et al., 2006; Leahy, 2005; Yaruss, 1998; Yaruss & Quesal, 2004) and in clinical practice, many promote an integrated approach targeting feelings and attitudes alongside fluency goals (Guitar, 1998).

A growing body of evidence has shown a strong link between stuttering and social anxiety (Craig & Tran, 2006; Kraaimaat, et al., 1991; Mahr & Torosian, 1999; Messenger, et al., 2004; Stein, et al., 1996). Two predominant characteristics of social anxiety are a fear of negative evaluation by others and avoidance of anxiety-provoking situations (in the case of people who stutter (PWS), mainly speaking situations (Messenger, et al., 2004)). Many researchers have argued that it is only natural that social anxiety evolves from the experiences of living with a stutter (Craig & Tran, 2006; Menzies, Onslow, & Packman, 1999; Miller & Watson, 1992; Poulton & Andrews, 1994). The limitation and restriction described by Crichton Smith (2002) and by Klompas and Ross (2004) result from living with a stutter and might be considered to be features of social anxiety. The Diagnostic and Statistical Manual of Mental Disorders IV (DSMIV) specifically precludes a diagnosis of social anxiety if a general medical condition or another mental disorder is such as stuttering is present (American Psychiatric Association, 2003), as the condition can account for the development of the anxiety. Nonetheless the impact of this anxiety on the PWS is significant and needs treatment.

Within the field of psychology, cognitive behaviour therapy (CBT) is generally agreed to be the approach with the strongest evidence base for the treatment of social anxiety (Gould, et al., 1997; Taylor, 1996). A recent clinical trial for chronic stuttering found that CBT reduced social phobia, but did not reduce stuttering severity (Menzies, et al., 2008). Those who had undergone the CBT program showed greater engagement in everyday tasks. Another study (Iverach, et al., 2009a) showed that if mental health issues such as social phobia were not treated, speech restructuring treatment had only a temporary impact on stuttering severity and avoidance. This provides a strong argument for the use of CBT treatment to address some of the psychosocial aspects of stuttering in adults. These studies were only published after the design of this study had been determined. At the start of this project, in 2005, the evidence base for all approaches targeting psychosocial issues in AWS was sparse.

In the United Kingdom, avoidance reduction therapy, prompted by the work of Joseph Sheehan (Hayhow & Levy, 1989), is agreed by professional consensus to be an appropriate form of intervention with PWS (Taylor-Goh, 2005). When analysed, avoidance reduction therapy is remarkably similar to facets of CBT for social phobia; graded exposure to feared situations, experiments and approaching speaking situations rather than avoiding them. Other studies have reported the use of anxiolytic (anxiety managing) techniques in therapy with PWS despite a lack of evidence (Lincoln, Onslow, & Menzies, 1996; Yaruss, Quesal, & Murphy, 2002). It is likely that avoidance reduction therapies (and therefore CBT techniques) are widely used in the United Kingdom despite the evidence base only being professional consensus.

In health research, there are established levels of evidence based on the methodological strengths of the supporting evidence, ranging from the lowest, expert opinion, to the highest, meta-analysis of randomised control trials (see Table 1) (Harbour & Miller, 2001; Hart, 2001; Taylor-Goh, 2005; United States Department of Health and Human Services Agency for Health Care Policy and Research, 1992). In the treatment of psychosocial aspects of dysfluency, clinical trials exist, but until recently, there were very few and most were Type 2- or Type 3 evidence (Harbour & Miller, 2001; Taylor-Goh, 2005).

Levels of evidence	
1++	High quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
1+	Well conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias
1-	Meta-analyses, systematic reviews or RCTs, or RCTs with a high risk of bias
2++	High quality systematic reviews of case control or cohort studies or high quality case control or cohort studies with a very low risk of confounding, bias, or chance and a high probability that the relationship is causal
2+	Well conducted case control or cohort studies with a low risk of confounding, bias, or chance and a moderate probability that the relationship is causal
2-	Case control or cohort studies with a high risk of confounding, bias, or chance and a significant risk that the relationship is not causal
3	Non-analytic studies, e.g. case reports, case series
4	Expert opinion

Table 1

Levels of Evidence (Harbour & Miller, 2001)

In speech and language therapy, the use of evidence-based practice is strongly advocated (Royal College of Speech and Language Therapists, 2006). In 2005 the Royal College of Speech and Language Therapists published a set of clinical guidelines for all speech and language disorders (Taylor-Goh, 2005). These guidelines examined the evidence for clinical approaches for disorders such as dysfluency, and subsequently made recommendations for clinical practice. Much of the evidence cited in the guidelines for adult dysfluency, specifically around the psycho-social impact of stuttering, was professional consensus or expert opinion (Taylor-Goh, 2005), indicating that only the lowest level of evidence exists for these recommendations. This indicated a need for more robust evidence in this area.

More recently, a synthesis of the evidence was published as a resource manual for commissioning services by the RCSLT (Enderby, et al., 2009). Once again, this review acknowledged the need for stuttering therapy for adults to promote positive psychological change, but did not provide evidence for how this should be done. The synthesis recommended the use of specialist

therapists in managing dysfluency based on the results and conclusions of this doctoral study.

The need for psycho-social aspects of stuttering to be addressed has been established. In recent years, the opinions and experiences of people who stutter have been sought, and the negative impact of living with a stutter has been described (Crichton Smith, 2002; Klompas & Ross, 2004). Stuttering impacts on a wide range of psycho-social issues; education, employment and relationships to name a few, but an argument has been made that in some situations some of the limitations resulting from stuttering (such as avoidance) are self-imposed by the person who stutters rather than being the result of external influences (Crichton Smith, 2002). Self-imposed limitations could be addressed within speech and language therapy more easily than limitations imposed by society.

A more robust evidence base than professional consensus is needed for managing the psychosocial aspects of stuttering. This chapter will examine the evidence that does exist for the nature and management of psychosocial aspects of stuttering and will then discuss how to improve this evidence, by using the established and well recognised five phased model for designing and evaluating complex interventions (Campbell, et al., 2000; Pring, 2004). This will ultimately lead to the development of the research questions.

2.2 Search Strategy

The initial literature search for papers used in this study took place between September and December 2005. The literature was monitored over the period of the project, and another intensive literature review took place in October and November 2009. In both instances the search used the key words “stutter*/stammer*” AND “quality of life”, “experience”, “life”, “psychosocial”, “psychology/psychological/psycholo*”, “social/sociology/soci*”, “impact”, “feeling/feel*”, “bully/bull*/bullying”, “anxiety”, “treatment”, “therapy”, “brain”, “cognitive”, “evaluation”, “outcome”, “behavioural”, “neuro*” and “genetics”. The databases Google scholar, AMED (Ovid), CINAHL (EbscoH), EMBASE (Ovid), MEDLINE (Ovid) Medline (PubMed), Psychinfo (OCLC) were searched. The Web of Knowledge was used to explore key papers and

authors, and the reference lists of fundamental papers were examined. Other papers or conference proceedings which were highlighted by relevant authors were considered. Due to the high number of papers, only papers which were considered to be pertinent to this study, those which addressed issues which were common to many adults who stutter, are reported upon.

From the results the following inclusion and exclusion criteria were applied:

- Accessible either through the University of East Anglia (UEA) institutional access, or through the interlibrary lending loans or by contacting the author or other researchers/colleagues. If none of these routes procured the paper the paper was left out of the analysis.
- Papers in English
- From journals which had an impact factor
- Included: psychological, social, cognitive, mental and emotional issues
- Excluded topics: Altered Auditory Feedback (AAF), cluttering.

Established text books in the fields of dysfluency, psychology, CBT and social anxiety were also consulted, in addition to books and papers and websites by the RCSLT and the Department of Health. The Journal of Fluency Disorders was exhaustively searched.

2.3 Definition of Stuttering

The Royal College of Speech and Language Therapists' *Communicating Quality 2* (1996) defines stuttering in the following way: 'Dysfluency describes a disorder which affects the fluency of speech production. This may also affect the individual's attitude to communication and to themselves. Disorders of fluency are usually characterized by both overt features, e.g. blocking, and covert features, e.g. avoidance behaviours and feelings such as anxiety.' (Royal College of Speech and Language Therapists, 1996, pg.177)

In the United Kingdom, the words stuttering and stammering are used interchangeably depending on geographical location. Internationally, stuttering tends to be the preferred label, and will be the term used in this study.

There are multiple definitions of stuttering in well recognised texts, but many differ slightly depending on the perspective that the author chooses. It is beyond the scope of this thesis to discuss fully all definitions of stuttering or even to explore all of the key references that can be found in texts such as “A Handbook on Stuttering” (Bloodstein, 1995) and “Stuttering. An Integrated Approach to its Nature and Treatment” (Guitar, 1998). The definitions of stuttering explored and debated were chosen explicitly for the purpose of this study; for clinical and treatment research purposes.

Stuttering may be considered to be simply the observable behaviour of dysfluent speech, that is, interruptions to the smooth flow of speech (Bloodstein, 1995). Others would argue that stuttering is much larger than the disruption of speech; it has a far wider impact.

Clinicians and researchers include not only observable dysfluencies, but also the psychosocial impact of the dysfluency, in their definition of stuttering. Clinicians recognise core, primary or overt features of dysfluency and secondary, associated or covert features of dysfluency in advanced stuttering (Bloodstein, 1995; Guitar, 1998). Although these terms may differ subtly in meaning, overt features of dysfluency are the observable dysfluency behaviours while covert features of dysfluency are the associated behaviours of dysfluency such as avoidance of situations and words used to help the AWS manage communication situations. The RCSLT clinical guidelines indicate that for some individuals the emotional and cognitive aspects of stuttering may be the most significant components (Taylor-Goh, 2005).

People who stutter often experience negative affective, behavioural and cognitive reactions, both from within themselves and the world around them (Conture & Curlee, 2007). This can impose a significant limitation in the PWS' engagement in daily activities and can have a negative impact on their quality of life (Yaruss & Quesal, 2004). Some have suggested that the disorder of stuttering be considered a syndrome, as the nature of stuttering results in a disorder that encompasses far more than dysfluent speech and that all aspects of the disorder need to be taken into account by clinicians and researchers (Guntupalli, et al., 2006).

Another view is that stuttering comprises a number of complex systems involving the person and the environment and underpinned by a neurological deficit (Packman, Code, & Onslow, 2007; Packman & Kuhn, 2009). This way of examining a disorder is validated by the International Classification of Functioning, Disability and Health (ICF). This classification system, developed by the World Health Organisation, provides a unified and standard language and framework for describing health and health related states (World Health Organisation, 2002). The ICF provides a model of functioning and disability which recognises all the different health domains and constructs which interact to describe a person with a health disorder. The ICF describes two health domains, each with two components:

Part 1: Function and Disability

- a. Body functions and structures
- b. Activities and participation

Part 2: Contextual Factors

- c. Environmental factors
- d. Personal factors (World Health Organisation, 2002)

This model recognises that a disorder such as stuttering has its basis in an impairment of the body, most likely neurological, (body functions and structures), but that this impairment may impact on the AWS's ability to participate in life areas such as communication, relationships and major life areas such as education and employment (activities and participation). It also recognises that contextual factors affect the impact that the impairment has on the person. It acknowledges that the physical environment and societal and attitudinal factors (environmental factors) can have a positive or negative influence on the individual's performance, and that personal factors such as lifestyle, habits, coping styles and present and past experience are variables which play a role in the person's disability and the outcome of various interventions (World Health Organisation, 2002; Yaruss, 1998; Yaruss & Quesal, 2004). The psychosocial aspects of a health disorder refer to the consequences of the impairment rather than the impairment itself.

Psychosocial aspects of stuttering would refer to the PWS' participation in life areas such as communication, relationships, education and employment (activities and participation). The ICF allows the researcher and clinician to

take a holistic view of the impairment of stuttering and its impact on the individual so that all of these domains can be taken into account when intervention options are considered.

These definitions indicate that stuttering is a complex disorder which affects emotions and cognitions in addition to disrupting speech. The psychosocial aspects of stuttering will now be considered in greater detail.

2.4 Psychosocial Issues Identified within Stuttering Research

This section will explore psychosocial issues including the impact and consequences of living with a stutter and the effect of negative responses and reactions on the individual. It will discuss avoidance, employment and education, relationships and social aspects, impact of stuttering on identity, feelings, and anxiety.

2.4.1 What are Psychosocial Issues?

Psychosocial issues include the impact and consequences of stuttering on the individual. The term psychosocial is an adjective relating to the interrelation of social factors and individual thought and behaviour (Oxford Dictionaries, 2008). It includes psychological, social, mental, cognitive and emotional issues, but excludes physical issues. In stuttering it refers to the psychological and social behaviours associated with the disorder. It is a term understood in the United Kingdom speech and language therapy community and is referred to in the RCSLT clinical guidelines without specifically being defined (Taylor-Goh, 2005).

Many authors refer to the ABC factors associated with stuttering (Bloodstein, 1995; Conture & Curlee, 2007; Guitar, 1998; Yaruss, 2007). **A**ffective reactions include fear, shame, embarrassment and anxiety associated with stuttering. **B**ehavioural reactions are those behaviours which a PWS uses to help cope with the stutter such as avoidance of words or situations. **C**ognitive reactions are psychological aspects such as negative thinking, reduced self

esteem or low confidence related to stuttering (Yaruss, 2007). All these factors could also be considered to be psychosocial issues connected to stuttering.

2.4.2 The Impact of Stuttering

Many authors have reported on the negative adverse effects and the negative social expectancies of living with a stutter (Corcoran & Stewart, 1998; Craig & Tran, 2006; Crichton Smith, 2002; Daniels & Gabel, 2004; Hugh-Jones & Smith, 1999; Kathard, et al., 2004; Klein & Hood, 2004; Klompas & Ross, 2004; Langevin, Packman, & Onslow, 2009; Messenger, et al., 2004; Plexico, et al., 2009b; Saltuklaroglu & Kalinowski, 2002; Wright & Ayre, 1998; Yaruss, 1998). Negative responses and reactions (Corcoran & Stewart, 1998; Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004) and avoidance (Blomgren, Roy, Callister, & Merrill, 2005; Corcoran & Stewart, 1998; Guntupalli, et al., 2006; Plexico, et al., 2009b; Woolf, 1967) have all been associated with stuttering. Stuttering has an impact on education and employment (Crichton Smith, 2002; Klein & Hood, 2004; Klompas & Ross, 2004), relationships (Bricker-Katz, Lincoln, & McCabe, 2009; Corcoran & Stewart, 1998; Crichton Smith, 2002; Hearne, Packman, Onslow, & Quine, 2008; Kathard, et al., 2004; Klompas & Ross, 2004; Langevin, et al., 2009), feelings (Corcoran & Stewart, 1998; Crichton Smith, 2002; Klompas & Ross, 2004; Plexico, et al., 2009b), identity (Daniels & Gabel, 2004; Klompas & Ross, 2004) and mental health (Iverach, et al., 2009a; Iverach, et al., 2009c). Negative experiences of stuttering can result in negative psychological reactions to communication (Messenger, et al., 2004), negative emotion (Kraaimaat, et al., 2002), and negative cognitive processing (St Clare, et al., 2009; Wright & Ayre, 1999). An increase in daily life stressors can increase dysfluencies in PWS (Blood, Wertz, Blood, Bennett, & Simpson, 1997). This can result in a vicious cycle, as these factors can impact on the processing ability of the brain, slowing functioning (Hartikainen, Ogawa, & Knight, 2000; Mitchell, et al., 2008) and increasing dysfluencies (Bosshardt, 2002). Assisting management of the psychosocial issues of stuttering may minimise additional negative cognitive processing and subsequently have a positive impact on fluency, although research in this area is inconclusive (Blood, et al., 1997; Menzies, et al., 2008; Onslow, O'Brian, Lincoln, Menzies, & Goodhue, 2005).

Numerous qualitative studies have provided useful evidence about the lived experience of stuttering. Interviews with people who stutter have shown themes of limitation and restriction and suffering (Corcoran & Stewart, 1998; Crichton Smith, 2002; Klompas & Ross, 2004). Yaruss (2007), using the ICF, describes limitation as a difficulty with activities (what the person wants to do on a daily basis) and restriction as difficulties in participation (what the person wants to do in his life as a whole).

Limitation and Restriction as a Result of Stuttering

Crichton-Smith (2002) used in-depth semi-structured interviews to examine the communicative experiences and coping strategies of 14 AWS. The participants, recruited from a newspaper advertisement and a stuttering support group in the United Kingdom, ranged in age from 26 to 86 years old and were from a range of occupations: unskilled to professional. Thirteen of the participants had a persistent developmental stutter, while one had an acquired stutter. The study found that stuttering had limited the lives of those who had a persistent developmental stutter, especially in the areas of employment, education and self-esteem. Many of the strategies regularly used by the respondents contributed to the limiting experience of stammering.

Klompas and Ross (2004) interviewed 16 South African adults between 20 and 59 years. Participants were recruited from a self help group, a speech and language therapy clinic and personal contacts. The interviews found that stuttering impacted on education, social life and employment and a general theme of restriction emerged.

Avoidance

Many studies reported that the AWS used avoidance to manage their stutter; particularly avoiding difficult speaking situations (Bricker-Katz, et al., 2009; Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004).

Avoidance as an escape behaviour is commonly reported in the stuttering literature (Guntupalli, et al., 2006; Maxwell, 1982; Peters & Starkweather, 1989; Plexico, et al., 2009b) and has been addressed in therapy programs such as Joseph Sheehan's Avoidance Reduction Therapy (Hayhow & Levy,

1989) and therapy programs based on Van Riper type therapy such as the Successful Stuttering Management Program (SSMP) (Blomgren, et al., 2005). Crichton Smith (2002) and Klompas and Ross (2004) argued that avoidance contributed to limitation and restriction in the lives of PWS they interviewed. Avoidance also affected the ability to form relationships and make friends (Crichton Smith, 2002). PWS report using avoidance to hide stuttering, to appear normal or not to appear stupid or incompetent and to reduce being negatively evaluated (Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004; Plexico, et al., 2009b). PWS report that avoidance provided them with momentary relief but had significantly reduced the scope of their lives by altering choices of career, increasing isolation, frustration and emotional suffering (Klompas & Ross, 2004; Plexico, et al., 2009b).

Employment and education

Stuttering has been reported to affect PWS' education and employment opportunities. PWS have reported that stuttering resulted in difficulties at school such as a lack of understanding by teachers, teasing by classmates and problems with oral presentations. These factors impacted on academic performance and limited their education (Crichton Smith, 2002). In some instances PWS reported that this had a longer term impact on tertiary education and choice of career (Crichton Smith, 2002; Klompas & Ross, 2004). A quantitative study (Hayhow, Cray, & Enderby, 2002) found that 81% (269) of respondents reported that their life at school was affected by stuttering, citing teasing by peers and a lack of understanding by teachers as particular issues. More than half of the respondents indicated that stuttering had affected occupational choices and many cited examples of discrimination in the workplace due to their stutter.

Other studies have reported that stuttering has affected PWS's choice of career, employability and job performance (Crichton Smith, 2002; Klein & Hood, 2004; Klompas & Ross, 2004). This does not apply to all PWS, but a proportion of PWS who were interviewed reported that their stuttering influenced their ability to obtain work, and once in work their stuttering interfered with their job performance. They reported employers questioning clients on the PWS' (employee's) speech and that managers gave unfairly biased evaluations of job performance based on stuttered speech. PWS also

reported that their stuttering influenced whether they were considered for promotion by their employers or whether they felt confident enough to apply for a promotion because of their speech. PWS also reported that stuttering affected their relationships with their managers, with employees who stutter choosing not to speak in certain situations or getting colleagues to speak for them (Klompas & Ross, 2004). Klein and Hood (2004) reported that PWS believe stuttering interferes with their chances of being hired and promoted and hinders job performance, and that employers have negative views of PWS. Many PWS have sought employment requiring little speaking.

Many PWS report difficulties with interviews, and therapy has specifically been targeted at improving job interview performance (Brundage, Graap, Gibbons, Ferrer, & Brooks, 2006; Klompas & Ross, 2004). A survey of university students showed that they held stereotypical views about career opportunities for PWS and judged 20 careers, such as becoming an attorney or a SLT, as inappropriate choices for PWS (Gabel, Blood, Tellis, & Althouse, 2004).

Relationships and social aspects

PWS have reported that the severe social avoidance arising from stuttering has affected the ability to form relationships (Crichton Smith, 2002). Stuttering has been found to have an impact on peer responses to PWS from as young as three years old (Langevin, et al., 2009) through adolescence (Hearne, et al., 2008), adulthood (Corcoran & Stewart, 1998; Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004) and into old age (Bricker-Katz, et al., 2009). PWS have reported that stuttering impacts on their relationships with their children (not speaking to them when they would like to, causing their children embarrassment), their parents (parents showing impatience, lack of understanding, less expectation, greater attention or distress at the stuttering) and their partners: both positively (patience, support and understanding) and negatively (frustration, withdrawal, embarrassment, lack of understanding and discomfort) (Klompas & Ross, 2004). A few people have cited stuttering as a reason for not getting married (Hayhow, et al., 2002). PWS report that parents and significant others did not discuss stuttering openly, and appeared to be in conflicting states between accepting them for who they were as a PWS and wanting to make them “right” for society (Kathard, et al., 2004).

Fear of negative evaluation by others has repeatedly been found in groups of people who stutter (Bricker-Katz, et al., 2009; Iverach, et al., 2009c; Messenger, et al., 2004; Mulcahy, Hennessey, Beilby, & Byrnes, 2008), and many PWS perceived that people reacted negatively to their stuttering (Klompas & Ross, 2004). Empirical evidence, a pilot study examining gaze aversion, has supported PWS's beliefs that people do react negatively to stuttered speech by averting their gaze when the same person stutters compared to that person speaking fluently (Bowers, Crawcour, Saltuklaroglu, & Kalinowski, 2009). Another study found that the attentional bias of listeners could not easily be shifted from the stuttered speech to the content of the conversation (Bar, 1969).

Older people

Stuttering has an impact across the lifespan. Bricker- Katz et al. (2009) explored the experience of stuttering for people over 55 years of age in Australia. They used focus groups with eleven participants, eight males and three females, between 57.2–83.8 years old. They found that the impact of stuttering on the lives of older people can be similar to its impact on younger people who stutter. Some were constrained by the impact of stuttering and struggled with a fear of speaking and a fear of negative evaluation by others. Others experienced some relief from these limitations because they had retired. Some older people were less fearful of the consequences of their stuttering and found that an acceptance of stuttering diminished the limitations they had experienced earlier in life.

Negative Responses and Reactions, Being “Normal” and Bullying

In many studies, participants reported negative responses and reactions to their stutter. In qualitative interviews, many participants could recall episodes when an important person such as a teacher or parent had negative reactions to their stutter. (Bricker-Katz, et al., 2009; Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004). Kathard et al. (2004) interviewed seven South African adults (five males and two females) of diverse racial, social and economic backgrounds. The participants were recruited via purposive and

convenience sampling processes. Narrative analysis, cross case and thematic analysis techniques were used to analyse the transcribed interviews. The study found that stuttering impacted on the AWS's identity formation; the AWS realised that they were a "DisOther" (different or abnormal). This awareness occurred in the home, school and work contexts, via processes such as labelling, judging and teasing. PWS reported the negative, embarrassing social experience of seeing a questioning, confused look on a conversational partner's face. The moment of stuttering was experienced as uncertainty, a loss of control, extended and repeated moments of struggle and a feeling that communication was in jeopardy (Kathard, et al., 2004).

Klompas and Ross' (2004) participants reported perceived negative reactions such as impatience when they talked, listeners finishing their sentences for them, a lack of understanding and emotional responses such as laughing, embarrassment and helplessness; shock; lack of caring; nervousness and being frightened and awkward. Participants also mentioned not knowing what was going on in the mind of the listener (Klompas & Ross, 2004).

A recent study of pre-school children found that children as young as three and four years old who stuttered received negative responses and reactions from their peers. These negative reactions took the form of peers reacting with confusion, interrupting, mocking, ignoring or walking away from the speaker. The children who stutter (CWS) had difficulty in leading peers in play, participating in pretend play, and resolving conflicts (Langevin, et al., 2009).

Other studies have shown that CWS are more likely to be bullied and that this bullying can impact negatively on academic performance, relationships, self esteem and depression. The more severe the stutter, the greater the likelihood of being bullied, leading to long term effects and difficulty with friendships (Davis, Howell, & Cooke, 2002; Hugh-Jones & Smith, 1999). The long term effects reported as a result of these negative reactions have been anxiety, social withdrawal and increased difficulty in verbal communication (Hugh-Jones & Smith, 1999). PWS have also reported teasing, particularly in the school years (Hearne, et al., 2008; Klompas & Ross, 2004).

The participants in a number of the studies reported using strategies to attempt to appear normal, predominantly by staying silent and attempting to

conceal the stutter (Bricker-Katz, et al., 2009; Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004). Plexico (2009) interviewed seven men and two women who reported using escape mechanisms such as avoidance as a way of coping with stuttering. They reported that this provided relief and a sense of control but increased the risk of isolation (Plexico, et al., 2009b).

AWS reported that they discovered their speech was different in normal living contexts where parents, teachers and peers drew attention to the stutter by reacting to it in a negative way (Kathard, et al., 2004). The incidents ranged from casual correction to mocking and being punished by being hit. These experiences began to make the participants aware of their “differentness”. The participants in the study reported varying reactions by different people and in different environments but by the time they were adolescents negative interpretations had been conveyed to them by a variety of social responses.

This group of AWS also reported misrepresentation in the media, and misunderstanding of their stories by others. The negative social evaluation and experiences included being laughed at, being considered different, judging, evaluating, punishing and teasing within the school community. Referrals for treatment were also considered a negative experience (Kathard, et al., 2004).

Identity

People who stutter have reported that stuttering has impacted on their self-esteem, self-image and self-identity (Klompas & Ross, 2004). Relatively few studies have examined the impact of stuttering on identity, but Daniels (2004) argued that it may be difficult to construct a positive identity as someone who stutters due to the negative experiences and negative effect of stuttering on communication and social interactions (Daniels & Gabel, 2004).

The adjustment difficulties associated with living with a stutter as a disability and the influence this has on the development of the identity of a PWS were investigated by Kathard et al. (2004). They found that environmental, cultural, personal and behavioural factors (personal and social factors) influenced the self-concepts of people who stutter. They concluded that disability or “otherness” affects identity; if someone is impaired, the person’s social identity

is called into question and the person may be considered devalued, spoiled or flawed in the eyes of others. Kathard et al. (2004) determined that the awareness of being different did not coincide with the onset of stuttering; rather it was negative social responses from others that created an awareness of being different within the PWS (Kathard, et al., 2004).

Feelings

Many studies reported on the negative emotion felt by the participants. The participants reported frustration, anger (particularly at themselves because they could not control their speech), embarrassment and nervousness (Klompas & Ross, 2004). They reported feelings of helplessness, shame and fear (Corcoran & Stewart, 1998; Crichton Smith, 2002; Klompas & Ross, 2004) and hopelessness (Plexico, et al., 2009b). Corcoran and Stewart (1998) summarised the participants' accounts of their feelings by identifying a theme of suffering, evidenced by reports of nightmares, humiliation, dread, isolation, and thoughts of suicide. Many PWS have also reported feeling out of control (Plexico, et al., 2009b).

Although many studies reported on the negative emotion felt by the participants, occasionally some positive feelings such as confidence, a positive attitude, a sense of challenge, and triumph are reported (Klompas & Ross, 2004).

Anxiety

As discussed previously, people who have a persistent developmental stutter are likely to have negative experiences as a result of their stutter throughout their lives. Consequently they may be at increased risk of developing social, psychological, emotional and behavioural difficulties (Craig, 2003).

Recent research has shown that AWS have a far higher prevalence of anxiety disorders, especially social phobia than matched controls from the general population, implying that AWS may experience debilitating anxiety (Iverach, et al., 2009c). It has also been found that the diagnosis of an anxiety, mood or personality disorder is associated with poorer outcomes after speech restructuring programs (Iverach, et al., 2009a). Huinck et al. (2006) found that

a relapse in fluency post treatment (which is more likely with greater stuttering severity) was associated with greater negative emotional reactions.

The relationship between stuttering and anxiety disorders has been debated in the literature for very many years, and the next section of this review will discuss this topic in depth because it is considered to be vitally important in understanding the difficulties of AWS and their potential treatment. Social anxiety, in particular, appears to be key in understanding the psychosocial issues that impact on the lives of PWS (Craig, 2003; Craig, et al., 2009; Iverach, et al., 2009c; Klompas & Ross, 2004; Kraaimaat, et al., 1991; Kraaimaat, et al., 2002; Mahr & Torosian, 1999; McColl, et al., 2001b; Menzies, et al., 2008; Menzies, Onslow, Packman, & O' Brian, 2009; Messenger, et al., 2004; Mulcahy, et al., 2008; St Clare, et al., 2009; Stein, et al., 1996). Many of the issues discussed in this section on psychosocial issues such as limitation and restriction, negative feelings and reactions such as embarrassment could be linked to social anxiety, and arguably the recognition and treatment of social anxiety in AWS is the way forward for speech and language therapy with this client group.

Summary: Psychosocial Aspects of Stuttering

This section has explored what the term psychosocial means and examined the impact and consequences of stuttering on the individual. It expanded on some of the psychosocial issues pertinent to stuttering such as education, employment and relationships.

The information presented in this section was largely derived from qualitative interviews. The themes that emerged from these studies were very similar. As the participants were from a wide variety of ages and were recruited in a number of different countries, it is reasonable to conclude that many people who stutter may identify with these experiences. Similar themes have been reported in other papers (Corcoran & Stewart, 1998; Guntupalli, et al., 2006; Huinck, et al., 2006; Plexico, et al., 2009b; Yaruss, 2007).

Stuttering results in avoidance, limitation and restriction for many PWS. It impacts on relationships, identity, education and employment. Fear of

negative evaluation and cognitive biases towards negative social expectancies to stuttering may be related to anxiety associated with stuttering, particularly social anxiety. In conclusion, anxiety, particularly social anxiety, needs further examination. The following section will explore the concept of anxiety and its relationship to stuttering.

2.5 Anxiety, Social Anxiety, and Stuttering and Anxiety

The relationship between stuttering and anxiety has been debated for many years. As more evidence for a neurological and genetic cause of stuttering emerges, the relationship between stuttering and anxiety needs to be reassessed. In the past, there were many theories which attributed anxiety as the cause of stuttering (Bloodstein, 1995). Most of these theories were impossible to investigate using experimental means (Menzies, Onslow, & Packman, 2000). There is a strong relationship between theories of what causes stuttering and therapy approaches to treat stuttering. For example, the Diagnosogenic theory developed by Wendell Johnson broadly states that stuttering is caused by parents' diagnosis of normal disfluencies in their child's speech as stuttering, resulting in the parents having an abnormal reaction to these speech hesitations and thereby creating speech anxieties in the child, which results in the disorder of stuttering (Guitar, 1998). Consequently, if a therapist were an advocate of the Diagnosogenic theory, treatment would likely involve encouraging the parents to ignore the stutter. Boyle and Blood (2009) have recently found that the perceived cause of stuttering affects perceptions of PWS. When the cause of stuttering was perceived to be psychological, PWS were rated more negatively than when the cause was perceived to be unknown or genetic. Attributing the cause of stuttering to anxiety is likely to result in PWS being stigmatised (Boyle, Blood, & Blood, 2009).

Current research argues that anxiety is a natural development as a result of living with a stutter (Craig, 2003; Craig & Tran, 2006). This is of particular importance, as high levels of anxiety could have a negative impact on the life of someone who stutters. This section will examine anxiety as a concept and its relationship to stuttering. It will highlight recent research indicating that social anxiety is strongly linked to stuttering. It will explore the concept of

social anxiety and discuss the relationship between social anxiety and stuttering. It will then discuss the non-pharmacological treatment that is currently considered to be the best treatment for social anxiety, CBT.

2.5.1 Definitions of Anxiety

Anxiety is considered to be a negative or unpleasant emotion which is distressing but which has a strong biological purpose; to protect us and motivate us (Finn, Rutledge-Gorman, & Crabbe, 2003). It is viewed as existing on a continuum; in some cases it can be a reaction which is out of proportion to the threat posed and can affect social, occupational and emotional functioning (Endler & Kocovski, 2001).

Menzies et al. (1999) reviewed the literature on stuttering and anxiety and chose to use Marks' (1987) definition of the concept of anxiety. Marks defines anxiety as a complex psychological construct that consists of three components: the verbal–cognitive, behavioural and physiological (Menzies, et al., 1999). This framework will be used to categorise some of the studies to be examined later in the review. There are other aspects to anxiety beyond these three constructs: in addition to the above components, state and trait anxiety and the multi-dimensional nature of anxiety will also be explored.

Verbal–cognitive Component of Anxiety

Stimuli which cause emotional responses are cognitively appraised to determine whether the physiological emotional response experienced is good or bad and whether the resulting mood or affect change will be positive or negative. For example a response to a situation can involve an increase in heartbeat and sweaty palms and the person decides through reasoning (verbal) whether the emotion experienced is excitement or fear. An aspect of verbal cognitive anxiety is worry. Worry is a repetitive cognitive activity which often concentrates negatively on feared prospective outcomes, tending to be an unrelenting awareness of potential danger which continues without a satisfactory conclusion (Gladstone & Parker, 2003). The purpose of worry is to anticipate possible future danger by rehearsing possible aversive events and

outcomes in one's mind and searching for ways of avoiding them. It can be helpful in problem solving and, when successful, is likely to be thought of as preparatory coping, but it can become persistent and unsuccessful if the danger is constantly rehearsed without a solution ever being found.

In some extreme cases when worry is excessive, threat situations which are not based on truth may be constructed (Mathews, 1990). There are many cues that may signal danger in the environment that could be considered to be ambiguous. Cues may be subject to interpretive bias. It has been found that if someone is in a negative mood state they are more likely to interpret ambiguous cues as threatening and therefore worry about them more. For example if an anxious person greets someone and that person does not respond, the anxious person may attribute the lack of response as a deliberate snub rather than the possibility that the other person did not hear them or might have been distracted. Anxious subjects selectively attend to threatening information and interpret events in a threatening way; less anxious people would actively neglect those same threatening events (Clark & McManus, 2002; Mathews, 1990).

Behavioural Component of Anxiety

Based on the theory of cognitive processing of emotions, a person is able to evaluate and select between options of behaviour, assessing possible rewards and their associated benefits or avoiding threats with their associated costs (Malim & Birch, 1998; Mathews, 1990).

Avoidance has been described in the section on psychosocial issues. It is a behavioural defence mechanism used to deal with anxiety and its purpose is to protect one from danger. Cognitively, avoidance may seem an obvious way to deal with a perceived danger, and the relief associated with not having to deal with the perceived threat is a reward. This relief may reinforce the behaviour of avoidance. Avoidance, while providing a way to escape the threat or anxiety, can perpetuate the behaviour that limits the person's activity (Crozier & Alden, 2001; Heimberg, Liebowitz, Hope, & Schneier, 1995).

The Physiological Component of Anxiety

Physiological changes are associated with anxiety reactions. Emotion triggers the autonomic nervous system, the neurotransmitter system, the endocrine system and the musculoskeletal system (Turner & Stets, 2005). Learned autonomic responses are triggered via the brainstem and/or basal ganglia and implicit behavioural responses are triggered via the basal ganglia, thalamus and pre-motor cortex. On a cognitive level the primary, secondary, association and language cortices are stimulated resulting in explicit behavioural responses (Rolls, 2000).

FMRI (functional magnetic resonance imaging) studies and theoretical models of stuttering have postulated the basal ganglia as a site of lesion for stuttering (Alm, 2004a; Brown, Ingham, Ingham, Laird, & Fox, 2005; Neumann, et al., 2005; Packman, et al., 2007; Watkins, Smith, Davis, & Howell, 2007). As the basal ganglia are also involved in emotional responses, it is possible that emotion may have a physiological impact on dysfluent speech.

The Multi-dimensional Nature of Anxiety

Anxiety can be examined from different perspectives, biological, medical and psychological. Anxiety can be viewed as a multi-dimensional construct (Endler & Kocovski, 2001). Trait anxiety has been described as an individual's predisposition to respond to anxiety (an anxious personality type) and state anxiety as the transitory emotion, the reaction to a situation, characterised by a physiological response and conscious feelings at a particular moment in time (Endler & Kocovski, 2001). State anxiety has two facets: cognitive-worry and autonomic-emotional. Trait anxiety has four components: social evaluation, physical danger, ambiguous and daily routines. In most situations when a person feels anxious it is about one of these components. Social evaluation trait anxiety measures a person's increase in state anxiety in situations where one is being observed or evaluated by others (Endler & Kocovski, 2001). This aspect of anxiety is likely to be the type involved in social phobia or social anxiety disorder.

2.5.2 Social Anxiety

Social anxiety disorder involves persistent fear of embarrassment and humiliation and those with the disorder avoid the scrutiny of others (Craig & Tran, 2006; Stein & Stein). This involves avoiding situations which could be potentially distressing such as public speaking meetings and social occasions.

The International Classification of Diseases (ICD 10) defines social phobia as

“Fear of scrutiny by other people leading to avoidance of social situations. More pervasive social phobias are usually associated with low self-esteem and fear of criticism. They may present as a complaint of blushing, hand tremor, nausea, or urgency of micturition, the patient sometimes being convinced that one of these secondary manifestations of their anxiety is the primary problem. Symptoms may progress to panic attacks” (World Health Organisation, 2007).

The Diagnostic and Statistical Manual of Mental Disorders, (American Psychiatric Association, 2003) provides diagnostic criteria for mental health conditions. Social anxiety is considered to be a pathological condition when the following diagnostic criteria are met:

“A. A marked and persistent fear of one or more social and performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. Note: In children, there must be evidence of the capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults.

B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or predisposed panic attack. Note: In children, the anxiety may be expressed by crying, tantrums, freezing, or shrinking from social situations with unfamiliar people.

C. The person recognizes that the fear is excessive or unreasonable.

Note: In children, this feature may be absent.

D. The feared social or performance situation are avoided or else are endured with intense anxiety or distress.

E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

G. The fear or avoidance is not due to the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or a general medical condition and is not better accounted for by another mental disorder (e.g. Panic Disorder With or Without Agoraphobia, Separation Anxiety Disorder, Body Dysmorphic Disorder, a Pervasive Developmental Disorder, or Schizoid Personality Disorder).

H. If a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g. the fear is not of Stuttering, trembling in Parkinson's disease, or exhibiting abnormal eating behaviour in Anorexia Nervosa or Bulimia Nervosa" (American Psychiatric Association, 2003).

As can be seen from the diagnostic criteria, a diagnosis of social anxiety is specifically precluded if it is associated with a condition which could understandably result in social anxiety such as stuttering.

Models/ Theories of Social Anxiety

The persistence of social phobia has been explained by cognitive models of the disorder. When faced with a social situation, the person with social anxiety (PWSA) activates an unrealistic social standard or assumption, or a conditional belief, or unconditional negative belief, such as "I must always

sound intelligent or fluent” or “If I stutter I will sound stupid” or “I’m different”. The PWSA then shifts their attention towards themselves, disregarding the responses of others. This results in the person viewing them self negatively and making inferences about both their appearance to others and others thoughts about them. They then overestimate the negative consequences of that experience and follow the encounter with post-event rumination. It is likely that their review of events is dominated by negative self perception which results in a distorted negative perspective. In order to avoid mishaps maladaptive coping strategies such as avoidance and safety behaviours are used. Safety behaviours are intended to prevent or minimize the feared catastrophe. Social anxiety may be accompanied by physiological arousal (Crozier & Alden, 2001). This becomes a cycle.

People experiencing social phobia tend to interpret social events in an excessively negative fashion, showing attentional and interpretational bias to information. They are hypervigilant to cues which reinforce their negative beliefs, and if something occurs which is ambiguous, they are likely to interpret that information in a negative way (Clark & McManus, 2002). Research demonstrates that people experiencing social anxiety show enhanced self attention when anxious in social situations. They show reduced processing of external social cues when anxious, ignoring the evidence and processing external cues in a negative way (Crozier & Alden, 2001). They show a bias towards identifying others’ emotional expressions as negative and cannot automatically discriminate between emotional states in others (Winton, Clark, & Edelman, 1995). A qualitative study interviewing PWSA has suggested that many may have a distorted self image which has arisen as a result of early unpleasant experiences (Hackmann, Clark, & McManus, 2000).

2.6 Anxiety and Stuttering

The literature on anxiety and stuttering is extensive; there is far too much to discuss in any great detail, but this section will attempt to summarise how theories of anxiety have developed since the 1980s to some of the current accepted working conclusions about anxiety and stuttering. Some of the more significant issues associated with anxiety and stuttering will be explored.

Stuttering is a variable condition. PWS can experience periods of fluency as well as dysfluency. Periods of dysfluency are often associated with fatigue, emotions, ill health, increased cognitive burden and stressful situations (Blood, et al., 1997). When a neurological system which is in some way dysfunctional is placed under additional stress such as fatigue, additional cognitive burden or anxiety the system does not work as well. Studies exhibiting the impact of emotional distracters or cognitive distracters have shown this to be the case (Bosshardt, 2002; Hartikainen, et al., 2000; Mitchell, et al., 2008). It is likely that stuttering, which is likely to be the result of a dysfunctional neurological system (Brown, et al., 2005; Giraud, et al., 2008; Neumann, et al., 2005; Packman, et al., 2007; Watkins, et al., 2007), will get worse when that system is under an additional burden, such as anxiety. Anxiety is not the cause of stuttering, but may exacerbate the condition. Studies have found people who stutter experience increases in frequency of dysfluency and stuttering type behaviours during cognitively stressful tasks (Caruso et al 1994 cited in Gabel, Colcord, & Petrosino, 2002). Perhaps the cause of an increase in dysfluency in these instances can be attributed to decreasing attention to the control of the speech motor system due to competing cognitive or emotional tasks. This theory is supported empirically by word-repetition experiments which indicate that the speech of PWS is sensitive to interference from concurrent attention-demanding cognitive processing (Bosshardt, 2006). It is possible that the physiological and cognitive correlates of anxiety may interfere with brain functioning, and possibly have an impact on speech itself.

It has been argued that anxiety in stuttering is a reasonable reaction and a predictable response to the debilitating effects of the condition and the negative response that PWS will have received from listeners (Menzies, et al., 1999; Miller & Watson, 1992; Poulton & Andrews, 1994). The behavioural response to anxiety is avoidance, a natural response to inconsistent or difficult speech resulting in relief and reinforcing avoidance (Crozier & Alden, 2001).

This section will summarise some of the research on stuttering and anxiety and will show that the relationship between stuttering and anxiety, personality type and neurosis has historically been very difficult to define. Anxiety is recognised and treated by SLTs. Anxiety has an impact on speech; physiologically, verbal-cognitively and behaviourally. Anxiety is present in PWS, and in a higher proportion than in the general population. Different types

of anxiety have been associated with stuttering; trait and state, multi-dimensional facets of anxiety. Social anxiety is the type of anxiety which has the strongest link to stuttering.

The Relationship Between Stuttering, Anxiety And Personality Type

Bloodstein (1995) summarises 33 studies where the adjustment of PWS was measured by personality inventories. These studies were published between 1928 and 1985. A variety of factors were assessed. People were tested for neuroticism, maladjustment, social adjustment or introversion and self-esteem. PWS were compared to normal controls, other people with speech disorders, psychiatric patients, a psychoneurotic group and college students who had sought counselling. Results across all of the studies were inconsistent; they ranged from no differences found between PWS and people who did not stutter (PWDNS) to mild to moderate degrees of maladjustment. Seven studies which all used the Minnesota Multiphasic Personality Inventory (MMPI) did not all reach the same conclusions, although generally all agreed that PWS scores fell within the normal range (Bloodstein, 1995). Some of the studies that went into greater detail about which areas of adjustment were affected seem to point towards problems with social adjustment, introversion, feelings of personal worth, social skills, social anxiety and sensitivity, indicating that social phobia merited further investigation.

More recent research has examined the Five Factor Model of personality among adults who stutter. Results showed that the stuttering group were within the 'average' range for all five personality domains but AWS had significantly higher Neuroticism, and significantly lower Agreeableness and Conscientiousness scores, than normative samples, although these scores were still within the normal range. The increases in the scores were attributed to the psychological, emotional and social impact of communication difficulties and negative consequences associated with stuttering across the lifespan (Iverach, et al., 2010). Another study by this team found that the risk of personality disorder characterized by pervasive, inflexible and maladaptive disturbances of behaviour, cognition, affectivity and impulse control, was significantly higher for adults in the stuttering group than matched controls. This was based on first-stage screening, which over captures evidence of

personality disorder. A diagnosis of personality disorder is only received after a confirmatory interview (Iverach, et al., 2009b). Both of these studies were performed on AWS seeking speech and language therapy, so are likely to represent AWS at difficult points in their life experience. It is unclear whether the items on personality scales such as “People often make fun of me behind my back” are in this instance truly representative of personality disorders or of facets of social anxiety and aspects of living with a stutter. Nonetheless these studies show that the relationship between stuttering and personality disorder remains contentious.

Recognition of Anxiety by SLTs

Lincoln et al. (1996) surveyed SLTs and PWS in Australia and reported that both PWS and SLTs treating PWS believed that there was a strong link between stuttering and state anxiety, even though no established research existed which adequately explained the relationship. A small proportion believed that trait anxiety was involved in stuttering. Most SLTs in this sample (65%) reported using anxiolytic treatments as part of their management of the disorder but this was not taught to speech pathology students at university. This is disquieting; therapy should be evidence-based and the research base at this time did not exist to support this type of therapy (Lincoln, et al., 1996).

The Royal College of Speech and Language Therapists' (RCSLT) clinical guidelines indicate that assessment and treatment of developmental stuttering in adults can focus on speech fluency and/or the psychosocial aspects of stammering. It recommends considering the management of avoidance behaviours arising from stammering because the emotional and cognitive aspects of the stutter may be the most significant components of the disorder. The rationale for this is the notion that the individual's inability to accept themselves as a person who stammers leads to avoidance of stammering at a variety of levels. The evidence cited for this conclusion is “professional consensus.” At the time when the guidelines were published, no empirical research existed to support what experts in the field recommend as an important part of the management of adults who stutter (Taylor-Goh, 2005). The relationship between emotional and cognitive components of stuttering such as anxiety was not understood, yet clinicians were being advised to work

in this area (Taylor-Goh, 2005) and clinicians reported (Lincoln, et al., 1996) that they were doing so regularly.

The Impact of Anxiety on Speech

Although anxiety can be divided into the different components: physiological, verbal-cognitive and behavioural, they are all closely interrelated and it is impossible to speak of them completely independently of each other. The relationship between these different aspects of anxiety cannot be directly determined. Measures of arousal are poorly correlated with verbal-cognitive and behavioural indicators of anxiety; in other words, someone may report high distress but physiological measures do not change (Menzies, et al., 1999). Using these categorisations is simply a way of trying to focus the research more clearly.

There have been many studies on the physiological relationship between anxiety, speech and stuttering (Alm, 2004b; Blood & Blood, 1994; Dietrich & Roaman, 2001; Guitar, 2003; Kraaimaat & Janssen, 1988; Peters & Hulstijn, 1984). Many of the studies examining physiological measures of anxiety and stuttering, such as skin conductance, blood pressure and heart rate, have been inconclusive or have produced results that were the opposite of what was expected. In a review article, Menzies et al. (1999) explained that the physiological component of anxiety may be the least useful component to examine because measures of arousal are poorly correlated with each other, and may differ in direction and extent of their reactivity. People differ; what each individual may find personally distressing varies from person to person, perhaps due in part to previous experiences. Anxiety levels would be different for different tasks and therefore comparisons may not be easily made. Comparing results with a single variable does not work because people vary. Better results might be attained if simultaneous measures of multiple systems were taken; however, this is very difficult in practical terms. Physiological studies do not seem to have increased understanding of the relationship between anxiety and stuttering greatly (Menzies, et al., 1999).

The verbal cognitive aspects of anxiety may give far more information about the relationship between stuttering and anxiety. Cognitive appraisal

determines behaviour (Rolls, 2000). Behaviour patterns and decisions are likely to be made based on previous experience. Past experiences influence predictions and expectations of future events. Negative or fearful experiences will result in negative or fearful predictions which will influence behaviour and choices. This can result in an attentional and interpretational bias that leads to the individual paying attention to information that supports the negative view (Clark & McManus, 2002). It is likely that negative experiences and responses that a PWS has undergone across their lifespan will influence their behaviour and choices. There has to be a strong motivation to override familiar assumptions and patterns of thinking and to persist in changing speech patterns or identity as an adult.

These aspects of anxiety will be discussed in more detail in the section on social anxiety and stuttering.

The Presence of Anxiety in PWS

Menzies et al. (1999) reviewed the literature on stuttering and anxiety. They reported a possible link between the two, but indicated that the literature was inconclusive, predominantly due to methodological failings. The authors reported that studies had failed to define the construct of anxiety correctly and had not taken into account the multi-dimensional nature of anxiety. For example, when studies have assessed anxiety using personality measures they have generally looked at the scores as a whole, ignoring the sub-types of anxiety and have failed to find any significant differences between PWS and controls. If the scores had been divided into subcategories, the social anxiety domains are usually outside of the expected normal scores (Bloodstein, 1995). In other words if the studies were re-evaluated in terms of sub-categories, a link might have been established. Further methodological concerns include insufficient statistical power, the inclusion of PWS who had previously been treated, and reliance on a single speaking task, an approach which is unlikely to elicit anxiety in all subjects (Menzies, et al., 1999).

Despite their methodological concerns, Menzies et al. (1999) concluded that there is a relationship between anxiety and stuttering because it has been possible to identify PWS based on the results of the Speech Situation

Checklist (SSC) alone, without needing to listen to a speech sample (Hanson, Rice and Gronhøvd cited by Menzies, et al., 1999) and stuttering varies under speaking conditions related to anxiety, for example, audience size and conversational partner (Menzies, et al., 1999).

Other investigations have taken these factors into account in their study design. Miller and Watson (1992) examined self-perceptions of general state and trait anxiety, depression, and communication attitude in PWS and controls. They concluded that PWS were not more anxious or depressed than controls. They found no difference in state and trait anxiety between PWS and controls and that anxiety and depression were not related to self-ratings of stuttering severity, but that communication attitude became increasingly negative as self-ratings of stuttering become more severe. They suggested that PWS are anxious about speaking situations which is a reasonable reaction to negative communication experiences (Miller & Watson, 1992). The numbers in their study appear to be sufficient to draw reliable conclusions.

In complete contrast to these results, Iverach et al. (2009) found that adults seeking treatment for stuttering had increased odds of meeting criteria for social phobia and that many adults who stutter had a current diagnosis of social phobia. Additionally this sample of AWS had a higher proportion of generalised anxiety disorder (GAD) than expected in the general population suggesting that for some adults who stutter anxiety may extend beyond speech-related anxiety to a more generalized experience of anxiety or worry (Iverach, et al., 2009c).

Types of Anxiety Associated with Stuttering

While trying to define the relationship between anxiety and stuttering, researchers have examined different types of anxiety such as state and trait anxiety. Studies have found mixed results when the concepts of state and trait anxiety and stuttering have been examined. The methodologies of some studies seem better than others. Craig (1990) investigated the relationship between stuttering and anxiety. He assessed 102 AWS and compared their anxiety to non-stuttering controls matched for gender, age, and occupational status. He recorded the speech of the AWS while making pre-treatment phone

calls and speaking to a stranger for five minutes. After the phone calls were completed he asked the PWS to complete the Trait and State scales of the STAI (The State-Trait Anxiety Inventory) (Speilberger et al 1970 cited in Craig, 1990). The participants were asked to complete the State scale based on how they felt through telephone call and Trait scale on how they felt normally (Craig, 1990). Trait and state anxiety in participants were found to be significantly higher than those in a control group prior to therapy. Treatment in an intensive behaviour therapy program resulted in a significant reduction in trait anxiety (down to normal levels). According to Reiss (1997) trait anxiety is a relatively stable phenomenon based on temperament. It should not change over time; it is related to the person's nature (Reiss, 1997). Reiss (1997) argued that trait anxiety as measured by the Speilberger scale (STAI) was not a validated construct. Menzies et al. (1999) argued that administering the STAI after asking PWS to make telephone calls, which would have been anxiety inducing, would have contaminated the trait anxiety measure. However, despite these concerns it was concluded that anxiety was higher in PWS than the general population and dropped as a result of a therapeutic program.

Craig (1990) argued that high state measures of anxiety are understandable, similar to phobic anxiety associated with a specific fear. He concluded that PWS may feel excessively uncomfortable when speaking in social contexts which they perceive as demanding, as in social phobia. He argued that high trait anxiety could be explained by problems communicating and interacting with others and that PWS may come to perceive the world in a more hostile light than someone who does not stutter. He argued that anxiety does not cause stuttering, but rather that anxiety is a natural reaction to a distressing problem, and proposed that since the neuroticism scores are normal, it does not appear that chronic neuroses cause stuttering. Craig used these results to argue that if PWS are more anxious as a group, anxiety management procedures may be needed in therapy and that anxiety is also likely to shadow relapse, and so may be necessary in the long term management of stuttering (Craig, 1990). Craig's work undoubtedly laid the foundations for subsequent empirical research in this area, and established a statistically significant difference in pre-treatment trait anxiety between PWS and controls.

Davis et al. (2007) examined whether children and adolescents who persisted in stuttering differed in trait and/or state anxiety from those who recovered and fluent controls: there were no differences in trait anxiety between the groups, but people who persisted in stuttering had higher state anxiety than controls and those who recovered from stuttering for three out of four speaking situations. He argued that state anxiety observed appears to be associated with communication rather than a generalised anxiety (Davis, Shisca, & Howell, 2007). Interestingly, the results tables showed that persistence of stuttering was associated with more severe stuttering as measured by the Stuttering Severity Instrument (SSI), although this was not commented on in the discussion or conclusions.

Craig et al. (2003) measured anxiety levels of people who stutter drawn from the general population, who were more likely to be representative of PWS than those drawn from speech clinics. Telephone calls were made to 4689 randomly selected households. The person who answered was given a description of stuttering and asked if anyone in that household stuttered. A speech sample of the person who stuttered was then recorded over the phone, and a trait anxiety questionnaire completed. Mean trait anxiety levels were significantly higher than levels generally found in society but still within the normal range; the levels of anxiety were not sufficiently high to be considered pathological (Craig, Hancock, Tran, & Craig, 2003). It is likely that both stuttering and anxiety are underrepresented in this sample as many PWS refuse to answer the telephone or screen their calls.

Ezrati-Vinacour and Levin (2004) examined both trait and state anxiety using the STAI, the SSC and a task-related anxiety measure (TRA), a sliding scale to evaluate anxiety, after performing four speech tasks. They concluded that trait anxiety is higher among people who stutter compared to people who are fluent. State anxiety in social communication was found to be higher in people with severe stutters as compared to mild stutterers and fluent speakers. The authors concluded that state anxiety is related to stuttering severity (Ezrati-Vinacour & Levin, 2004).

Endler and Kocovski (2001) conceptualised both state and trait anxiety as multidimensional constructs. Trait anxiety has at least four components; social evaluation, physical danger, ambiguous and everyday routines. When trait

anxiety was broken into components, more significant results began to emerge. Studies which have looked at the multi-dimensional nature of trait anxiety have found that one particular facet of trait anxiety, social evaluation anxiety, is strongly correlated with people who persist in stuttering. The next section will focus on social evaluation anxiety and stuttering.

2.7 Social Anxiety and Stuttering

Studies which have looked at the multi-dimensional nature of anxiety have found that social anxiety is strongly associated with persistent stuttering. The section on psychosocial issues elaborated on how PWS report themes of limitation and restriction in their lives. This limitation is most likely to be as a result of the social anxiety associated with stuttering. Although society imposes limitations on PWS, PWS impose their own limitations on their lives due to fear of negative evaluation and avoidance. Emotion affects the ability of the brain to function by slowing processes (Mitchell, et al., 2008). It is likely then that the social anxiety associated with stuttering may make the stutter worse in addition to limiting the life choices of the person who stutters.

A number of studies have reported that a significant number of PWS have a co-morbid diagnosis of social anxiety or social phobia. The proportion of PWS with a diagnosis of social phobia ranged from 21.7% (Iverach, et al., 2009c), to 44% (Stein, et al., 1996), to 50% (Kraaimaat, et al., 2002) to 60% (Menzies, et al., 2008).

The DSM IV diagnostic criteria specifically preclude a diagnosis of social anxiety if it is associated with a condition which would understandably result in social anxiety, such as stuttering. While it is recognised that social anxiety in stuttering is understandable, and has been argued by some to be inevitable (Bloodstein, 1995; Craig & Tran, 2006; Menzies, et al., 1999; Miller & Watson, 1992; Poulton & Andrews, 1994), with these criteria a diagnosis of social anxiety cannot be made. This is because diagnosis requires that patients recognise that their fear is excessive and unfounded. It is considered that AWS are justifiably anxious, as it is likely that they will have experienced negative evaluation. This may put PWS at a distinct disadvantage because the implication is that social anxiety in this context is expected and perhaps as a

result should not be assessed or treated. This can only result in the continued impact of limitation and restriction in the lives of those who stutter.

2.7.1 Empirical Evidence for Social Anxiety in PWS

In recent years, a number of studies have established a link between social anxiety and stuttering. The following sections describe the evidence base for the relationship between social anxiety and stuttering. This is important because individuals with social anxiety often adopt coping styles that are counter-productive (e.g. avoidance) and thereby reinforce rather than alleviate their social anxiety (Crozier & Alden, 2001). This increases the negative impact of stuttering on the lives of those who stutter.

Evidence from Psychological Scales

Much of the evidence connecting social anxiety and stuttering has been collected comparing PWS and controls on psychological scales which measure social anxiety. Kraaimaat et al. (1991) compared social anxiety in 110 PWS, 110 people with social phobia and 110 normal controls via the Social Anxiety Schedule Likert Scale. They found that PWS were significantly more anxious than normal subjects but significantly less anxious than social phobics. Because the scores of PWS approximated a normal distribution, they argued that this indicated that social phobia was not an essential feature of stuttering, but that it was of clinical relevance to assess the social anxiety of each individual who stutters (Kraaimaat, et al., 1991).

Stein et al. (1996) found that 75% of their cohort who were seeking therapy for stuttering would receive a diagnosis of social phobia. Only 44% would fulfil the diagnosis of social phobia if the DSMIV criteria were modified to state that the anxiety experienced was excessive compared to the severity of stuttering (Stein, et al., 1996). Mahr and Torosian (1999) reported that PWS experienced stress in social situations, the avoidance of social situations and the fear of negative evaluation significantly more than a control group but less than a group of people diagnosed with social phobia. They did not find a significant difference between PWS and non-patient controls on the Fear of

Negative Evaluation (FNE) scale but their study did not use power calculations to establish the appropriate number of participants, and the control groups were not matched but used samples from previous studies (Mahr & Torosian, 1999).

Kraaimaat et al. (2002) used the Inventory of Interpersonal Situations to measure the extent to which emotional tension or discomfort is perceived in social situations by PWS and the frequency with which social responses are executed. They found that AWS showed significantly higher levels of emotional tension or discomfort in social situations. They also reported a significantly lower frequency of social responses as compared to their fluent peers (Kraaimaat, et al., 2002). Messenger et al. (2004) used The EMAS-Trait scale and the Fear of Negative Evaluation Scale to investigate the multidimensional nature of anxiety. They found a significant difference in the scores between AWS and controls for the anxiety dimensions of social evaluation and new and strange situations (the dimensions of social anxiety) (Messenger, et al., 2004).

Evidence from Self Report

Gabel et al. (2002) measured self-reported anxiety between PWS and fluent controls. There were insufficient numbers to show a statistically reliable difference but the results suggested that the PWS were not generally more anxious but experienced more anxiety in situations where there was a possibility of their speech being evaluated (Gabel, et al., 2002).

Indicators of social anxiety such as avoidance and fear of negative responses have been reported in the qualitative interviews discussed in the section on psychosocial issues.

Evidence from Laboratory Studies

Manipulating social anxiety as an independent variable was attempted by Onslow et al. (2005) in a laboratory study. Individual PWS were asked to perform some simple speech tasks in a room with a one way mirror.

Subsequent to a baseline measure being taken, speech-related social anxiety was manipulated by informing the subjects that observers had entered the adjacent room behind the one way screen, for the purpose of observing and evaluating their speech. No observers had entered the adjacent room but the subjects believed that this had occurred. This resulted in an increase of stuttering severity. The authors concluded that an increase in speech-related anxiety leads to an increase in stuttering (Onslow, et al., 2005). Nothing changed in the speaking situation or what was required of the subjects except the belief that additional people were watching and judging them. It is likely that the participants were activating negative cognitive thought processes and anticipating negative consequences to the experience. In some way this interfered with the subjects' speech motor patterns and increased their dysfluency. Perhaps this was a result of increased cognitive processing impairing a dysfunctional neurological system or increased physiological arousal such as an increased respiration rate as a result of anxiety interfering with the speech process?

2.8 Treatment

2.8.1 Treatment of Social Anxiety

Cognitive behaviour therapy (CBT) and pharmacological (drug) therapy have both been found to be effective in the treatment of social anxiety; a meta-analysis found selective serotonin reuptake inhibitors had an effect size of 1.5, and exposure therapy and cognitive restructuring had an effect size of 1.8 on clinician-rated scales. CBT involves a time-limited therapeutic alliance between PWSA and therapist focusing on the present which concentrates on cognitive restructuring and behavioural techniques to improve functioning. Individual therapy has been found to be more effective than group therapy (Stein & Stein, 2008).

2.8.2 Cognitive Behaviour Therapy

This section will briefly describe the origins, principles and techniques of CBT. It will briefly establish the empirical nature of this approach and discuss why it is favoured over other approaches.

Cognitive Theory

Cognitive theory originated from the work of Aaron Beck in the 1960s. Beck's cognitive theory of emotional disorders postulates that emotional disorders are maintained by distortions in thinking. People have experiences which form the basis of their understanding of the world. They interpret these experiences and these become their beliefs and assumptions. Beliefs and assumptions can influence information processing, affect the interpretation of experience and ultimately impact on behaviour. Perceptions which are unhelpful, biased or untrue can happen at any of these levels. Negative automatic thoughts are often the result of dysfunctional processing. When people are anxious, danger-related thoughts and interpretations of experience can dominate the person's stream of consciousness. Information processing can become biased, drawing attention to the perceived threat, and can affect judgement and evaluation (Beck, 1976; Beck, 1995; Wells, 1999).

As discussed in the section on anxiety, human beings try to protect themselves and reduce the risk of encountering danger. Different situations can be viewed in different ways; situations can be cognitively processed as being threatening and result in behaviours such as avoidance to remove the person from the danger. Unfortunately, these behaviours can perpetuate the impression of the situation as being dangerous (Wells, 1997). The cognitive processes in worry and anxiety can be influenced by therapies such as cognitive behaviour therapy (Beck, 1995; Heimberg & Juster, 1995; Wells, 1997).

CBT: The Therapy

CBT has two main components: working with cognitions or thoughts and working on specific behaviours. The two are intrinsically linked; behaviours

targeted are chosen as mini-experiments to challenge cognitions that may be considered unhelpful or maladaptive (Wells, 1999).

Cognitively, CBT focuses on identifying negative automatic thoughts and examining interpretations, underlying assumptions and beliefs. Socratic questioning, a technique of probing, reflecting back and summarising what the client is saying, is used to help identify thoughts and beliefs. The evidence supporting these thoughts and beliefs is explored through techniques like examining evidence and the counter-evidence, reviewing alternative explanations, education and increasing awareness of cognitive biases (Wells, 1997). Modified, believable, more balanced thoughts based on the evidence are explored as an alternative way of viewing the situation.

Behaviourally, experiments are used to challenge beliefs, assumptions and automatic thoughts. Behavioural strategies, such as exposure, are specifically tailored to modify the distorted thoughts. When behavioural experiments are used appropriately they can be the most powerful means of cognitive change as they can effectively question the observed evidence for a thought or belief (Wells, 1997). Relaxation and distraction techniques are behavioural strategies but are unlikely to change beliefs (Beck, 1976).

Principles of CBT

CBT aims to identify thinking and problem behaviours and precipitating factors. On some occasions it hypothesizes about key developmental events and enduring patterns of interpreting these. It is goal orientated and problem focused. It aims to establish a therapeutic alliance between client and therapist, and to use collaboration and active participation to achieve goals (Beck, 1995).

CBT programs for social phobia try to decrease the perception of negative social evaluation by educating the client about the role of cognitions in causing and maintaining anxiety. Clients are taught to identify and change their dysfunctional thoughts and beliefs. The unhelpful thoughts and beliefs and biased attention and the effects of safety behaviours such as avoidance are demonstrated via behavioural experiments and graded exposure. Alternative

options are also demonstrated via challenging thoughts, experiments and analyses (McColl, et al., 2001b; McManus, 2007).

CBT techniques

Therapists use guided discovery (using exploration and Socratic questioning) to challenge perspectives and to explore and discover perceptions, experiences, and interpretation of events, encounters and situations. Guided discovery initially emphasises the present and teaches the patient to be their own therapist and emphasises relapse prevention (Beck, 1995). It examines evidence, considers alternatives, weighs advantages and disadvantages, via skillful (Socratic) questioning to help the client draw their own conclusions. It is important that the therapist does not think they know the answer to their questions or assume they know better than the client. Instead the therapist helps the client identify and focus on key cognitions (thoughts assumptions and beliefs), emotions or behaviours most relevant to problem area. The client and therapists might review the evidence, examine the pros and cons of a particular perspective and then identify any thinking bias. They could do this via continuum or scale work, imagery, pie charts and the use of analogy and metaphor.

Therapists and clients would carefully choose behavioural experiments to trial. These experiments would be designed to test specific cognitive theories. Possible predictions of the outcome would be explored prior to performing the experiment. Once the experiment has been tried, the results would be analysed, and the implications discussed. Tasks agreed by the therapist and client would be graded and role-play and homework would be used to help achieve goals (Beck, 1976; Beck, 1995; McColl, et al., 2001b).

Evidence base for CBT

CBT is supported by data from rigorous experimental, self-report studies (Wells, 1997), randomised control trials, meta-analyses and reviews of meta-analyses (Butler, et al., 2006). It is one of the most well researched and effective treatments available for anxiety disorders (Butler, et al., 2006; Gould, et al., 1997; McColl, et al., 2001b; Taylor, 1996) and is well established in the field of psychology. It is a well described, well defined, manualised therapy,

and is recommended by NICE guidelines for anxiety disorders. It is for these reasons that CBT should be considered the best currently used psychological therapy approach in the treatment of social anxiety

This section has briefly described the origins and principles and techniques of cognitive behaviour therapy. It established the empirical nature of this approach and discussed why it is favoured over other approaches in the treatment of anxiety disorders. The next section will discuss the relationship between stuttering, social anxiety and cognitive behavioural therapy.

2.9 Treatment of Social Anxiety and Stuttering

The preferred treatments for generalised social anxiety are currently cognitive behaviour therapy and pharmacological treatment. Pharmacological treatment for treating stuttering or the social anxiety accompanying stuttering has not been the preferred method of treatment, although some studies into this area exist (Paprocki and Rocha, 1999). This may be for a number of reasons. Stuttering is a life-long developmental condition and many drugs affecting neurotransmitters have adverse side effects when used over long periods of time. The mechanism of stuttering is not clearly understood and so it is unclear what type of drugs to trial. The link between social anxiety and stuttering has only recently been clearly established; perhaps research into the efficacy of drugs for the use in PWS with social anxiety could be a further area for future research?

2.9.1 Cognitive Therapy

Messenger et al. (2004) argued that if social anxiety is a by-product of stuttering, and fluent speech is achieved through a 'speak more fluently' approach, social anxiety should not need to be directly targeted in therapy. They argued that if stuttering were eliminated as a result of successful therapy, speech-related anxiety would naturally disappear. However, Craig (2003) and Craig and Tran (2006) argued that cognitive behaviour therapy techniques such as anxiety reduction strategies, and thought control techniques such as positive self talk, should be used in therapy with AWS.

They suggested that these techniques could address psychological and social symptoms of anxiety such as emotional struggle when stuttering, shyness and social avoidance behaviour due to a fear of speaking and the high levels of chronic anxiety, especially social or phobic anxiety associated with stuttering. They proposed that cognitive therapies could directly target the anxiety by addressing negative attitudes as well as training the individual to be socially assertive and skilled.

Although the evidence base concerning the relationship between social anxiety and stuttering has only been published relatively recently, aspects of social anxiety have been targeted in therapy with PWS since the 1950s. Avoidance has been targeted through therapy programs such as Sheehan's avoidance reduction therapy and attentional and interpretation bias has been targeted through personal construct therapy (Hayhow & Levy, 1989; Taylor-Goh, 2005).

As discussed previously Lincoln and colleagues (1996) found that SLTs were using anxiolytic management techniques in therapy with clients who stutter despite the lack of evidence base at that time. Assessment measures such as the WASSP (2000) have included items on cognitive thoughts to create profiles for therapy targets, and to evaluate the success of therapy. It is only relatively recently that clinical trials evaluating the effect of CBT on social anxiety have been published in widely available journals, but it does appear that clinicians have been using techniques similar to cognitive behaviour therapy for some time.

Some studies have used acknowledged cognitive therapy techniques as part of their method to treat AWS. Maxwell (1982) reported on a clinical trial and described a program which included cognitive appraisal and thought reversal alongside speech modification to educate and help AWS cope with stuttering rather than cure stuttering. He reported reductions in stuttering and speech related stress over a 12 month period (Maxwell, 1982). Kraaimaat et al. (1988) similarly found reductions in dysfluency, cognitive and autonomic anxiety in clients who had undergone group therapy which consisted of training in relaxation and regulated breathing, desensitisation of speech associated anxiety, cognitive restructuring and self control (Kraaimaat & Janssen, 1988). Blood (1995) used cognitive restructuring as part of his treatment program with PWS. His program consisted of four components: a computer assisted

biofeedback program, cognitive restructuring, problem solving and counselling. All the subjects in his study showed large improvements which remained at one year post treatment (Blood, 1995); however, it was impossible to tell which of the four components were responsible for the success of the treatment. Other “integrated” treatments such as the Successful Stuttering Management Program (SSMP) and the ISTAR combine speech restructuring or stuttering modification with cognitive techniques such as desensitization, avoidance reduction, attitude emotion change and exposure to feared situations (Breitenfeldt & Lorenz, 1990; Langevin, et al., 2006). Again it is difficult to discern which component of the therapy programs were responsible for improvement after treatment.

There are few clinical trials for treatments involving cognitive behaviour therapy for social anxiety in PWS. McColl et al. (2001) performed a pilot study using a CBT program with 11 PWS with high levels of social phobia. The subjects experienced significant post-treatment reductions in state anxiety, fear of negative evaluation and self ratings of stuttering severity (McColl, et al., 2001b).

A recent study, published after the research for this PhD study had been finished and while the thesis was being written, has shown very clearly that cognitive behaviour therapy has a substantial impact on social anxiety associated with stuttering. A randomised clinical trial examined the proportion of social phobia occurring in AWS, the effects of speech restructuring on social anxiety and the effects of a CBT program on social anxiety and stuttering severity (Menzies, et al., 2008). The design of this trial allowed for separate conclusions to be drawn about the impact of speech restructuring and the impact of a CBT program on social anxiety and stuttering severity. The clinical assessment of social anxiety was a particularly well designed feature of this trial as it allowed for individual variation in experience of each participant. This trial found that speech restructuring treatment has no impact on social phobia; that CBT successfully treated social phobia, and that CBT did not affect the speech outcomes of those with social phobia. The authors reported that although it was anticipated that the CBT would lower anxiety and subsequently this would decrease stuttering, this did not happen. They postulate that the CBT program made the participants more accepting of their stutter, and less concerned about maintaining high fluency.

2.10 Success in Therapy

The question arises: “what constitutes success in therapy?” Is therapy a success when dysfluent speech is eradicated or lessened, or is therapy a success when a PWS accepts their stutter, reduces their social anxiety and engages in life free from restrictions and limitations due to stuttering? If therapy is not changing the root cause of the problem, but rather teaches an alternative way of speaking that requires constant cognitive mediation, it could be argued that it is more likely that AWS will have increased levels of anxiety with a ‘speak more fluently’ approach to therapy. This would be because the AWS will now have a method of achieving fluency, but one which requires much concentration and effort. Dayalu and Kalinowski (2001) argue that using ‘speak more fluently’ techniques and constantly monitoring and altering speech are exhausting. If an AWS knows how to change their speech and feels compelled to do so, even though it is tiring and effortful, their social anxiety and their beliefs about what they “should” be doing may be increased rather than decreased (Dayalu & Kalinowski, 2002).

If CBT alleviates fear of speaking, reduces avoidance and allows for spontaneous less effortful speech, and the PWS message is conveyed effectively, perhaps high fluency is not essential? Perhaps in future CBT techniques to help manage social phobia will be the focus of SLT programs for PWS with speech restructuring as a smaller component rather than the main goal. In the United Kingdom this may currently be the case as the RCLST clinical guidelines suggests something similar in its guidelines (Taylor-Goh, 2005).

2.11 Speech Therapy Treatment for Adults who Stutter

This section will briefly describe current speech and language therapy approaches for treating adults who stutter and evaluation of these approaches. It will examine the existing evidence for these approaches and will establish the gaps in the evidence.

There are two main goals of SLT approaches for PWS: a change in speech and/ or a change in social, emotional and cognitive factors related to stuttering. Many researchers and therapists target a change in speech and aim to reduce anxiety or avoidance or change feelings and attitudes (Guitar, 1998).

Different programs target one or other approach, but many programs combine these different approaches and offer an integrated program of therapy. The RCSLT clinical guidelines describe six different approaches to treating developmental dysfluency in adults (Taylor-Goh, 2005). These include speech programs and social, emotional and cognitive programs. This section will discuss these and integrated programs.

2.11.1 Speech Programs for AWS

The RCSLT clinical guidelines describe two different approaches to altering dysfluent speech in AWS. These are the "speak more fluently" approach (fluency shaping or speech restructuring) and the "stutter more fluently" (stuttering modification) approach.

Speak More Fluently Approaches

The "speak more fluently" or "fluency shaping" approach concentrates directly on changing the entire way the PWS talks (Guitar, 1998). It traditionally does not target changing feelings or attitudes or anxiety. The argument is that if the speech is successfully modified, anxiety will naturally recede (Taylor-Goh, 2005). Recent studies have disputed this, and shown that speech restructuring treatment alone does not alter social anxiety (Menzies, et al., 2008).

Speech restructuring treatments include prolonged speech, slower speech rate, easy onset, soft contacts and metronome or time syllable speech. The rationale for this therapy is that stuttering is viewed as a sensory-motor processing deficit accompanied by learned behaviours (Taylor-Goh, 2005). FMRI studies have shown that after fluency shaping therapy, brain activation patterns have changed, suggesting that fluency shaping techniques

reorganise neuronal communication between left sided speech motor planning, motor execution and temporal areas of the brain (Neumann, et al., 2005).

Prolonged speech treatments have the greatest evidence base for modifying dysfluent speech in AWS of all the speech modification programs (Bothe, et al., 2006).

Stutter More Fluently Approaches

This approach views stuttering as a momentary disruption in the forward flow of speech, disrupting the timing and sequencing of the speech musculature. Stutter more fluently, or stuttering modification treatment teaches the PWS to modify the stutter as it occurs, changing hard tense moments of stuttering into easy, slow, effortless speech. Stuttering modification rarely happens on its own; this approach aims to develop a more open and accepting attitude to stuttering (Taylor-Goh, 2005).

Stuttering modification is sometimes called stuttering management and is used as part of programs such as the Successful Stuttering Management Program (SSMP) and the Comprehensive Stuttering Program (CSP) (Blomgren, et al., 2005; De Nil & Kroll, 1996; Langevin, et al., 2006). Clinical trials of the SSMP found that at six months post treatment there were some sustained anxiolytic effects of the program but that stuttering modification did not produce durable reductions of stuttering behaviours such as stuttering frequency or severity (Blomgren, et al., 2005).

2.11.2 Relapse

Relapse (“the recurrence of stuttering symptoms that were perceived as personally unacceptable after a time of improvement” (Craig 1998 pg 3)) to speech restructuring programs is well reported in the literature. A significant proportion of those treated, in some cases more than two thirds, have been reported to relapse post intervention (Block, Onslow, Packman, & Dacakis, 2006; Craig, 1998; Huinck, et al., 2006; Iverach, et al., 2009a; Saltuklaroglu, Kalinowski, & Guntupalli, 2004). Relapse can be considered a psychosocial

issue because it has been associated with negative emotion and is an additional burden of the impact of stuttering.

Speech restructuring programs are cognitively mediated, consciously planned motor strategies. Using controlled speech patterns throughout the speech act requires great attention and effort, and although these programs target core behaviours with stuttering, they do not change the nature of the stutter (Dayalu & Kalinowski, 2001). Although fluency shaping therapy has been found to change brain activation patterns in functional MRI scans, suggesting that fluency shaping techniques reorganize neuronal communication close to the source of the dysfunction (Neumann, et al., 2005), relapse occurs. Studies have examined factors which are associated with relapse and there is general agreement that the more severe the stutter the more likely relapse (Block, et al., 2006; Craig, 1998; Huinck, et al., 2006; Iverach, et al., 2009a).

Saltuklaroglu and Kalinowski (2002) argue that fluency is not just forward flowing speech; that the opposite of dysfluency is speech that sounds natural, effortless, spontaneous and devoid of the fear of speaking, avoidance and speech modification. They suggest that therapy should be aiming for automatic fluent speech that is natural and spontaneous, rather than effortful. Attempting to restore complete function to a central pathology by peripheral speech restructuring will be ineffective. They contend that speech restructuring techniques such as prolonged speech achieve “pseudofluency” which is unsustainable, and that by encouraging this in therapy SLTs do their clients a disservice and blame the PWS for something which is out of their control (Saltuklaroglu & Kalinowski, 2002).

Multiple other factors have been examined to see whether they correlate with relapse. There have been some reports that attitude to communication (as measured by the S24), locus of control or mental health disorders such as social anxiety may all contribute to relapse (Craig, 1998; Iverach, et al., 2009a), but when these non-behavioural variables were examined in a well powered study no relationship between attitude to communication or locus of control and relapse were found (Block, et al., 2006).

Locus of control is the extent to which people consider they can control their behaviour. Control is considered internal when people believe they are in control and is considered external when they have little control. External locus

of control was associated with relapse. This may be due to the neurological deficit implicit in stuttering; PWS may not be able to control their speech behaviour if there is a neurological underpinning which makes their speech uncontrollable (Craig, 1998). The relationship between negative emotional reactions and relapse appears complex and unclear; but it does seem that a relapse in speech affects emotional reactions (Huinck, et al., 2006).

2.11.3 Social, Emotional or Cognitive Programs for AWS

The RCSLT clinical guidelines list three approaches to managing the social, emotional or cognitive aspects of dysfluency in AWS. These are avoidance reduction therapy, communication skills and psychological approaches.

Avoidance Reduction Therapy

Avoidance reduction therapy is based on the work of Joseph Sheehan (Hayhow & Levy, 1989). This type of therapy aims to reduce avoidance in words, situations, feelings and relationships in a hierarchical way. Sheehan viewed stuttering as an conflict between approaching challenging situations and avoiding those situations and encouraged PWS to accept themselves as stutterers and to reduce avoidance (Guitar, 1998; Taylor-Goh, 2005).

The underlying theory of approach avoidance conflict has no empirical evidence to support it; rather it is professional consensus which encourages its use (Taylor-Goh, 2005). However, the aim of avoidance therapy, the hierarchical reduction of avoidance, is similar to the goals of cognitive behaviour therapy for social anxiety.

Communication Skills

It is expert opinion that training in social, problem solving and assertiveness skills may significantly enhance communication in AWS (Taylor-Goh, 2005). Some of these skills may be considered to be cognitive therapy techniques.

Psychological Approaches

The RCSLT clinical guidelines argue that the cognitive and emotional aspects of stuttering may be the most significant components of the disorder for some AWS and that these aspects may compound the behavioural aspects of the disorder and need to be addressed to facilitate long term change. They specifically mention personal construct therapy and cognitive behavioural therapy as approaches to consider (Taylor-Goh, 2005).

Personal construct therapy (PCT)

The personal construct therapy approach to treating stuttering examines and attempts to modify the role of the PWS. PCT proposes that the PWS has an identity as someone who stutters and until they reconstrue their identity as someone who is fluent, they will continue to stutter and will not be able to maintain fluent speech (DiLollo, Manning, & Neimeyer, 2003; Stewart, 1996). PCT teaches constructive alternativism, which encourages the PWS to view events and experiences in a different way. This is done through hypothesis testing and experimentation resulting in re-evaluation and reconstruing of experiences and roles (Fransella, 2003). Clinicians who use PCT argue that speech change will be short lived and meaningless without attitudinal change (Hayhow & Levy, 1989). Aspects of PCT mirror aspects of cognitive behaviour therapy programs; hypothesis testing, experimentation and re-examination of evidence are also features of CBT.

Studies of the use of PCT for AWS are few, and are methodologically flawed. DiLollo et al. (2003) showed how fluent and dysfluent speakers do not identify with roles which with they are unfamiliar; however they draw conclusions that this should be used to successfully manage stuttering, but there is no evidence to support this hypothesis. Stewart and Richardson (2004) compared two clients and proposed that relapse is associated with a lack of reconstruing oneself as a fluent speaker; however, they did not examine, comment on or consider other known factors associated with relapse such as stuttering severity. PCT is not well supported by mainstream psychology and training is not readily accessible (Stewart and Birdsall 2001).

Cognitive therapy approaches

Cognitive therapy approaches have been discussed in the section on treatment of social anxiety. From the evidence presented in this section on speech therapy approaches to stuttering, it appears that CBT type programs may in one form or another be part of programs of therapy for AWS even if they are not called CBT. Recent evidence supports their use particularly for the high proportion of those who exhibit social anxiety.

2.11.4 Combination/Integrated Approaches for AWS

Many programs available to PWS contain more than one of the approaches mentioned above. This makes it very difficult to determine which aspect of a program elicits change. The relationships between different variables such as autonomic anxiety, stuttering severity, locus of control, and attitudes is unclear and as a result many programs integrate approaches to manage all the different aspects of the disorder of stuttering. Programs such as the Successful Stuttering Management Program (SSMP) and the Comprehensive Stuttering Program (CSP) are integrated programs (Blomgren, et al., 2005; Langevin, et al., 2006).

2.12 PWS' Views on Therapy

Views of PWS on therapy differ widely; both positive and negative responses to therapy have been reported. In one study, all of the participants stated that fluency was a desired goal of therapy (Klompas & Ross, 2004). Some indicated that in certain circumstances therapy had provided them with fluent speech and a sense of control, but others found therapeutic speech modification techniques of limited usefulness (Crichton Smith, 2002; Klompas & Ross, 2004). One concluded that it was not worth the effort required to maintain fluency using techniques; while another said that their lack of fluency was a result of a lack of dedication to practising techniques (Crichton Smith, 2002). In Klompas and Ross' (2004) study only one out of 15 participants who had undergone speech therapy viewed it as helpful, and most said that while undergoing therapy during their school years they did not really understand what therapy was trying to accomplish. Others within this cohort reported the

following with regards to therapy: frustration, anger, lack of carry over to real life situations, lack of belief/trust between therapist and client, boredom and hatred towards therapy. Hayhow et al. (2002) found that very few of their respondents cited increased control or increased confidence or more positive attitude as a benefit of therapy, and some reported that the fluency-enhancing benefits of therapy had been of short duration. Bricker-Katz et al. (2009) reported that participants felt let down by therapy as it required ongoing work and used techniques which were difficult and resulted in a lack of spontaneity which impinged on normal communication. AWS reported that speech and language therapy did not adequately address psycho-social factors and the reality of their experience (Kathard, et al., 2004).

Some of the participants recalled that techniques learnt in therapy made their speech sound different and as a result classmates would laugh at them; this made them stop using techniques (Kathard, et al., 2004). Speech naturalness appears to be difficult to obtain using speech techniques and many programs attempt to attain speech naturalness when modifying speech (Block, Onslow, Packman, Gray, & Dacakis, 2005; Langevin, et al., 2006; O'Brian, Onslow, Cream, & Packman, 2003). Another study reported that PWS felt misunderstood by SLTs, and that some SLTs did not have the requisite skills and knowledge to be able to treat the disorder (Bricker-Katz, et al., 2009).

Despite reporting that therapy was unhelpful in achieving fluency, half of the participants in the Klompas and Ross (2004) study reported that therapy did exert a positive effect on their quality of life and ability to cope with their stuttering, improved their confidence and self-esteem, and helped them to gain greater understanding about their stutter and identify with others who had a stutter.

It was reported that therapy was the only real opportunity to talk about stuttering, which was viewed as very beneficial. (Crichton Smith, 2002). This was reiterated in other studies (Hayhow, et al., 2002; Stewart & Richardson, 2004). Other benefits of therapy reported were raised confidence levels, increased insight into their difficulties, and chances to meet other people who stutter (Crichton Smith, 2002; Stewart & Richardson, 2004).

The Stewart and Richardson (2004) study did not report any particular negative responses to therapy; however, it appears that the therapists who conducted the therapy were the same clinicians conducting the research, interviewing their own clients or those known to them through the local self help group; it is unlikely that the respondents would have wanted to criticise their own therapist and so this may have resulted in a significant positive bias in what the participants discussed.

Crichton Smith (2002) reported that those participants who had not had therapy as adults felt most limited in their social lives. People who stammered used a variety of speech management strategies, including self-taught and therapeutic techniques to manage their speech, and that some of these strategies contributed to the limiting effect of stammering on their lives.

The general consensus appears to be that fluency has not been the overriding benefit of therapy; rather the psychosocial aspects such as improving quality of life seem to be valued by those who have undergone SLT. In fact some suggestions about improvement to therapy have included:

- the need to address emotional issues since speech modification was not maintained over the long term (Bricker-Katz, et al., 2009)
- the need for SLT to adequately address the psycho-social factors and the reality of experience of PWS (Kathard, et al., 2004)
- the need for a more holistic approach in therapy (Hayhow, et al., 2002)

Yaruss and Quesal recognised that in many cases the severity of the stutter (the impairment) did not necessarily determine the negative consequences and the impact of the stutter upon the individual (Yaruss & Quesal, 2004). This has been duplicated in other research which will not be discussed in detail here (Huinck, et al., 2006) but does raise the important point that viewing the disorder in its entirety is essential for treatment to be effective.

In summary, speech restructuring improves stuttering fluency through controlled speech techniques. In many cases it does not make fluency automatic and PWS struggle to maintain fluency gains. Relapse of stuttering occurs in many cases (up to two thirds of PWS surveyed), especially in those who have a severe stutter, and negative emotional reactions coincide with

substantial relapse in speech. PWS have reported that therapy has not been beneficial in attaining fluency, but has helped improve their quality of life. They suggest that therapy should address emotional issues, psycho-social factors and the reality of experience of PWS. If therapy cannot reliably offer fluency as an attainable goal, it may be more appropriate for therapy to address the impact of stuttering, and indeed this is what AWS also seem to want. How successful is current therapy for AWS? What is the evidence base?

2.13 Evaluation, Evidence and Therapy Outcomes

There are many different therapy approaches and therapy programs. As discussed, the RCSLT clinical guidelines advocate five approaches and have an additional category covering “other” therapy approaches with the rationale “the highly individual nature of stammering and an individual’s therapy needs and preferences require a range of therapies to facilitate long-term change” (Taylor-Goh, 2005, pg 79). Much of the evidence base cited is “expert opinion”. It is unclear what the precise outcomes of therapy are: elimination or reduction of stuttering? Elimination of avoidance behaviour? Management of stuttering behaviours? No opinion is given on how SLTs should evaluate the success of therapy.

Evaluation of the success of therapy is vital. It helps the therapist to establish which therapy techniques are efficacious and cost effective. Evaluation promotes better practice, and ultimately leads to the development of an evidence base (Onslow, 2006). In recent years, researchers have recognised that methods of evaluation that focus only on the client’s speech do not give a complete picture of the experience of stuttering in a person’s life. If the effectiveness of therapy is only measured in this way, then for many people who stutter, therapy might be seen to have no long lasting effects, since speech often relapses post-therapy (Craig, 1998; Huinck, et al., 2006). In the past, clinical trial research relating to stuttering tended to adopt an ‘impairment-based’ focus which led to a preponderance of work whose aim was to ameliorate the speech characteristics of the disorder (Onslow, 2006), but more recently, the complex nature of stuttering has been acknowledged in the literature (Leahy, 2005) with recognition of the need to address non-speech dimensions if stuttering is to be managed successfully (Plexico,

Manning, & DiLillo, 2005). Evaluation should reflect this complexity. Such an approach is in keeping with the philosophy of the International Classification of Functioning, Disability and Health (ICF), which emphasises that a medical disorder should be considered in its entirety (World Health Organisation, 2002), and would advocate evaluation of the success of therapy in all the domains associated with the impairment, including the impact of stuttering on activity and participation and on contextual factors.

A number of evaluation tools are available to clinicians. The ICF framework was used in the development of the Overall Assessment of the Speaker's Experience of Stuttering (OASES) (Yaruss & Quesal, 2006), which allows the clinician to document multiple outcomes in stuttering treatment. The Wright and Ayre Stuttering Self-rating Profile (WASSP) was developed to assess and measure outcomes in the areas of perceptions of stuttering behaviours, avoidance, feelings and disadvantage (Wright & Ayre, 1998; Wright & Ayre, 1999). Researchers have also called for other aspects of stuttering such as cognition and affect to be measured (Susca, 2006), and self reporting may be considered a valuable way of assessing covert aspects of stuttering that are not easily observable (Guntupalli, et al., 2006).

Despite the availability of published instruments and research findings relating to evaluation, little is known about the methods that SLTs actually use to evaluate the outcome of their therapy with AWS in everyday practice.

None of the approaches or programs promises cures, and very few programs show long lasting effects in reducing stuttering severity and eliminating speech related anxiety. A systematic review of the literature from 1970 to 2005 of behavioural and cognitive approaches indicated that the evidence supports the use of prolonged speech programs which address stuttering, speech naturalness and self-evaluation skills in treatment of AWS (Bothe, et al., 2006). This review looked for improvements in either speech or the social emotional and cognitive factors associated with dysfluency and reiterated findings from a previous meta-analysis by Andrews and colleagues (Andrews, Guitar, & Howie, 1980). Self evaluation or self management appears to be critical in the success of treatment programs. Speech naturalness was also an essential feature of the success of therapy (Bothe, et al., 2006). This

systematic review found that most of the literature reviewed showed very poor study design, and that many treatment types were ineffective.

The systematic review also found that treatment programs with good long term outcomes tend to include maintenance programs (programs which recognise that relapse is likely for many AWS and put procedures in place to manage therapy gains in the long term) (Bothe, et al., 2006). This raises the question: When should therapy or maintenance stop? When should clients be discharged? The Royal College of Speech and Language Therapists (RCSLT) (2006) define discharge from speech and language therapy as a point of closure with the client, when other professionals are informed that the course of assessment, treatment and review is complete. Discharge should be a client-centred decision, preferably at the discretion of the SLT with the agreement of the client, though it may be initiated by the SLT or the client. Acceptable terms for discharge are as follows (RCSLT, 2006): achieving the aims of intervention; transferring to specialist care; failure to attend appointments; individual non-compliance or intervention not indicated at present; discharge at discretion of the therapist with client agreement; discharge at the request of the client.

There is very little written in the research literature about discharging clients from stuttering therapy. Since AWS are affected by a life-long developmental condition, for which there is no 'cure' specifically for adults, discharge is particularly relevant for this client group. It is widely recognised that many AWS relapse after treatment of the speech features of stuttering (Craig, 1998; Huinck, et al., 2006) with the result that speech and language therapy may be needed at different periods across the life span of the AWS. The RCSLT Clinical Guidelines indicate that therapy programs for dysfluent adults should aim to promote change and manage relapse in the long term, and recommend that follow up should occur at 3, 6, 12 month and 2 years post therapy; discharge due to a lack of resources or based on departmental policy while the client still has a clinical need is not considered an acceptable reason for discharge (Taylor-Goh, 2005).

In summary, this section briefly described current speech and language therapy approaches for treating adults who stutter. It examined the existing evidence for these approaches and concluded that much of the evidence cited

for approaches was professional consensus and that the study designs of many of the clinical trials in this area was poor. This was especially true for the social, cognitive and emotional aspects of dysfluency at the start of this PhD project in 2005. The evidence base for addressing the impact of stuttering needs to be improved. The next section will discuss how to improve the evidence base for therapy dealing with psychosocial issues in AWS.

2.14 Evidence Based Practice

This literature review has established that the psychosocial aspects associated with living with a stutter need to be addressed in speech and language therapy. It has described a number of approaches used to treat AWS and has concluded that the evidence base for these treatment approaches is poor.

This section will discuss the current context and climate of SLT for AWS in the United Kingdom at the start of this project. It will discuss a way of establishing a better evidence base for treatment of the psycho-social aspects of stuttering.

2.14.1 Context and Climate: SLT for AWS in the United Kingdom

AWS make up a relatively small proportion of the caseload of most SLTs. As a result service delivery to this client group varies (Enderby & John, 1999). An AWS may be seen by a generalist or specialist SLT (Royal College of Speech and Language Therapists, 2006). There is some evidence to indicate that SLTs with no interest in the disorder do not achieve success in therapy (Enderby & John, 1999).

Context is important when designing a theoretically based intervention. It includes the socio-economic background, the health service systems, the characteristics of the population and condition, and how these factors change over time. How a treatment is carried out may depend on the context. Understanding this will help establish whether an intervention that was effective in one setting might work in others and whether an intervention might be useful in other situations (Campbell, et al., 2007).

Speech and language therapy services within the United Kingdom are different from many other places in the world, largely because of the National Health Service (NHS). The NHS is the world's largest publicly funded health service. It is free at the point of delivery and covers everything from antenatal screening and routine treatments for coughs and colds to open heart surgery, accident and emergency treatment and end-of-life care. It is funded centrally from national taxation. The Department of Health is in overall charge of the NHS with a cabinet minister reporting as secretary of state for health to the prime minister. The department has control of Strategic Health Authorities (SHAs), which oversee the strategic supervision of all the NHS trusts in its area (National Health Service, 2009). This means that everyone within the United Kingdom has free access to services, but resources and priorities within Trusts and Strategic Health Authorities area determine the type of services delivered.

Demographic and epidemiological analysis of patients referred to speech and language therapy at eleven NHS centres from the years 1987 to 1995 show that the number of AWS referred for speech and language therapy is small relative to the number of people referred with other speech disorders such as dysarthria referred (Enderby & John, 1999). This has implications for delivery of services to AWS. If only a small number of clients are referred for therapy, it is probable that services for AWS may not be a high priority and therapists are unlikely to get sufficient experience working with this client group in order to get proficient in appropriate treatment. Different trusts may choose to have specialist SLTs or generalist SLTs deliver services to AWS. A study by Enderby and John (1999) found that across four NHS sites outcomes in impairment, activity, participation and patient well being in treatment of AWS varied significantly. On one site, very little change or gain were seen in any of these domains. They concluded that this was because this site did not have a therapist with a special interest in stuttering; all AWS patients who were referred were allocated to any therapist who happened to have space available and who had not been 'burdened' by treating an AWS in the recent past. This was compared to another site which had good changes in outcomes. This site had a specialist speech and language therapist and a detailed operational policy; including links with a local support group and focus on the psychosocial aspects of dysfluency within therapy (Enderby & John, 1999). Bricker Katz (2009) reported that PWS felt that some SLTs did not

have the requisite skills and knowledge to treat the disorder (Bricker-Katz, et al., 2009).

The RCSLT recommends that a skill mix is expected within a speech and language therapy service (Royal College of Speech and Language Therapists, 1996). Although terminology has changed over the years, the concepts of specialist and generalist are usually still recognised. A specialist SLT is one whose level of competency serves as a senior reference point for other SLTs and those in other professions. A specialist would be expected to undertake professional development in their chosen area which results in an extended knowledge base considerably beyond that gained at undergraduate level. Specialists should offer advice and support to other SLTs and professionals and should have access to professional publications and networks (Royal College of Speech and Language Therapists, 1996).

A SLT who enters the profession with sufficient competence to practise, and develops their competencies further through a program of continuing professional development (Royal College of Speech and Language Therapists, 1996) is generally considered to be either a generic speech and language therapist or generalist SLT. Although these SLTs would tend to develop their skills and knowledge within a specific service or disorder or client group, they would generally be expected to see a wider range of clients, and would consult specialist SLTs for second opinions (Royal College of Speech and Language Therapists, 2006). For example a generalist therapist within an adult service would be expected to see all adults with acquired speech and language therapy conditions such as voice difficulties, progressive neurological conditions and communication disorders arising from cerebrovascular accidents, while a specialist SLT would have a more specific caseload, for example only complex clients with acquired brain injury. This would imply that the generalist SLT needs a relatively wide knowledge of a greater range of disorders, while a specialist SLT would have a relatively in-depth knowledge of a smaller area.

In 1996 there was a movement away from the terms specialist and generalist; however, these terms remained in common usage (Royal College of Speech and Language Therapists, 1996). Job descriptions and person specifications used the term specialist to describe a position requiring specific

responsibilities and knowledge. In 2004 the government reformed the pay system (then known as the Whitley Council conditions) within the NHS. A new system of job evaluation, terms and conditions and pay scales called Agenda for Change (AFC) was introduced (Department of Health, 2004). AFC introduced an entirely new way of looking at career progression and introduced new terms to describe job roles. This resulted in all jobs across the NHS for most professions except medically trained doctors, dentists and senior managers being redefined and re-graded. Under Whitley Council, the levels of clinical career development in SLT tended to follow the following progression: Basic grade SLT, generalist, “developing specialist” and specialist. Each of these categories would be allocated a band of spine points reflecting their pay scale and annual increment for years of experience.

Whitley Council Grades			Agenda for Change Grades		
Band	Spine Point	Post Title	Band	Spine Point	Post Title
Band 1	18-22	Basic Grade SLT	Band 5	17-25	SLT
Band 2	23-33	Generalist SLT/ Developing Specialist SLT	Band 6	22-31	Specialist SLT
Band 3	36-41	Specialist SLT	Band 7	27-36	Highly Specialist SLT
Band 4	40-48	SLT Manager	Band 8a	32-40	Principal SLT/ Professional Manager
Band 5	41-53	Professional Manager	Band 8b	36-44	Principal/ Consultant SLT/ Professional Manager
			Band 8c	40-48	Principal/ Consultant SLT/ Professional Manager

Table 2

Whitley Council and Agenda for Change Banding (Royal College of Speech and Language Therapists & Amicus, 2010)

Progression to a specialist or developing specialist post would usually involve applying for a different post. With agenda for change, bands and corresponding job titles were introduced. The RCSLT reported those who had previously been referred to as specialists were now being matched inconsistently to either a band seven or band eight post (highly specialist or

principal SLT), (Royal College of Speech and Language Therapists & Amicus, 2005b) while those previously called generalists were now called specialist SLTs. This change in terminology caused some confusion although the concepts of generalists and specialists remained the same. Although AfC was theoretically agreed at the end of 2004, very little information was available and very little progression around job profiles took place until late 2005. This study started as SLT departments were making the transition from Whitley Council conditions to the agenda for change system.

AWS have complex difficulties with likely severe repercussions. Relatively few are referred to SLT departments. It is therefore logical that AWS should be seen by SLTs with interest and experience with this client group; specialist SLTs.

2.14.2 Strengthening the Evidence Base for Psychosocial Issues with AWS

At the start of this study, the most recent research on psychosocial issues with AWS suggested that social anxiety was the predominant problem. From the psychological literature it was clear that social anxiety should be targeted through CBT. The RCSLT clinical guidelines recommend that the “management of stammering needs to consider the avoidance behaviours arising from the cognitive and emotional components that are part of the individual’s beliefs about stammering” and noted that “in some individuals the emotional and cognitive aspects of the stutter may be the most significant components.” (Taylor-Goh, 2005 p. 79). It gives five approaches for the management of stuttering in adults. Many of these approaches suggest the use of CBT type techniques to manage aspects of social anxiety. In 2005, because of the similarities between recommended techniques from avoidance reduction and other psychological therapies and CBT, it appeared likely that SLTs might currently be using CBT techniques to manage social anxiety. This was probable even though the SLTs might not have been aware of the terms, the research evidence and the reasoning behind this approach. It was necessary to establish a better evidence base in this area. This was particularly true at the beginning of this project before the publication of a RCT in this area.

Treatment for the psychosocial aspects of stuttering is complex. A complex intervention is an intervention that contains several interacting components; which may act both independently and interdependently (Campbell, et al., 2000; Campbell, et al., 2007; Craig, et al., 2008). Many speech and language therapy interventions have not been studied through RCT. The reasons for this are due to the complexity and individuality of human communication behaviour, the resulting difficulties in standardising the content and delivery of specific treatment programmes, and the problem of evaluating outcomes of a multidimensional disorder; clients are often a heterogeneous group and receive different treatments (Carding & Hillman, 2001; Pring, 2004). Designing and evaluating a complex intervention is an iterative process. It involves exploration, observation, explanation and pragmatic implementation.

Recently, however, RCTs have been carried out with success in a number of SLT fields such as stuttering in children and voice therapy for dysphonia (Carding & Hillman, 2001; Jones, Gebiski, Onslow, & Packman, 2001; Pring, 2004). These multifaceted interventions have been developed and evaluated using a well established five stage model for designing and evaluating complex interventions developed from the sequential phases of drug development (Campbell, et al., 2000). It has been cited by many sources as an example of good practice in assessing the effectiveness and efficacy of complex treatment approaches (Campbell, et al., 2000; Pring, 2004). It appears appropriate that due to the paucity of evidence for stuttering treatments for adults, a valid aim for a research study would be to gain evidence for a treatment for stuttering in adults using this five phased model.

Their stages loosely follow the sequence:

1. The *Preclinical* stage is where the theoretical development and choice of treatment approach is explored; developing the intervention.
2. In the *Phase 1 Clinical trial* the intervention is trialled with a small sample to check efficacy and safety. A control group is not usually indicated; this stage involves modelling, piloting and checking feasibility.
3. The *Phase 2 Clinical Trial* involves a larger numbers of participants. The intervention is explored and evaluated
4. The *Phase 3 Clinical Trial* is usually a randomised control trial. This involves further evaluation.

5. *The Phase 4 Clinical Trials* examine the long term implementation of the treatment (Campbell, et al., 2000; Craig, et al., 2008).

Ideally to establish a good evidence base for treating psychosocial issues in AWS, this five phase model should be implemented. The first stage of the model is to describe the treatment or intervention that will be evaluated. At the start of this study a manualised therapy for targeting the psychosocial issues in AWS did not exist. It was apparent that SLTs were working in this area, and were most likely using CBT related techniques and principles to target psychosocial issues, most likely the facets of social anxiety. It appeared appropriate to ask speech and language therapists how they currently address these issues in speech and language therapy. Recently an experimental clinical trial of a cognitive behaviour therapy program for chronic stuttering targeting social anxiety has been published (Menzies, et al., 2008); increasing value in this study, indicating that other researchers agreed that a gap in this research and treatment did exist .

To develop an intervention it is important to be clear about what the intervention is trying to achieve and what would constitute a successful outcome. It is important that the intervention has a coherent theoretical basis and the way the intervention will bring about change is established. The intervention needs to be fully described so that it can be implemented properly for the purposes of the evaluation and replicated by others. Unless the mechanisms and processes used in the treatment are fully explained, it is impossible to tell why the treatment failed or succeeded and whether the treatment could be modified or applied to other groups. The rationale for the intervention needs to be clear (Campbell, et al., 2007; Craig, et al., 2008). Designing, describing and implementing a well defined trial has been described as the most challenging part of the process of a clinical trial and is the most frequent weakness in a clinical trial (Campbell, et al., 2007).

Evidence needs to be collected to carry out the preclinical stage of exploring the theoretical development and choice of treatment approach to develop the intervention. This can be done in a number of different ways such as literature reviews, and expert opinion (Campbell, et al., 2007). What does this mean for establishing an evidence base for treating the psychosocial issues in AWS? It

is necessary to firstly describe and define an intervention for treating the psychosocial issues associated with stuttering in AWS before being able to assess the success of an intervention. This intervention should be theoretically based. This intervention needs to be suited to the context in which it will be delivered. From the literature this intervention is likely to be based on cognitive behaviour therapy principles, and will treat psychosocial aspects associated with stuttering in adults such as social anxiety.

This review of the literature has indicated that it is likely that an intervention meeting these criteria might be being delivered by SLTs currently working in the United Kingdom and that “specialist” SLTs may be delivering different interventions to those who are considered to be more “generalist”. It would appear logical and appropriate to find out from SLTs in the United Kingdom whether the AWS with whom they work report similar psychosocial issues as those reported in the literature and if and how they treat psychosocial issues associated with stuttering in therapy with AWS.

2.15 Conclusions

2.15.1 Review of the Literature

The literature review explained that stuttering is more than a speech impediment; it often has a large impact on the life of the person who stutters. It explored some of the psychosocial issues that accompany stuttering such as the effect on education, employment, relationships, and concluded that therapy for AWS needed to target these psychosocial issues. Therapy would also need to include managing anxiety, particularly social anxiety associated with stuttering. It reported that the evidence base for addressing these areas was poor. It examined treatments for stuttering and concluded that the most appropriate currently available treatment to deal with social anxiety and its related issues was cognitive behaviour therapy. It found that many approaches currently exist to manage stuttering and many of these approaches have a cognitive behaviour therapy component or use CBT type techniques.

The literature review indicated a need to establish a better evidence base for managing the psychosocial issues of AWS. The five phase model of designing and evaluating complex interventions proposed by the Medical Research Council was considered to be the most appropriate way to do this.

The first stage of this model is to describe and define an intervention. Based on expert opinion and clinical guidelines, it is possible that SLTs within the United Kingdom may already be using appropriate interventions. A starting point for strengthening the clinical evidence base would be to find out and describe the interventions used by SLTs in the United Kingdom. From reports, it is likely that SLTs with different roles, such as generalists or specialists may be offering different services to AWS (Enderby & John, 1999). When determining what interventions are offered to AWS it would also be appropriate to determine the type of therapist offering the intervention.

2.15.2 Research Questions and Hypotheses

The over arching research questions that emerged from the literature were: **What is current practice amongst speech and language therapists for addressing psychosocial issues with adults who stutter? Can the potentially most effective interventions be identified, summarised, defined and described to form a protocol for a clinical trial?"**

This research question was addressed by answering the sub-questions:

5. *What is current speech and language therapy practice in the United Kingdom for addressing psychosocial issues in AWS?*

a. *Do SLTs assess areas such as psychosocial issues related to stuttering with their AWS as recommended by the RCSLT Clinical Guidelines?*

It was hypothesised that:

- SLTs would assess areas of practice such as type of stuttering, family history and speech behaviours as recommended by the RCSLT clinical guidelines.
- SLTs would assess the psycho-social aspects of living with a stutter.
- SLTs would use formal published tests to assess AWS.

b. Are SLTs reporting that clients describe similar issues to them as AWS recount in the published literature?

It was hypothesised that:

- AWS would have reported features of social anxiety and negative adverse effects of stuttering to their SLTs.

c. Are SLTs recognising and addressing facets of social anxiety within therapy?

It was hypothesised that:

- SLTs would recognise and treat the features of social anxiety in AWS, even if they did not call it social anxiety.

d. Are SLTs using CBT related techniques?

It was hypothesised that:

- SLTs would use cognitive behaviour therapy techniques to manage social anxiety.

e. How do SLTs evaluate the success of therapy with adults who stutter? Do therapists use established outcome measures to evaluate therapy?

It was hypothesised that:

- Therapists would use a number of ways to evaluate practice.
- Some therapists may not evaluate their practice adequately.
- Some therapists would not be using established outcome measures to evaluate therapy.

f. Do SLTs have in place protocols for the long term management of stuttering? What criteria do SLTs use when discharging clients who stutter?

It was hypothesised that:

- There would be variability between different SLTs on whether there is provision for the long term management of stuttering, and when a client is discharged.

- Some clinicians would discharge based on lack of resources, or department specific service limitations rather than clinical need even though this is not considered by the RCSLT to be acceptable.

6. *What are the factors that affect the therapy choices made by therapists? Do training, experience, special interest and specialism affect clinical practice?*

It was hypothesised that:

- There would be a wide skill mix of SLTs with differing levels of experience and training working with AWS.
- SLTs who have a special interest in AWS would have more training and experience in working with this client group.
- There would be wide variation in the practice of SLTs working with this client group based on experience, training and interest.

7. *Can these factors help identify practitioners using practice that is in line with current research and understanding of stuttering?*

It was hypothesised that

- Specialist clinicians could be identified and their practice described and defined to help develop a protocol for a clinical trial.

8. *Can the practice of expert clinicians be described and defined?*

It was hypothesised that

- Expert clinicians could be identified from amongst the specialist clinicians and their practice described and defined to help develop a protocol for a clinical trial.

2.16 Summary

The aim of this chapter was to describe how the research questions for this thesis developed from the literature. It discussed why the treatment of persistent developmental stuttering in adults needs investigation. It did this by defining what is meant by stuttering and discussing recent research about psychosocial aspects of stuttering, and concluded there is a lack of evidence base for treating the psychosocial issues of people who stutter even though research indicates a need for treatment in this area. In particular it examined

the relationship between anxiety and stuttering and the likely most appropriate treatment for this aspect of the disorder. It reviewed the treatment of persistent developmental stuttering in adults, including the treatment of the “whole” person and not only the speech dysfluency. It discussed how to go about establishing evidence based treatment for psycho-social aspects of stuttering and formulating research questions and hypotheses for this study to address.

The next chapter will describe the methods used to address these questions.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The aim of this chapter is to describe the methods used to investigate the research questions. In this chapter the decision to use a self administered postal questionnaire to answer the research questions will be discussed. The development and measurement characteristics of the survey instrument, the choice of participants and ethical issues encountered will be explored. The procedures used for collecting the data, and the data input and audit processes will be described. The data analysis methods which will be described more fully in each of the results chapters will be briefly mentioned. The limitations and strengths of the study will also be discussed in this chapter.

3.2 Study Design

The overarching research questions are: **“What is current practice amongst speech and language therapists in addressing psychosocial issues with adults who stutter? Could these interventions be summarised, defined and described to form a protocol for a clinical trial?”** The research questions were addressed firstly by asking SLTs who work with AWS about their practice in tackling psychosocial issues and subsequently by analysing the data they provided to see whether their interventions could be summarised and defined. The reasons for this choice of method are discussed below.

3.2.1 Exploratory Research versus Verifying Research

As discussed in the literature review SLTs have been working on anxiety management with AWS for many years. Although clinical guidelines exist in this area, at the start of this study the evidence base for intervention, particularly clinical trial evidence, was very scarce especially in relation to more recent understanding of the role of social anxiety. As a result, it was not possible to test others' theories of best practice. No other published research existed in the area attempting to address these research questions, so an

exploratory research approach rather than a testing or verifying research approach was taken (Phillips & Pugh, 2000).

3.2.2 Qualitative versus Quantitative Approach

Quantitative research seeks to measure and quantify in order to answer research questions, while qualitative research seeks to understand and describe the issue (Bowling, 2002). As discussed in the literature review, at the start of this study there was very little evidence apart from guidance from expert opinion to indicate what SLTs should do to manage psychosocial issues with AWS (Taylor-Goh, 2005). Clinical guidelines and other texts gave a fair indication of what therapists might be doing in therapy, but it was unclear what therapists actually were doing in therapy, and whether there were any criteria which affected their choices and decisions. The best way of finding out what SLTs were doing in therapy was to ask them; choosing how to ask the SLTs determined the choice of using either a quantitative or qualitative study. A qualitative study would involve asking a few SLTs about their experience and seeking to understand and describe their practice in great detail. A quantitative study would require asking many therapists about their experience through scales and statements which could be measured and compared.

It was decided to answer the research questions using a quantitative study for a number of reasons. The literature indicated that there was a wide variety in practice between different therapists and some therapists did not seem to have the requisite skills to treat this disorder adequately (Bricker-Katz, et al., 2009; Enderby & John, 1999). A quantitative study would mean that statistical analysis of different approaches to therapy could take place and could reveal which therapists reported using practice in line with current published research. It would also enable a proportional description of the different techniques used and practice between different groups of therapists could be compared. Gaining information from a large sample of SLTs working with AWS would give a much better indication of what was happening in the field than consulting a few experts. It would also allow for analysis of the different factors that may encourage therapists to choose different approaches, and it might lead to the statistical identification of expert therapists.

A qualitative study might have asked a few speech and language therapists about their experience of working with AWS and analysed their in-depth answers. This was considered an inappropriate methodology because different therapists seemed to have very different approaches (including personal construct therapy, solution focused brief therapy, avoidance reduction therapy and cognitive behaviour therapy). It would be difficult to establish which SLTs were the appropriate experts in the field.

The best way of identifying practice which was evidence based was to collect quantifiable data wherever possible. There was sufficient pre-existing knowledge of what might be happening in many areas of SLT practice to develop statements which could be measured. In some instances there was no pre-existing knowledge and it was necessary to ask open ended questions to elicit new information. These answers could not be easily measured. Most of the study used quantitative methods, and a small part of the study used content analysis to analyse open ended questions. Content analysis is considered to be both a quantitative and a qualitative method. These methods were chosen so that the research questions could be answered in the best possible way.

It was concluded that the best way to find out what a large number of speech and language therapists were doing in speech therapy was via self-administered postal survey. A questionnaire allowed for a wide range of knowledge of issues relating to therapy practise in the United Kingdom to be explored. It also allowed for the comparison of therapy among different groups of therapists.

3.2.3 Information Gathering: Survey versus Other Methods

The survey is frequently used as a research method to measure attitudes, knowledge and behaviour of a sample of the population of interest (Bowling, 2002). There are both benefits and disadvantages associated with using a survey: the following factors were considered when deciding to use a survey for this study (Oppenheim, 1992).

Advantages

Accessibility of target sample

A survey would allow a large number of SLTs to be contacted, in their natural environment, without the research method being too intrusive (Bowling, 2002; Oppenheim, 1992). Speech therapists historically work flexibly in multiple locations. A postal self administered survey allowed collection of data from a large number of SLTs who were widely dispersed (Oppenheim, 1992). It allowed SLTs to move the questionnaire to the best location to answer the survey questions during their limited administrative time.

A postal self administered survey was chosen over a web based or email survey, because many SLTs do not have regular access to email or the internet. This was confirmed when updating the database of contact details for SLTs. The physical presence of a paper survey is less easy to ignore than an email which can be deleted at the press of a button, or which can get lost in a large email inbox.

Cost

A postal self administered survey allowed for a large amount of data to be collected and a large number of participants to be contacted for a relatively low cost (Oppenheim, 1992). The data collected from the survey could be processed and analysed for a relatively low cost (Oppenheim, 1992).

Selection bias

If a high response rate from a wide variety of participants could be achieved, it would indicate less self selection bias than other research methods where the behaviours of only those therapists who put themselves forward could be captured (McColl, et al., 2001a).

Disadvantages and Strategies Used in this Study to Counteract Them

Low response rate

Postal self administered surveys often have low response rates and consequent biases (Oppenheim, 1992). In this survey many techniques were employed to raise the response rate to as high level as possible. These will be discussed in the procedures section of this chapter.

Literacy, understanding and interpretation issues

Self administered surveys often encounter difficulties with those who have poor literacy levels, or language difficulties (Oppenheim, 1992). All speech and language therapists working in the United Kingdom need to be registered with the Health Professions Council (HPC). This involves either holding a qualification from a British University, or a recognised international qualification and a specific English language competence (Royal College of Speech and Language Therapists, 2008). Consequently, it was reasoned that there were unlikely to be problems with literacy or language difficulties amongst the population of interest.

Self-administered questionnaires, unlike interviews, do not offer the opportunity to correct misunderstandings or to provide explanations or offer help with the survey (Oppenheim, 1992). This questionnaire was developed and reviewed by multiple reviewers, both researchers and SLTs, to try to make the survey as easy to understand as possible. A pilot project was carried out in part to determine whether any questions were easily misunderstood, and adjustments made to the questions as necessary. Contact details were given on the letter accompanying the questionnaire, so that if any respondent had a query, they could contact the researcher. A number of participants did contact the researcher to ask for confirmation about whether they met the criteria for the project.

In self administered questionnaires there is no control over the order in which questions are answered and no check of incomplete questionnaires (Oppenheim, 1992). In this study, very little data was missing from the returned questionnaires. It is argued that this was due to the survey being well designed. This will be discussed in the data analysis and results section.

Confidentiality and anonymity

Often in self administered questionnaires, if respondents pass the surveys on to other people, the researcher is not aware of this (Oppenheim, 1992). In this project, the surveys all had tracking numbers and participants were informed that their responses would remain confidential, but anonymity was not promised, and SLTs were asked (but not required) to update their attached details. All participants but one returned their surveys with their details attached. That survey was analysed with all the others but no further attempt was made to contact that participant.

Self report data

Information gained through self-administered surveys is self-report, and the information received is based on the respondents' perception and chosen disclosure. As a result it is not as reliable as data gained through observation or experimental means. This limits the conclusion which can be drawn from the data; however, valuable and useful information is still collected through surveys.

3.2.4 Summary

Self administered surveys have limitations but are frequently used as a valuable low cost research method to measure attitudes, knowledge and behaviour of a sample of the population of interest. In practical terms, a survey was the best method for obtaining the information required. The advantages of using a survey for answering the research questions were considered to be sufficient in this research project.

3.3 Development of a Survey Instrument

The development of the survey followed well recognised steps (Oppenheim, 1992; Rattray & Jones, 2007). Once the research questions "What is current practice in addressing psychosocial issues with adults who stutter amongst speech and language therapists?" and "Could the potentially most effective interventions be identified, summarised, defined and described to form a

protocol for a clinical trial?" were established, the survey aims and objectives were determined.

3.3.1 Survey Objectives

The objectives of the survey were as follows:

Objective 1

To discover the characteristics of the SLTs working with AWS who responded to this questionnaire.

It was hypothesised that:

- There would be a wide skill mix of SLTs with differing levels of experience and training working with AWS.

Objective 2

To discover what SLTs working with AWS in the United Kingdom did in therapy practice with regard to the therapy process, including:

- Assessment
- Therapy treatment goals:
Were SLTs recognising and addressing facets of social anxiety within therapy?
- Therapeutic techniques:
Were SLTs using CBT related techniques?
- Evaluation
- Discharge

It was hypothesised that:

- SLTs would assess areas of practice such as type of stuttering, family history and speech behaviours as recommended by the RCSLT clinical guidelines.
- SLTs would assess the psycho-social aspects of living with a stutter.
- SLTs would use formal published tests to assess AWS.

- SLTs would recognise and treat the features of social anxiety in AWS, even if they did not call it social anxiety.
- SLTs would use cognitive behaviour therapy techniques to manage social anxiety.
- Therapists would use a number of ways to evaluate practice.
- Some therapists may not evaluate their practice adequately.
- Some therapists would not be using established outcome measures to evaluate therapy.
- There would be variability between different SLTs on whether there is provision for the long term management of stuttering, and when a client is discharged.
- Some clinicians would discharge based on lack of resources, or department specific service limitations rather than clinical need even though this is not considered by the RCSLT to be acceptable.

Objective 3

To discover whether the issues that clients who stutter described to SLTs in therapy were similar to those that AWS recounted in the published literature.

It was hypothesised that:

- AWS would have reported features of social anxiety and negative adverse effects of stuttering to their SLTs.

Objective 4

To discover whether different factors such as post-qualification training, experience, specialism and special interest affected therapy choices and made a significant difference to practice.

It was hypothesised that:

- SLTs who have a special interest in AWS would have more training and experience in working with this client group.
- There would be wide variation in the practice of SLTs working with this client group based on experience, training and interest.

Objective 5

To discover whether expert practitioners can be identified through their practice choices.

It was hypothesised that:

- Specialist clinicians could be identified and their practice described and defined to help develop a protocol for a clinical trial.
- Expert clinicians could be identified from amongst the specialist clinicians and their practice described and defined to help develop a protocol for a clinical trial.

Objective 6

To describe and define the practice of expert clinicians.

3.4 Survey Design

The literature was reviewed to see whether there was an existing tool to answer the questions “What is current practice in addressing psychosocial issues with adults who stutter amongst speech and language therapists?” and “Could the potentially most effective interventions be identified, summarised, defined and described to form a protocol for a clinical trial?” A review of questionnaires and surveys from speech and language therapy and from other professions allied to medicine such as physiotherapy, occupational therapy, nursing and psychology concluded that there was no existing survey tool or any appropriate survey tool from another discipline that could be adapted to address the research questions. A survey needed to be designed.

3.4.1 Content and Section Development

To answer the research questions, the survey needed to ask therapists what clients reported within therapy sessions and what took place within therapy sessions. It also needed to ask therapists a number of different questions about their experience, background and job role to determine whether these

factors had influence on therapy practice. Statements or variables to be measured needed to be developed (Oppenheim, 1992).

Use of Literature

As recommended, a number of sources from peer reviewed published literature were used to develop items within the survey (Oppenheim, 1992; Rattray & Jones, 2007). Other, less rigorous sources, such as textbooks and handouts from workshops and training days which are commonly consulted by SLTs were also used.

Consultation of User Groups

Researchers within the field of stuttering, AWS and speech and language therapy colleagues were approached and asked their views about the research questions and the survey. Their ideas were used to help develop the survey. Later some of these contacts helped review the survey.

Development of Items from the Literature

The questionnaire was divided into sections which followed a therapy process outline, so that the survey was easy to navigate by speech and language therapists and followed a logical order, that of the therapy pathway (Bray, Ross, & Todd, 2006; Bunning, 2004; Royal College of Speech and Language Therapists, 2006; Taylor-Goh, 2005). Therapy is generally considered to be a cyclical process, where all aspects of therapy interact, but distinct areas within therapy can be identified and the therapy pathway predominantly follows the order: assessment, treatment and evaluation. The questionnaire sections were as follows:

Section A: Biographical Information

Section B: Assessment

Section C: Client report

Section D: Therapy goals

Section E: Therapy techniques

Section F: Evaluation and Discharge

(See Appendix 1: Survey pack for distribution)

The statements for each item or variable were informed by the following literature:

Section A: Biographical information

Outcome measure studies using Enderby's Therapy Outcome Measures showed that some departments achieved success in therapy with AWS while other departments did not. Enderby surmised that possibly skill level or interest in stuttering may influence the success of therapy (Enderby & John, 1999). Interviews with AWS have reported that clients have felt that their SLT had insufficient knowledge about treating stuttering (Bricker-Katz, et al., 2009). A description of the type of SLTs who work with AWS does not appear to have been documented, and it was considered that different levels of training and experience would impact on the type of therapy offered to AWS. Section A was devised to ask questions about all the factors that would both describe the characteristics of the sample and enable comparison of different factors and their impact on therapy choices.

There was very little published research describing the factors that affect therapist choices, but the items considered in this section were developed from what is often written as essential or desirable characteristics in SLT job descriptions. Questions were asked about experience as an SLT and specifically about working with AWS, proportion and type of caseload and therapy environment and type of intervention offered. Questions were also asked about training and interest in this area. Where possible the questions were asked as continuous variables (for example, number of years working as an SLT), or as a closed choice categorical variable (for example, level of interest in stuttering: special interest/some interest/no interest). The method of analysis and results of section A will be reported on in chapter four.

Sections B-E: Assessment, client report, therapy goals, therapy techniques

There was a fair amount of published information about the therapy process in generic texts (Bray, et al., 2006; Bunning, 2004) and stuttering textbooks (Bloodstein, 1995; Guitar, 1998). Items about *assessment (Section B)* came from these sources and the RCSLT clinical guidelines (Taylor-Goh, 2005). These guidelines were developed from a panel of experts, who were chosen from nominations by their peers. The conclusions from the clinical guidelines were developed mainly from professional consensus and relevant published papers (Hayhow, et al., 2002; Wright & Ayre, 1999), none of which dealt with psychosocial issues specifically.

Items about *client report (Section C)* came from published papers on what AWS were reporting to researchers (Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004).

Items about *therapy aims and goals (Section D)* came from the RCSLT clinical guidelines and a number of therapy programs such as the Successful Stuttering Management Program (SSMP) (Breitenfeldt & Lorenz, 1990). Handouts from programs run by the City Literary Institute in London (City Lit) and from other continuing professional development activities and from articles and books about therapy were also used to develop items about therapy aims and goals (Bloodstein, 1995; Cray, 2002; Guitar, 1998; Hayhow & Levy, 1989).

As discussed in the literature review, it was suspected that SLTs might be using CBT type techniques, without calling them that. Items about *therapy techniques and principles (Section E)* were taken from recognised works on CBT (Beck, 1976; Beck, 1995; Wells, 1997). Clinical psychologists were consulted about which works on CBT to use.

To provide measurable responses that would facilitate analysis, the questions in these sections were predominantly closed questions in a Likert type scale format. This was because the literature allowed for the development of statements in these sections. Spaces for comment were left at the end of

each section so that respondents could add things that may have been missed out or which they felt were important.

Section F: Evaluation and discharge

At the time of developing the survey, few published articles existed and RCSLT clinical guidelines did not give any information on how to evaluate success of therapy or on discharge criteria. Open ended questions were asked about how the respondents *evaluate change in therapy and criteria were used for discharge* (Section F).

3.4.2 Presentation:

This survey was designed to examine the breadth and scope of what happens in speech and language therapy with AWS with regards to psychosocial issues.

Structure of the Questions

As the survey was lengthy (19 pages in length), the questions needed to be carefully designed; both in the way the questions were framed and laid out (Fink, 1995). There were 107 closed questions and 18 open questions arranged in sections which were categorised and which corresponded with the therapy pathway. These sections were viewed as independent scales. The survey was designed to encourage as high a response rate as possible with as little missing data as possible. The structure of the questions was kept as simple and as similar as possible, so that the participant was clear in what was required of them in each question, and did not face many novel situations. The survey questions were carefully framed, making sure that each question only dealt with one concept, and that the language used was common to the participants (Fink, 1995; Oppenheim, 1992). Where there was debate about what terms to use, terms were chosen from the RCSLT Clinical Guidelines. Questions were kept short and clear and ambiguity avoided (Oppenheim, 1992). The survey was kept uncluttered and easy to complete. There were clear instructions at the beginning of each question, and participants were asked to answer ALL questions, so that they did not have to

follow complex instructions about how to navigate the survey (Fink, 1995). The instructions for each question were distinguished by different size and types of fonts to make the purpose and meaning clear (Carr, 2003; Fink, 1995). A pilot of the survey indicated the successes and failures of the presentation, and enabled helpful changes to be made, for example the addition of a question asking how therapy services were delivered (individual, group or intensive therapy). An unforeseen problem arose from one of these changes. A note was added under the first question which asked whether the participant met the criteria for the study. This note requested that if the participant did not meet the criteria for the study that they mark the “no” box and return the incomplete questionnaire. This addition shifted the layout of the questions and resulted in a single question asking about the number of years the SLT had been qualified remaining at the end of the first page. In the data analysis, it was found that nine people did not answer this question. This was the highest amount of missing data in the entire questionnaire. The rest of the survey had very little missing data, indicating that most of the survey was very well designed.

As discussed in the literature review, this study took place while many SLT departments were changing from the Whitley Council terms and conditions to the Agenda for Change system. This meant that during this period terminology such as specialist and generalist which had been commonplace and had specific associations now had a change in meaning. This meant that although the language chosen in the survey was considered common to most participants by the reviewers and in the pilot, in some instances respondents to the actual questionnaire indicated a different understanding of the terms to those which were initially meant. The impact of this is discussed in chapter four with the results of Section A.

Likert Type Scales

The closed questions were presented in the form of Likert type scales, and questions covering similar topics were grouped together. Likert type scales with an odd number of rating points are deemed to be preferable as respondents have a mid point to choose if they wish (Fink, 1995), and reviewers indicated that they would prefer a scale with five items rather than

seven. Most of the responses to the Likert type scales examined the frequency of a particular action or a proportion of how many times their clients reported an issue. An option of “don’t know/not applicable” was also given as a choice on the Likert type scale so that if an SLT had not heard of a technique, they could mark “don’t know”, rather than leaving the question out, decreasing missing data and showing when a concept was not understood (Oppenheim, 1992).

Question Order

There is debate as how to order the questions in a survey. Some indicate that biographical questions should be presented last so that participants can immediately deal with the interesting part of the survey (Oppenheim, 1992), while others advise that less complex questions should come first so that the participant starts with something which they can immediately answer with little difficulty (Carr, 2003). In this survey, the biographical information questions were placed at the beginning of the survey in order to immediately establish whether the participant met the inclusion criteria.

Survey Appearance

There has been some research that has indicated that sending a postal questionnaire on yellow coloured paper is most effective in receiving a high response rate (Carr, 2003). Sans serif typeface in a font of 2mm or more is considered easier to read than other typefaces and sizes of font (National Literacy Trust, 2008). This questionnaire was distributed with black Arial 11 and 12pt typeface on yellow paper. The aim was that the questionnaire could be easily seen and found quickly amongst a pile of paperwork, read easily and completed efficiently.

3.5 Survey Context

The context of the survey will determine the data that is collected. Different cultures and countries have different approaches, philosophies and ways of working. A decision was made to send the survey to speech and language

therapists working in the United Kingdom. The United Kingdom was chosen because the RCSLTs clinical guidelines indicated that there was a wide variety of training and therapy approaches used across the United Kingdom with this client group (Taylor-Goh, 2005). From discussion and interaction at international conferences and Special Interest Groups (SIGs), the literature, attendance at courses and teaching and being taught at different universities, it was thought that the training and approach taken by SLTs in the United Kingdom was different from the approaches taken in countries such as Australia, the United States, South Africa and Belgium. The vast majority of SLTs who work within the United Kingdom work in the NHS, and it seemed appropriate to examine not only practice but service delivery in this context. This was also the country in which the study took place.

3.5.1 Feedback from Reviewers

The survey instrument was reviewed by three AWS, five generalist and five specialist SLTs, three academics, a linguist and two researchers in the area of dysfluency disorders. They were chosen for their interest in the study and for convenience. Modifications, particularly about wording and layout of the questions were made based on their comments and recommendations (Oppenheim, 1992, pg 6). Positive feedback on the design and content of the survey and the value of the research project was received from the reviewers. Statements indicated that the survey covered all areas related to therapy.

3.5.2 Pilot Study

The number of SLTs working with AWS in the United Kingdom is relatively small (hundreds rather than thousands). It was important not to decrease the potential respondents by including them in the pilot study. A similar population (in terms of training and experience) to the British SLTs was therefore sought. Contact details of SLTs working with AWS were obtained from the Irish Stammering Association (ISA) database. These therapists (N=21) were sent a copy of the questionnaire. After three weeks, if no response was received a telephone call to participant was made. After telephone follow-up, 13 responses were received and 9 completed questionnaires were returned. Two

of the participants were duplicated and the other respondents did not meet the criteria for the survey. Based on their responses some minor modifications to the questionnaire were made (such as the re-ordering and reframing of some questions). For example, in the pilot survey, a single question was asked to elicit information about evaluation. The question was as follows:

F1. How do you evaluate change in areas other than direct speech modification?

When the replies to the pilot project were received, it was apparent that many SLTs had not commented on the use of outcome measures. It was unclear whether this was because the SLTs had forgotten to mention outcome measures, or whether SLTs were not using outcome measures. Therefore no conclusions about the use of outcome measures could be drawn. As a result, in the final draft of the questionnaire, the initial question on evaluation was replaced with the following two questions:

F1. How do you **evaluate change** with your AWS in areas other than direct speech modification?

F2. What **tools** do you use to evaluate change?

It was surmised that if outcome measures were not reported in either of these answers, it was likely that the therapist in question did not use an established outcome measure.

There were insufficient numbers in the pilot sample to be able to analyse the results statistically to predict effect size or perform power calculations.

3.6 Evaluation of the Instrument

This questionnaire was designed to be an exploratory instrument. Its aims were to address the research questions “**What is current practice amongst speech and language therapists for addressing psychosocial issues with adults who stutter?**” and “**Could the potentially most effective interventions be identified, summarised, defined and described to form a protocol for a clinical trial?**” There are a number of considerations to be taken into account to evaluate the questionnaire and to determine the quality of the data collected by this survey instrument.

3.6.1 Measurement Characteristics of the Instrument

Reliability

“Reliability is a statistical measure of how reproducible the survey instrument’s data are” (Litwin, 1995) (Pg. 6). Reliability is commonly assessed in three forms: test-retest, alternative form and internal consistency.

Test-retest reliability

Test-retest reliability is often achieved by asking the same respondents to complete the survey at two different points in time, and the measuring how reproducible the set of results is (Litwin, 1995). In the development and pilot stages of the survey, and later in the comments section of the actual survey, a number of respondents indicated the educational value of the survey and how the survey had resulted in a reflection on cases and a possible change in practice. As a result it was not possible to use test-retest as a form of reliability because it was expected that the participants’ responses would change as a result of completing the survey.

Alternate form reliability

Alternate form reliability involves using differently worded items to measure the same attribute, or changes to the order of the response set to check consistency of responses (Litwin, 1995). As there were 107 closed questions in the survey, it was considered that adding additional items written in an alternate form would reduce the response rate by making the questionnaire longer and more difficult to complete. To compensate for this, some questions were framed so that the hypothesised most likely answer would be presented in a different position on the Likert type scale compared to previously presented questions. This would make it clear if someone was responding to the questions by simply marking them all in the same way. In data analysis, none of the respondents in either the pilot study or the main study itself marked the responses which were expected to be different in a similar way, indicating that the respondents answered in a way that reflected reliable consideration and understanding of the survey items.

Internal consistency reliability

Internal consistency reliability was measured by calculating Cronbach's coefficient (Litwin, 1995) for each of the questionnaire sections B-E. Each of these sections was considered to be a scale, and high internal consistency reliability was found in each section. This will be reported on with the results in Chapter 5.

Modified Delphi technique

A modified Delphi technique was used to explore the meanings of the data (Bowles, 1999; Keeney, Hasson, & McKenna, 2001). Expert consensus was gained via a five step process of giving and exchanging opinions anonymously. This method will be described fully in Chapter 5. The expert group consensus on the data also showed reliability.

Assessment of reliability of the instrument was limited predominantly to internal consistency reliability and alternate form reliability. These measures of reliability indicated that the data generated from the survey were likely to be reliable.

Validity

Four different types of validity- face, content, criterion and construct validity were assessed (Litwin, 1995).

Face validity

Face validity, review by untrained (those who were not SLTs who worked with AWS) judges examining the layout, spelling and wording of the questionnaire was performed in the initial stages of the development of the questionnaire. The questionnaire was examined by a linguist, three people who stutter, five speech and language therapists who do not work with people who stutter, and three academics within the university. Modifications were made to the survey based on their opinions.

Content validity

Content validity is gauged by reviewers who have knowledge of the subject matter. Six international experts were approached at the International Fluency Conference (2006) and asked to review the survey. They were approached so that the limited sample of therapists based in the United Kingdom were not exposed to the development of the survey and therefore eliminated from being part of the sample. These experts were either researchers in the area of stuttering or speech and language therapists who specialised in stuttering from other countries (the United States, Canada, Sweden, South Africa and the Netherlands). Slight alterations to wording of questions based on suggestions made by these experts were made, but overall the researchers agreed that content of the questionnaire measured what it purported to measure, and that although the instrument was long, it covered all areas necessary, and nothing should be removed.

Criterion validity

Since this survey was exploratory, unique and newly developed, criterion validity (measurement of how an instrument compares to another more established instrument) could not be measured.

Construct validity

Construct validity compares content categories with an external criterion (Weber, 1990). Since the current study is exploratory research, no “gold standard” measure existed to compare against the instrument and many of the categories were novel and so could not be contrasted with other variables in the study. In hypothesis validity, a form of construct validity, the variables in a relationship act in the way in which they are expected; the data supports a hypothesis or theory (Weber, 1990). As will be shown in the results section, the data collected supported the study’s hypotheses indicating hypothesis validity. Statistical measures can also be used to determine construct validity. Factor analysis was performed on the results of the survey. Items which were expected to relate to one another were placed together within scales. When analysed using factor analysis, the expected relationships were confirmed showing that the scales were measuring similar concepts. There were some items in the survey which were comparable with variables from other parts of

the survey. Construct validity could be measured, as these different groups were found to correlate significantly (Jerosch-Herold, 2005). These results will be reported on in detail in the analysis and results chapters of this thesis.

Although the reliability and validity measures of this instrument were limited because this survey was developed for exploratory research, every practical step that could increase reliability and validity was taken.

3.7 Sample

3.7.1 *Participants*

Once the research questions had been constructed and the method of addressing the research questions had been determined, it was necessary to find SLTs who had current experience to survey. The survey needed to examine the practice of all representative therapists working with AWS, rather than a convenience sample. As will be illustrated in the results chapters four and seven, this was important so that the hypotheses could be tested between different groups of therapists and the characteristics of SLTs working with AWS could be examined and bias minimised.

Inclusion Criteria

The following inclusion criteria were used in order to address the research questions. Participants needed to be a speech and language therapist. (As the title is protected an assumption was made that anyone calling themselves a SLT was registered either with the HPC or RCSLT). They needed to be working with adults (someone over the age of 16 years), who had a developmental (rather than an acquired) stutter, in the previous two years (so that the SLT's practice was current).

Definition of Population

This study focused on SLT practice in AWS in the United Kingdom. This group was chosen for a number of reasons. As discussed in the literature

review, the context of a study is very important. Since the RCSLT Clinical Guidelines had been published around the start of this project, it appeared logical to question British SLTs to see whether their practice conformed to that recommended in the evidence based guidelines. From reports within the literature, and observations at international conferences when this study was being developed, there appeared to be very diverse approaches to working with AWS across the world. The ethos amongst British SLTs was likely to be similar as they would work in similar environments (such as the National Health Service) and were likely to have undergone similar training. They could be easily accessed via a postal survey. There were ways to establish a list of most of these SLTs.

3.7.2 Sampling Design

Representativeness

The sample chosen for this survey needed to be representative of SLTs working with AWS and sufficiently large so that relevant information could be collected, inferences made and conclusions drawn from the collected data. A truly representative sample is one which uses a randomised sample from an established list (Fink, 2003a), in this instance, of the entire population of speech and language therapists working with adults who stutter in the United Kingdom. At the start of the study, no comprehensive list of all the speech and language therapists working with adults who stuttered existed. There was no knowledge of even approximately how many SLTs worked with AWS. It was suspected that the number of therapists working with adults who stutter in the United Kingdom was relatively small. This made establishing a randomised sample impractical. Alternatively, a census is obtained by targeting the entire population and receiving replies from every person in the population. A census would also allow for inferences and conclusions to be drawn (Oppenheim, 1992). This project initially considered a census; possibly targeting all SLTs who worked with AWS. To complete a census, every subject would have to return a completed survey. As it is commonplace for people not to return surveys, the only way that a researcher could try to achieve a census would be to pursue each subject until the survey was returned. It was agreed that this method was not ethical and that participants

should be able to choose whether to participate in the study. It was also unlikely that we would be able to find a list of every SLT working with AWS in the United Kingdom, and there would be no way of checking if we had reached every SLT. As a result, conducting a census was ruled out as a method in this project. As a randomised sample or a census of all SLTs working with AWS in the United Kingdom was impractical and inefficient, a list of every SLT known to be working with AWS was devised from updating a pre-existing database, and all SLTs on the list were contacted to participate in this study.

Number of Subjects

Research indicates that if possible, a sample should be asked questions using a tried and tested survey tool which would have an established expected effect size. This would allow power calculations based on the expected effect size to be made. A power calculation would indicate precisely how many participants should partake in the study to measure a significant difference (Hart, 2001).

As this was an exploratory study, and no measurement instrument existed previously, and very little research on expected effect sizes existed, power calculations could not be made. When the results from the pilot study were returned, very few of the variables had normal distributions; this made it difficult to calculate effect sizes from the pilot data (Jones, Gebiski, Onslow, & Packman, 2002).

The larger a sample size the greater the capacity of the study to detect a difference, if it exists in the population (Jones, et al., 2002). As it was impossible to perform power calculation, it was concluded that as many SLTs working with AWS in the United Kingdom as could practically be established needed to be invited to take part in this study.

3.7.3 Source of Subjects

Establishing a List of Possible Participants

A number of ways were considered to develop a list of appropriate subjects. Speech and Language Therapists who work with clients need to be registered with the Health Professions Council (HPC). Many employers also require that the SLTs working for them be registered with the RCSLT, although in some cases this is not compulsory. The HPC do not record what area SLTs work in, and so would not know who worked with AWS. The RCSLT do not record this information either, although they publish a bi-monthly newsletter which is distributed to all their members. Distributing the survey via this newsletter so that all SLTs registered with the RCSLT would get a copy of the survey was considered, and just those who met the criteria could respond, but the cost of doing so was prohibitively expensive (>£12000). It would also be impossible to know what proportion of those who had met the criteria had responded, making it difficult to know how representative or biased the sample may have been.

The RCSLT publish a list of all the SLT managers working in the United Kingdom. One method considered was writing to each manager asking for the names of their staff who worked with adults who stuttered, but this created logistic difficulties. To do this, an ethics application to the National Research Ethics Service (formerly Central Office for Research Ethics (COREC)) would be required. This would have covered multi-site research. This would have been possible, but once ethics approval was given, individual research governance applications to over 300 separate institutions would have needed to take place to receive permission from each trust prior to contacting their staff. This was a practical impossibility as each of the 300 different trusts who all had differing research governance committees and application processes. Each research governance committee could request modifications to the questionnaire, and if different trusts disagreed the identical instrument could not have been distributed to different SLTs, preventing comparison of data.

An alternative option was to send the survey to those members of a national special interest group (SIG) on dysfluency. A list of the SIG members was applied for and received. Although this list had been used by other

researchers for studies in dysfluency, the list had very few people on it. Some of the people on the list were not practising speech therapists, and the list excluded many people who did work with adults who stuttered, including some who, within the SLT community, would be considered experts.

The literature was examined to see whether any other list of SLTs had been used before as research participants, and found that a study examining the therapy views of people who stammer had used a list of SLTs who worked with AWS compiled by the British Stammering Association (BSA) (Hayhow, et al., 2002). This appeared to be the most appropriate avenue to pursue.

Choice of and Development of the British Stammering Association (BSA) Database

Source of database

The British Stammering Association (BSA) is a charitable organisation which aims to educate, inform and support people who stutter. It also initiates and supports research into stuttering and promotes effective therapy and awareness about stuttering. Each year the BSA updates a compiled list of speech and language therapists who work with people (both children and adults) who stutter. It does this by writing to the managers of NHS trusts and by contacting those therapists who work privately with people who stutter and who have made contact with the BSA in the past. The list of therapists that the BSA has developed is open to the public. Any person can enquire about the speech therapy service provision in an area, or access any of the other information stored on this list. It is updated on an annual basis.

This list represented the most thorough, accurate and recent database of SLTs working with AWS in the United Kingdom. It appeared to be the best list from which to take a sample. As the BSA list was in the public domain, ethics approval for the study did not need to go through the National Research Ethics Service, but could be sought through the University of East Anglia, Faculty of Health Ethics Committee. This decision was discussed and agreed with the supervisory panel.

Development of the sample list

Despite the list being updated on an annual basis by the BSA, some of the entries were out of date. In some cases it was unclear whether the SLT on the list worked with adults who stuttered or children who stuttered; or it was unclear whether the SLT was the only person in that department/trust or geographical area who worked with AWS.

Before distributing the survey the list needed to be updated and checked. Since the survey was to be distributed at the end of 2006/beginning of 2007 all entries that were last updated prior to 2004 would be checked. (This would allow for the criterion of a SLT who had worked with AWS in the past two years to be met.) Entries after that date which were unclear were also checked. Initially, entries from the BSA HTML database were extracted and transferred to a Microsoft Access database. Much of the information that was pertinent to this study was set within a mass of other data within the BSA database. Placing the data within an Access database made the data much more manageable, enabling searches and mail merging for distribution and tracking of the survey.

Updating the database

In order to ensure accurate targeting of respondents the following steps were undertaken:

1. A telephone call was made to the most recent telephone number listed on the database. The purposes of the phone call were explained and the person contacted was told that a survey would be distributed in the coming months. The names of all those SLTs who worked with AWS in the department and in the geographical area were requested. All the information on the database was checked to see whether it was correct.
2. If there was no answer, a message would be left on voicemail asking the caller to return the call.
3. If there was no response, three phone calls would be attempted, and messages left wherever possible. Days of the week and times of the day were varied when making phone calls in an attempt to reach as many participants as possible. The decision was made to stop pursuing the person after 3 attempts to contact and leave messages.

Fortunately contact was made with everyone on the list within these criteria and so no entry was left unchecked.

4. If the telephone number no longer existed, internet and directory enquiry searches were performed to discover the new telephone numbers.
5. If there was no recent information for a particular SLT, the HPC register was checked to see whether the SLT was still registered with the HPC in the area. From this information it could be determined whether the SLT had moved to a different area, was no longer registered or whether the matter needed to be pursued further.

On a number of occasions, the manager of the department contacted indicated that there was no identified SLT within the department who worked with AWS, but asked for a certain number of surveys to be sent to her for distribution to those members of the dept who did occasionally work with AWS.

This was a time-consuming yet necessary process. By the end of this process, the names of 319 SLTs to send surveys to directly had been determined, in addition to the names of ten managers who wanted 30 questionnaires between them to distribute to their staff. A total of 349 possible respondents had been identified.

Surveys have notoriously low response rates (Carr, 2003). The numbers of possible participants were small and it was unclear whether all of these participants, despite the checking of the list, would meet the criteria to be a subject. As a result a decision was taken not to take a randomised sample of this group, but to send surveys to all on the list.

Control Measures and Sampling Error

Sampling error or bias is inevitable (McCull, et al., 2001a), but the following steps were undertaken to reduce sampling bias. Firstly everything possible was done to get a complete a list of SLTs working with AWS in the United Kingdom. Secondly attempts to reduce bias and to detect between group

differences were made by trying to achieve as high a response rate as possible (Fink, 2003a).

This method of determining a sample meant that inferences and generalisations could not be drawn about the population of speech and language therapists who work with adults who stutter, and this will be reflected in the conclusions drawn from the results of this study.

3.8 Ethics

3.8.1 Application and Approval

An initial application to send out the survey was made to the University of East Anglia, Faculty of Health Ethics Committee in May 2006. (See Appendix 1: Letters of approval). The ethics committee requested a number of modifications, such as the letter to the participants being reorganised according to the Central Office for Research Ethics (COREC) guidelines. These modifications were made and approval for the project was provided on 4th October 2006. Permission was given to distribute the questionnaire via the post. In September 2007, an additional request to contact a sample of those participants who had agreed to further contact was made to the Ethics committee. Permission was granted via Chair's action to contact the participants to further understand the data that had been obtained.

3.8.2 Ethical Issues:

Informed Consent

The questionnaire was sent as part of a pack of information. This included an information sheet designed in the COREC recommended format.

The information sheet:

- Described the nature and purpose of the study and how long the questionnaire would take to fill in.
- Explained the aims of the study and why it was important to gain this information and how the information gathered would be used.

- Explained that there was no obligation to be part of the study, and that the participants could decline to be involved in the study by simply returning a blank questionnaire.
 - Explained how the participants' information would be used and stored.
 - Assured absolute confidentiality.
 - Gave clear information on how to contact the principal researcher and encouraged the participants to ask questions if they desired.
- (See Appendix 3)

Completion of the questionnaire was considered to constitute consent and this was made explicit in the participant information sheet. The participant was informed that they could withdraw their data from the study at any point.

Risks Involved in the Research:

The risks involved in the research were considered to be minimal. The possible negative effects of filling in the questionnaire were:

Time required

This was addressed by designing the questionnaire to attain the most useful relevant information in the shortest time span possible, and stating the amount of time likely to be taken to fill in the questionnaire (approximately 20 to 30 minutes). Prior to the pilot, reviewers were asked to fill in the questionnaire and time themselves.

The realisation by the participant that they might not be adequately trained or may be ineffective in their therapy

The questions were designed so that the participants did not feel judged if they did not have a good theoretical background in this area. Opportunities for continuing professional development in this area were given as an incentive for completing the questionnaire.

There did not seem to be any additional risks to filling in the questionnaire. The knowledge gained would be invaluable in establishing a basis for

evaluating and improving speech and language therapy with adults who stutter, and therefore this project was deemed worth the risks by the principal researcher, supervision team and the Ethics committee. The information gained from the research should be of direct benefit to those involved in the research by contributing to the evidence base for therapy with the client group.

Confidentiality

Participants were assured absolute confidentiality, and that identifying information would not be disclosed in any circumstances. Any identifying information would be removed before reporting on the data. Anonymity was not guaranteed because each form had a tracking number so it was clear which forms had been returned and which were outstanding. The survey could be returned with or without personal details attached. Once the forms were received, the personal details page was removed from the questionnaire and stored separately to the questionnaire. The questionnaires and personal details were stored within the AHP department in locked filing cabinets, and information on the database was password protected. The personal details, all artefacts and data collected will be destroyed five years after the study is completed.

Other Organisations Involved

No other organisation hosted the research; however the Royal College of Speech and Language Therapists (RCSLT), the Dysfluency Special Interest Group (SIG) and the British Stammering Association were informed of the research prior to the questionnaire being distributed. They were notified of contact details of the principal researcher so that if they had any queries from possible participants in the research they had knowledge of the project and knew how to pursue those queries.

Cultural Issues

Cultural issues were considered, but no specific cultural issues were identified.

The Provisions of the Data Protection Act

The provisions of the Data Protection Act (UK Parliament, 2008) were met by the following actions:

- Only data which were relevant and essential to the project were collected.
- Paper copies of the survey are kept in a locked filing cabinet, the key to which is held by the principal researcher.
- Identifying information (such as name and addresses) was removed from the paper copies and the questionnaires are identifiable via a tracking number only.
- The identifiable information was stored with the tracking number of the participant on a password protected database.
- Only immediate members of the research team (Research student, supervisors, data in-putters and analysers) had access to the information.
- All members of the team were bound by professional codes of confidentiality.
- The participants were clearly informed (via the information sheet) as to why the data was collected and how it was to be stored.
- The data was only collected and kept for the purposes clearly stated in the information sheet. It will not be kept for longer than is necessary.

Feedback and Results of the Analysed Information

Participants were offered the opportunity to request feedback from the questionnaire by putting their name and address on a reply slip which was separate from the questionnaire to be returned with the questionnaire or separately if they desired. The information sheet indicated that the feedback they would receive would be results for the entire survey data.

Bias

Researcher bias was in part accounted for in the construct and content validity of the questionnaire and via pilot tests. The researcher's background was explained in the study so that the participants clearly knew the possible bias and purposes of the investigator and the research. No bias can be completely eliminated from any project.

Summary

The ethics issues were carefully considered and addressed by the research team and approved by the University of East Anglia, Faculty of Health Ethics Committee.

3.8.3 Distribution, Administration and Scoring of Instrument

The process of designing and distributing the survey pack was carefully planned based on recommendations from the literature and reviewers to maximise the response rate.

Enhancing the Response Rate

A survey pack was developed containing a personalised letter to the participant, the survey, the information sheet, a stamped envelope for return and two incentives: a fruit teabag to enjoy while completing the questionnaire and a voucher to attend a study day about dysfluency at a reduced cost (Carr, 2003; McColl, et al., 2001a; Oppenheim, 1992).

The following additional measures were also undertaken to enhance the response rate.

Prenotification and reminders

An increased number of contacts with the possible participants is reported to enhance response rates. Prenotification primes the recipients for the questionnaire. Reminders also help increase response rates (McColl, et al.,

2001a). In updating the database, most of the possible participants were notified about the study prior to receiving the questionnaire.

Respondents were informed that the questionnaires were not anonymous but that they were confidential and no information identifying the respondents would be disclosed. The questionnaires each had a tracking number. One month after the initial distribution of the questionnaire a second mail shot took place to those who had not yet responded (N=130); this resulted in another batch of responses.

Incentives

Incentives help increase response rates (McColl, et al., 2001a; Oppenheim, 1992). As an incentive, a fruit teabag was sent with every survey. Participants were invited to have a cup of tea and fill in the questionnaire. Many respondents commented positively on the teabag. A voucher to attend a study day about stuttering at reduced cost was also included in the pack. The study day was organised by the charitable trust (The Dominic Barker Trust) which funded the research project and was run on a non-profit basis. The study day allowed clinicians to gain more knowledge in areas that the questionnaire may highlight as being an area the therapist may wish to develop, and updated clinicians on some of the most recent research in the area.

Saliency, length and questionnaire layout

The relevance of the survey to the recipients is very important; the greater the interest in the topic of the survey, the greater the response rate (McColl, et al., 2001a). This survey targeted only SLTs who worked with this client group, so the survey was considered relevant to most recipients. Questionnaire length has found to be less important (McColl, et al., 2001a). Though this questionnaire was long, the questions were relevant, well framed and well laid out, with consistency in the presentation and a good use of the spatial arrangement of information (McColl, et al., 2001a), so that despite the length there was very little missing data in the returned questionnaires and the response rate was high.

Ethical approval

Ethical approval is considered to increase response rates as it reassures participants that the researcher seeks to protect the participants (Carr, 2003). The fact that ethical approval was sought and obtained from the Faculty of Health Ethics committee was disclosed in the information sheet to participants.

Personalisation

Personalising a survey by individually addressing the invitation to participate in the study and personally signing the survey by hand is recommended (Carr, 2003). A mail merge program was used so that each letter, study voucher and each survey had the participants' personal details on and each letter was hand signed.

Stamps

There is much debate on how to include the envelope to return the survey. Oppenheim (1992) recommends uses real stamps on the envelopes, as they hold a monetary value and may make participants more inclined to return the survey. Real stamps were used on the return addressed envelopes.

Time questionnaire received

The survey was ready for distribution around the end of December 2006. A decision was made to wait to send the questionnaire until mid January 2007. It was considered that many clinicians would be away over the Christmas period, and would have to deal with a backlog of post on their return. Waiting until mid January appeared to be sensible to increase the response rate. The surveys were posted on a Monday so that they would arrive mid week, so that clinicians would have time to consider their responses, and the questionnaire would not get caught amongst issues that had arisen over the weekend (Carr, 2003).

3.9 Data Input and Audit

3.9.1 Data Input

A vast amount of data resulted from the questionnaires. There were 20437 closed questions to input and 3438 open ended questions to input.

Codebook

A simple but logical codebook was created to input the data (Fink, 2003b). The data from the closed questions were examined to determine the type of data. There were ordinal data, categorical data, binary variables, Likert type scale responses and nominal variables. The data were then given corresponding numerical values. In categorical answers, yes was given the value 1 and no was given the value 2. When a list of categories was present, if the options were exclusive, the answers were assigned numerical values; starting from one for the first possible answer and rising in sequence for each answer after that.

For Example:

A8. Mark which applies to you:	
I have a special interest in stuttering	1
I have some interest in stuttering	2
I have no particular interest in stuttering	3

Where the lists of categorical answers given were not exclusive, each answer was considered to be an individual yes/no question, and could receive either the value 1 or 2.

The Likert type scales were allocated numerical values in an ordinal way, so that an answer indicating low or high frequency of use or agreement with a statement was scored low (Never=1) to high (Usually=5). It was possible that because a wide range of different therapists would be answering the questionnaire, some concepts might not be known to the less experienced therapists. To avoid either missing data or the choice of the middle of the

scale because the therapists did not understand the concept, a “don’t know/not applicable” box was given as one of the choices. This was scored as a zero so it would not be treated as a missing value, but would not contribute to the score of a scale.

For Example:

Mark the option that describes best what you would normally do in therapy. If you have not heard of a strategy mentioned please mark N/A, Don't know.

B1. What **areas do you assess** (within the therapy room) with AWS?
(Mark the option that best describes what you would normally do)

A. Stuttering severity

Usually	Often	Sometimes	Rarely	Never	Don't know/ N/A
5 _____	4 _____	3 _____	2 _____	1 _____	0

As the surveys were returned, the data were entered directly into SPSS Version 14.0, a statistical analysis computer program. The data input was carried out according to a range of accepted conventions (Hayhow, et al., 2002; Kenealy, et al., 2004; Landers, McWhorter, Krum, & Glovinsky, 2005). Both the numerical values assigned to the closed questions, and all that was written in the open ended questions were inputted. The majority of the time, two people were involved in data input, one reading out the information and scores, and one typing the information into the computer to help increase accuracy. The person reading out the information would also check what had been inputted on the computer screen. Many SLT conventions and abbreviations were present within the answers, and on occasion discussion between the author and the clerical assistants took place to reach agreement on what had been written. If a participant had written additional information outside the open ended questions, this was documented in the additional comment slot at the end of the questionnaire, with the number of the question to which it referred.

3.9.2 Data Audit:

Data Audit of Closed Questions

To ensure the accuracy of the data which had been inputted a double entry data audit took place. The steps of the audit were as follows:

1. A random sample of ten percent of the numerical data was entered into a Microsoft Excel Spreadsheet by a different clerical assistant.
2. This data set was then imported into SPSS and Kappa coefficients for each variable in the sample were calculated (Fink, 2003b). The Kappa coefficients did not equal one indicating that there were errors in the data that had been inputted. (A Kappa co-efficient of one indicates a perfect match between two datasets.)
3. Consequently the entire dataset was entered into the Excel spreadsheet.
4. A Kappa co-efficient for each variable was re-calculated.
5. Where the Kappa value was less than 1, a check of the data against the original survey took place and the data was changed to match the information from the survey. In total the entire 20437 data points were checked.

This process was also used to audit the content analysis categories to ensure reliability of the data.

Data Audit of Open Ended Questions

A double entry audit of a random sample of the open ended questions also took place. This too was considered to have errors. The entire open question dataset was then checked again by two people: the author and one other clerical assistant. One person would read the answer from the original survey and the other would check it matched the information held within the database. If not, the entry was corrected.

The clerical assistants for the data audit were experienced, well trained, considered to be methodical, thorough and precise, and were well supervised. By the end of the data audit process, it was considered that the data in the final database was accurate and clean (Fink, 2003b).

3.10 Data Analysis

This survey produced large volumes and varying types of data. Therefore the data analysis of each section of the questionnaire is best dealt with in the chapter about that section, with the results of that section. This can be found in chapters 4, 5, 6 and 7 and includes methods such as descriptive statistics, principal component analysis, a modified Delphi technique and content analysis.

3.11 Summary:

This chapter has described the methods chosen to answer the research questions and the reasoning behind these choices. It examines in detail the development of a survey instrument and the issues which arose in the course of the study. The next chapters will examine the data analysis methods used the results which emerged from the data collected from the survey

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CHAPTER 4: DATA ANALYSIS AND RESULTS: SECTION A

4.1 Introduction

The aim of this chapter is to present the methods of data analysis and the results of Section A of the survey. Section A was the first section of the questionnaire and asked questions about biographical information and areas which might influence practice. There were a number of different types of data that emerged from questions in this section. This chapter discusses the response rate of the questionnaire and the characteristics of the sample. The data analysis procedures are described, specifically, descriptive statistics and content analysis. The results give a complex picture of the varied attributes of SLTs working with AWS in the United Kingdom and factors for comparison of the data emerge from these characteristics.

4.2 Return of the Questionnaires

4.2.1 Response Rate

By the 19th January 2007, 319 questionnaires had been sent to named speech and language therapists established via the BSA database, and other questionnaires had been sent to managers to distribute the questionnaires to their staff. These SLT managers were either reluctant to divulge the names of the SLTs within their teams who worked with AWS, or did not know who within their teams worked with AWS. Ten SLT managers requested that a specific number of surveys were sent to them, for distribution to their staff. These managers were informed about the tracking numbers on the surveys, and required to specify the number of surveys they would need, so that an accurate response rate could be established for statistical purposes. In total 30 surveys were distributed to ten SLT managers. This totalled 349 questionnaires distributed. One month after the initial distribution of the questionnaire a second mail shot took place to those who had not yet replied.

It was later found that seven surveys were duplicates (two surveys sent to one person). This was a result of SLTs already on the database, and a manager giving them a copy of the survey, or SLTs working in different Trusts or

multiple locations or in one case due to a spelling mistake. Without the duplicates, 342 individual surveys were distributed.

By the end of April 2007, 265 (77.49%) responses had been received. It was of interest to note that 257 (81.33%) SLTs approached directly responded, while only 8 (30.77%) of those recruited via managers responded.

Of all who responded, 65 (19.01%) indicated that they did not meet the criteria of the study. Six (1.75%) were not completed due to either maternity or sick leave or incorrect postal details and 3 (0.88%) were returned with nothing marked on them. Seventy seven (22.51%) did not respond. One hundred and ninety one (55.85%) indicated that they met the criteria of the study and returned a completed questionnaire. It is from these 191 completed surveys that the data were collected and analysed (see Figure 3).

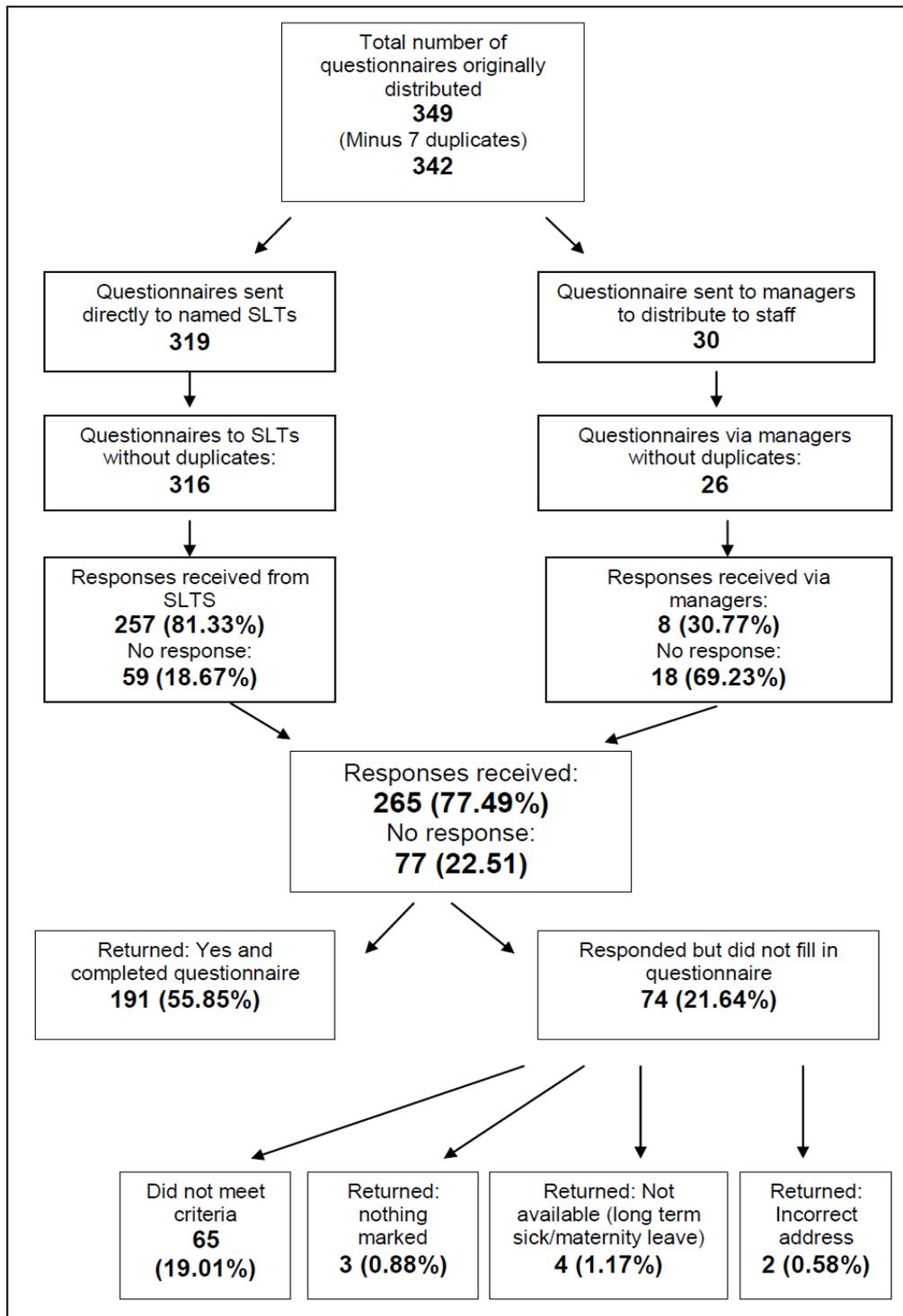


Figure 3
Distribution and Response Rate of the Questionnaire

SECTION A

Section A asked questions on biographical information and all possible factors that might influence the effect of therapy. The data emerging from this section were predominantly categorical and continuous variables.

It was hypothesised that:

- There would be a wide range of SLTs working with AWS.
- SLTs who have a special interest in AWS will have more training and experience in working with this client group.

4.3 Method of Analysis

The methods of analysis chosen to examine the data in this section were descriptive statistics and content analysis.

4.3.1 Descriptive Statistics

Rationale for Choice of Analysis Method

The role of descriptive statistics is to help describe, organise and summarise quantitative data. This helps characterise the data and helps describe the variation in measured values (McCall, 1990).

Procedure

Data input and data audit procedures were described in Chapter 3. SPSS was then used to describe the distribution of the data, to produce measures of central tendency and dispersion of the data. Where appropriate, graphs were produced via SPSS and Microsoft Excel.

4.3.2 Content Analysis

Rationale for Choice of Analysis Method

Content analysis, which aims to code textual data from open ended questions into categories that can be counted (Fink, 2003b), was selected as the most appropriate analysis method for the open ended questions within Section A and most of the other open ended questions within the survey. It reduces the data into a relatively small number of content categories (categories which emerge from the answers to the open ended questions) which can then form the basis of frequency counts (Weber, 1990). Like other data analysis techniques, attention needs to be paid to the validity and reliability of the data reduction process.

Reliability and Validity of Content Analysis

Reliability

Reliability of data analysis is assessed by stability, reproducibility and accuracy. Stability is gauged when one coder codes the data a second time to see whether the same coding decisions are made. As only one coder is involved in this process, stability is considered the lowest form of reliability. Reproducibility refers to reliability gained by using two coders to code the same data. Reproducibility measures the consistency of shared coding, and therefore shared meanings of the data between two coders (Weber, 1990). This is the type of reliability that was used in this analysis.

Validity

The validity of content analysis depends on whether the content categories represent what they intend to represent. Since the current study is exploratory research, many of the categories were novel and so could not be contrasted with other variables in the study. However, for the content category "Training in CBT", there was a categorical question in Section F "Have you had any training in cognitive behaviour therapy?" which enabled this item to be compared. In this way construct validity could be measured, as these two groups were found to have a Pearson's correlation co-efficient of 1 indicating

perfect correlation (Field, 2005). Hypothesis validity is when the variables in a relationship act in the way they are expected to, that is, when the data supports a hypothesis or theory (Weber, 1990). It will be clear later in this chapter that the content analysis categories do support the original hypotheses.

Procedure

The author and a clerical assistant initially examined the data together, determining the different categories within which the answers fell. It was agreed that the data would be analysed in thematic units. These thematic units could be made up of words, phrases or sentences, dependent on the meaning of the unit (Weber, 1990). A key code was developed, showing both the categories of the data and examples of the type of answers expected in each category.

The researcher then drew up the detailed rationale for each decision and, using this, coded the first fifth of the data with the data coder. The data coder then completed coding the data. Once the coding was complete, queries were highlighted and researcher and coder then made a joint categorisation decision. When information did not fall into the categories, these were marked as “other” to be re-examined later.

A second data coder repeated the procedure. Once there were two sets of data (one from each data coder) the data were audited by calculating a kappa co-efficient to examine inter-rater agreement (reliability). A value of 0.61 or above is considered to be substantial agreement, and this would be suitable for work which is exploratory (Landis & Koch, 1977). The Kappa co-efficient will be reported on with the results from each open ended question. In each case where the kappa co-efficient was less than 0.61, the researcher and initial data coder examined all the data which was coded differently. They then reached a joint decision about how that item should be coded.

Once all the data was coded frequency counts were performed, and the data described using descriptive statistics.

4.3.3 Other Open-ended Questions

There were a number of open ended questions throughout the survey which asked if the participant had any additional comments. The responses to these questions were very general and were not suitable for content analysis. However, these comments often gave further information about areas addressed in the closed set questions. These comments are included in appendix 4, and many of these comments, with the participants tracking number, were used to aid interpretation of the quantitative data reported throughout the results chapters.

4.4 Characteristics of the Sample

4.4.1 Experience

Years Qualified

After a question asking the participants whether they met the criteria for the study, the first question in Section A was how many years the SLT had been qualified. Figure 4 shows the distribution of this variable.

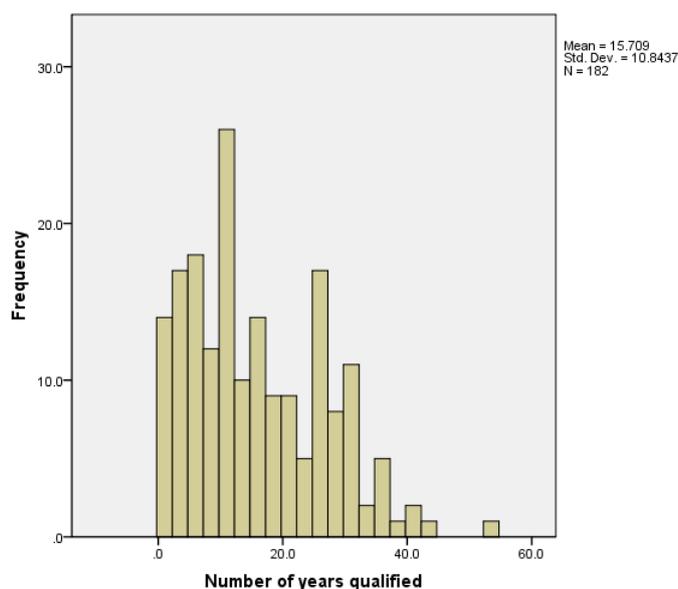


Figure 4

Histogram: Number of Years Qualified

As discussed in the methodology chapter, there is a fair amount of missing data (Missing = 9, 4.71%) in this variable. This is still well under the 10% level which is considered to be a reasonable amount of missing data (Hair, Black, Babin, Anderson, & Tatham, 2006). This question was placed on the bottom of the first page of the questionnaire. It appeared that its position resulted in a number of participants overlooking this question.

A number of category groups were chosen to perform a more detailed analysis of the data (Table 5). These categories were chosen because the groupings represented the amount of experience often advertised in job descriptions. Job specifications usually require a particular amount of experience for each grade. SLTs with 0-3 years experience would most likely hold a band 5 position, posts usually filled by newly or more recently qualified clinicians (Royal College of Speech and Language Therapists & Amicus, 2005a). Those with more than three years experience would hold specialist SLT or band 6 posts. Pre AfC these would have been known as generalist posts. Those with five years or more experience can apply for band 7 or band 8 positions, also known by AfC as Speech and Language Therapist (Advanced) or a Highly Specialist SLT (band 7) or Principal or Consultant SLTs (band 8) (Royal College of Speech and Language Therapists & Amicus, 2005a). Pre-AfC these posts would have been known as a “specialist” or “highly/senior specialist” positions. Additional categories were based on percentile groups.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 - 2.9 years	16	8.4	8.8	8.8
	3.0 - 4.9 years	15	7.9	8.2	17.0
	5 - 12.9 years	56	29.3	30.8	47.8
	13 - 24.9 years	47	24.6	25.8	73.6
	25 - 53 years	48	25.1	26.4	100.0
	Total	182	95.3	100.0	
Missing	System	9	4.7		
Total		191	100.0		

Table 5

Categories: Number of Years Qualified

There is a very wide range of experience of SLTs working with AWS (from less than a year to 53 years). Many of the SLTs working with this client group

have many years experience working as an SLT (table 5). The majority of therapists (79%, 151) working with this client group have five or more years experience working as an SLT. A quarter of the sample has been qualified for more than 25 years. This group of therapists is highly experienced.

Years Working with AWS

Participants were asked how many years they had worked with AWS. The responses indicated that there is a wide range (from 0 to 47.6 years) in the number of years SLTs have worked with adults who stutter. It appears that SLTs do not tend to work with AWS their entire career. Half of the SLTs represented have been working with AWS for less than eight years.

There is a strong positive correlation (Spearman's $\rho = .783$, $p < 0.01$) between the number of years working as a SLT and the number of years working with AWS. A possibility is that SLTs work for some time in other disorders and once they are more experienced some may begin to work with the AWS client group.

Number of AWS Seen in Last Two Years

From discussion with SLTs at professional events, and during phone calls while updating the database, it became clear that some SLTs were seeing very few AWS while others seemed to have a relatively large caseload. It was likely that those who had a greater caseload were more experienced in dealing with this client group than those who saw very few AWS. A number of questions were asked about number of AWS seen and the percentage of their caseload to try to capture this level of experience.

Figure 6 shows there is a very wide range (1-179) in the number of AWS seen by SLTs over a two year period. Half of the therapists had seen fewer than 9 cases in a two year period. Those who see such large numbers of cases generally deliver group therapy.

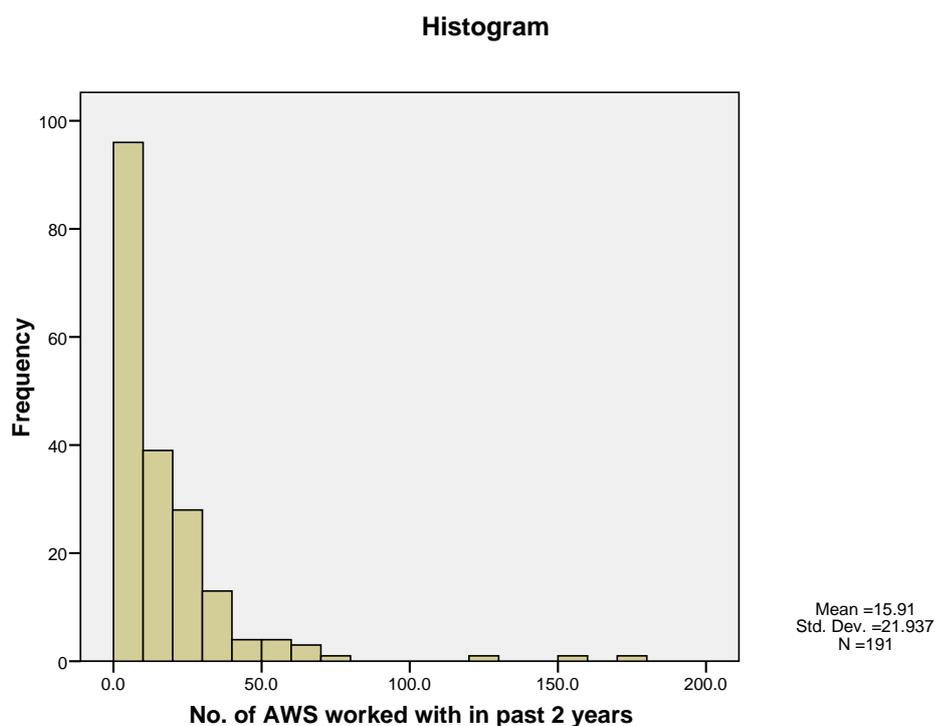


Figure 6

Number of AWS Worked with in Last Two Years

Percentage of Caseload

It was thought that some therapists may have seen only a few AWS because they only hold a small caseload; a few cases may represent a large proportion of a clinician's time. For example a manager reported that she spent the majority of her time on her management work but that her entire clinical caseload was AWS. This would give her more specialist clinical experience in this client group than someone who saw a similar number of clients, amongst a large number of other clients.

AWS make up less than ten percent of the caseload of half of the SLTs who responded to the survey (figure 7). A quarter of the respondents have a caseload proportion of three and a half percent or less. There are a large number of SLTs who work with this client group who see very few AWS each year. There is a strong positive correlation (Spearman's rho is .720, $p < 0.01$) between percentage of caseload and number of AWS seen in past two years.

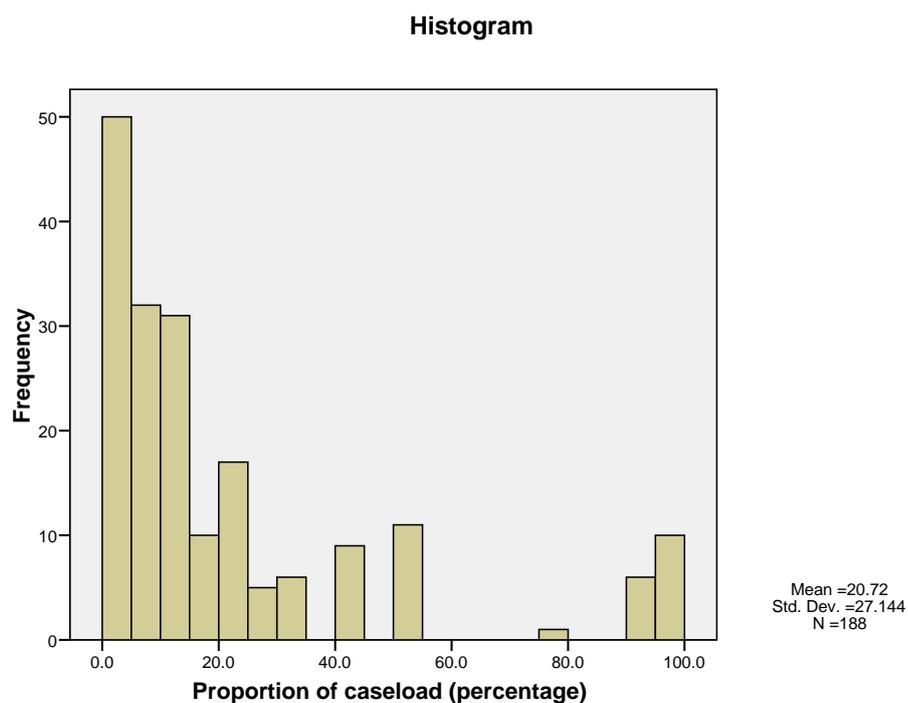


Figure 7
Proportion of Caseload (Represented by Percentage)

Therapeutic Environment

Participants were asked within what type of therapeutic environment they saw the AWS clients. If they saw their clients in more than one location, they were asked to tick multiple options. The design of the question did not allow for the calculation of percentages since the categories were not mutually exclusive. The majority of participants worked in a NHS generalist environment (table 8). Twenty seven therapists see AWS in more than one therapeutic environment.

Therapeutic Environment	No of SLTs working in this environment (Primary)	No of therapists working in an additional environment	Total in each environment
NHS Generalist Clinic	123	1	124
NHS Specialist Clinic	47	7	54
Private Practice	6	9	15
Specialist Dysfluency Centre	4	1	5
Education	3	2	5
Other	6	7	13
Missing	1		
Total	191		

Table 8

Therapeutic Environment

4.4.2 Type of Therapy Offered

The participants were asked what type of therapy they offered to their clients.

Type of Therapy	Individual Therapy	Group Therapy	Intensive Therapy
Yes	187 (97.9%)	80 (41.9%)	22 (11.5%)
No	4 (2.1%)	111 (58.1%)	169 (88.5%)

Table 9

Type of Therapy Offered

Different therapists deliver therapy in different formats. It is interesting to note that the only therapy which had a clinical trial evidence base showing its effectiveness at the time the survey was distributed was intensive therapy (O'Brian, et al., 2003) yet only 11.5% of therapists offered this type of therapy (table 9). The fact that this was problematic was recognised by several SLTs by the following comments³: "Our policy is to assess and advise individually but offer signposts to intensive courses for full back up and help. Sadly only city lit in London seems to do such recognised evidence based courses so most cannot access these." (790) "As a generalist it's very difficult to give

³Tracking numbers of each participant indicate where each of the comments come from, while retaining anonymity.

these patients what they need. I often suggest they attend private intensive courses” (1021) “We were a successful intensive block modification course but due to the recent cuts these have been frozen and we are tending to advise patients to travel to London instead” (731) “Tried group therapy but numbers were too small” (730) “I feel that dysfluency is an area that needs intensive treatment, which is impossible to do in community clinics and therapy is therefore limited in its success.” (777)

4.4.3 Training

Undergraduate Training

Discussions with university lecturers revealed that most clinicians who train in the United Kingdom are offered only a four to six week block at university about dysfluency. Many have very little opportunity to see clients who stutter as part of their training. At the end of the questionnaire therapists were asked whether they felt they had sufficient undergraduate training to deal with issues other than speech modification with this client group.

Sufficient Undergraduate Training?	Number of Years Qualified*				Total
	0 - 4.9 years	5- 12.9 years	13- 24.9 years	25 - 99 years	
Yes	6 (19.4%)	9 (16.1%)	8 (17.8%)	6 (13.3%)	29 (16.4%)
No	25 (80.6%)	47 (83.9%)	37 (82.2%)	39 (86.7%)	148 (83.6%)
Total	31 (100.0%)	56 (100.0%)	45 (100.0%)	45 (100.0%)	177 (100.0%)

*Missing data not included in count

Table 10

Cross Tabulation: Do SLTs have Sufficient Undergraduate Training to Deal with Issues Other than Speech Modification with AWS by Number of Years Qualified

Most of the sample of SLTs (84.3%) did not feel that they had sufficient undergraduate training. It was possible that undergraduate training had changed over time, and perhaps those who had graduated more recently may

have felt that their training was better so a further analysis of the results was performed to see whether those who had qualified more recently indicated greater satisfaction with their undergraduate training (table 10). Of those who had qualified in the previous 5 years, 80.6% reported they had insufficient undergraduate training.

Those who reported that they did not have sufficient training were asked whether more in-depth training should be given. Seventy eight percent of those who responded thought that more undergraduate training should be given and this was supported by comments. "Insufficient undergraduate training on direct speech modification. Also insufficient training in dysfluency" (738). "Definite lack of undergraduate training in therapy specifically, then a lot of generalist therapists muddling through" (743).

Many of those who rejected the notion that more undergraduate training was needed wrote comments indicating that experience was needed to work with this client group and this should be gained post qualification. "Training - requires hands on experiences over time. Difficult to teach many aspects" (827). "Impossible to fit in more u/g training. In most specialist areas you expect to do further training." (890). "Not sure about further undergrad training - time constrictions and also need to see clients to gain experience of other needs. May be best as postgraduate training" (913).

Post-qualification Training

The participants were asked whether they had participated in any post-qualification training, and if so, what training they had undertaken. A large number (70%) had undergone post-qualification training, but this was less than the 84.3 % who said that undergraduate training was insufficient. This implies that some therapists who work with this client feel that they had insufficient training to deal with this client group at an undergraduate level, but despite seeing clients have not received any further training.

Therapists were asked open ended questions about the type of post-qualification training they had received. Content analysis was used to categorise and count the type of training undergone. Nine categories emerged

from the open ended data. All categories were found to have a kappa value of over 0.67. The different types of training mentioned were: training courses offered by the City Lit, personal construct therapy (PCT), cognitive behavioural therapy (CBT), block modification therapy courses (Block Mod), workshops and courses run by the Dysfluency Special Interest Group (SIG), workshops and courses run by the Michael Palin Centre (Michael Palin), counselling (approach not specified), solution focused brief therapy (SFBT) and neurolinguistic programming (NLP).

Two of these categories were institutions which deliver training: the City Literary Institute which trained 27.7% of therapists and the Michael Palin Centre which trained 7.3% of therapists. Special interest groups were another place that 6.8% of therapists received training. The City Literary Institute delivers courses for adults with dysfluency which teach block modification therapy and cognitive techniques in addition to counselling courses and mindfulness meditation. The Michael Palin Centre delivers a range of courses for children and adults including an introduction to cognitive behaviour therapy.

The other categories indicated the types of approaches that therapists had been trained in. There were five psychological approaches that SLTs were trained in. The most popular was PCT 34.7%, then SFBT 24.1%, then CBT 23%, then a generic "counselling" category 11.5% and lastly NLP 6.3%. It is interesting to note that only two of these five approaches are specifically mentioned in the RCSLT Clinical Guidelines: personal construct therapy and cognitive behaviour therapy (Taylor-Goh, 2005).

The final category mentioned is block modification therapy, an approach which works through a series of steps including identification, desensitisation, avoidance reduction and speech techniques.

Very limited conclusions can be drawn from the content analysis categories about the type of training received, because if the participant did not think to write something down it is not counted, even though the participant may have been trained in that approach or at that place. This information was gained as a result of the exploratory nature of the questionnaire and will be useful in further studies as now a baseline exists from which to ask questions.

Cognitive Behaviour Therapy Training

As discussed in the literature review, cognitive behaviour therapy is emerging as the likely preferred evidence-based treatment for managing the social anxiety issues associated with stuttering. A question was posed at the end of the questionnaire asking whether the participants had CBT training.

Half (50.8%) of the sample indicated they had undergone some type of CBT training. We do not know what type of CBT training or how extensive this training was. If this is compared to the 23% that reported CBT training when asked about post qualification training, we can see that this has been grossly underrepresented in the open ended question.

In summary, as can be seen from the above results and as hypothesised there is a great variation in experience and training.

4.4.4 Level of Interest

It was theorised that those who had a special interest in stuttering were more likely to work with clients in this field, that they were more likely to attend post-qualification training, and that this would have an effect on their therapy practice. The respondents were asked whether they had a special interest in stuttering, some interest in stuttering or no interest in stuttering.

The largest proportion of therapists (62.3%) had a “special interest” in stuttering, 30% had “some interest” in stuttering and a small proportion, 7.9% of respondents, had “no interest” in stuttering. As hypothesised, those with a higher level of interest in stuttering attend more post qualification training (Pearson Chi-Square= 61.07, df= 2, $p < .05$).

It was hypothesised that those who had a special interest in stuttering would have more experience working with this client group. Table 11 shows that there was a strong relationship between those with a higher level of interest in stuttering and greater experience as measured by number of clients seen over the last two years (Pearson Chi-Square= 68.8, df= 6, $p < .05$).

Number of AWS worked with in last two years	Level of Interest in Stuttering			Total
	Special Interest	Some Interest	No Interest	
0 - 4.9 AWS	14	32	10	56
5 - 9.9 AWS	20	15	5	40
10 - 19.9 AWS	32	7	0	39
20 - 250 AWS	53	3	0	56
Total	119	57	15	191

Table 11

Cross Tabulation Between Experience Measured by Number of AWS Worked with in Past Two Years and Level of Interest

4.4.5 Confidence in Dealing with Psycho-social Issues

SLTs were asked whether they felt confident in working with psycho-social issues with AWS. It was theorised that there would be variation in levels of confidence.

Figure 12 shows that despite most participants indicating that undergraduate training in this area was insufficient and almost 30% of the sample indicating that they have not had any post-qualification training, the majority of this sample indicated that they usually or often had confidence in dealing with the psychosocial issues encountered when working with AWS.

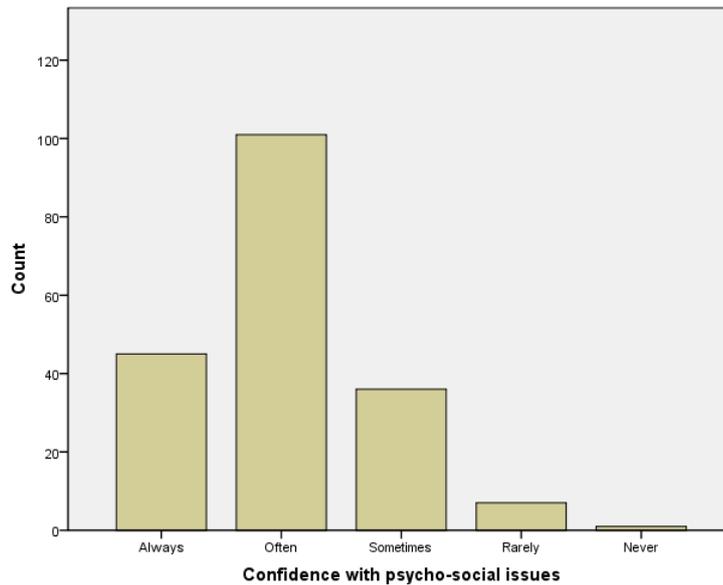


Figure 12

Histogram: Confidence in Dealing with Psycho-social Issues

4.4.6 Specialists and Generalists

The concepts, context and connotations of the terms “generalist” and “specialist” were discussed in the literature review. The term specialist is still generally understood to describe a position requiring specific responsibilities and knowledge in a particular area, in this instance dysfluency.

It was hypothesised that with their additional training and specific responsibilities for particular client groups, specialists would be delivering a different type of service to AWS than generalists. A question was developed to try to elicit the skill level of the respondent SLTs. The questionnaire instrument was developed in 2006. Although AfC was theoretically agreed at the end of 2004, very little information about the new system or progression around job profiles had taken place until late 2005. When the survey was distributed in early 2007 a question was asked about whether the participant would classify themselves as a generalist or highly specialist in working with adults who stutter. Although the concepts of specialist and generalist had long been understood, due to the recent changes in Agenda for Change the concepts were now challenged and the answers from this question had to be carefully considered. The other difficulty with this question was that it asked whether

the therapist was “highly specialist in working with AWS” or “a generalist and work with AWS” and did not consider any other alternatives such as being highly specialist in another area and working with AWS. The results from the original question are presented in table 13.

		Frequency	Percent	Valid Percent
Valid	Specialist	85	44.5	45.5
	Generalist	102	53.4	54.5
	Total	187	97.9	100.0
Missing		4	2.1	
Total		191	100.0	

Table 13

Specialists and Generalists

As a result of the difficulties with this question outlined above, a decision was made to review the answers from this question. A number of factors were taken into consideration when reviewing the answers. From the definition of a specialist therapist given above, it was concluded that a specialist would be someone who said they were “highly specialist in working with AWS”, who had post-qualification training in working with AWS and who reported having a special interest in stuttering. A few participants had responded with comments alongside the question indicating that they were highly specialist but not in working with AWS. All the answers to this question were reviewed by the researcher and a clerical assistant. Any comments written alongside the question were considered and the training and level of interest of participant was checked. Only if someone reported themselves to be highly specialist in working with stuttering and indicated that they had a special interest in stuttering and post-qualification training in stuttering were they classified as a specialist.

The revised specialist and generalist classifications were presented in table 14. As can be seen, reviewing the comments alongside the question allowed for the inclusion of two further cases in the results. It also indicated that there were only 72 who were highly specialist in working with AWS rather than the 85 originally recorded.

		Frequency	Percent	Valid Percent
Valid	Specialist	72	37.7	38.1
	Generalist	117	61.3	61.9
	Total	189	99.0	100.0
Missing		2	1.0	
Total		191	100.0	

Table 14

Specialist and Generalist Revised

Ideally, this question should have been designed in a better way, but it was considered that the measures taken to correct the fault of this question design resulted in data that was consistent with the concepts the question was trying to ascertain.

4.6 Summary

This chapter describes the characteristics and biographical details of the sample of participants who took part in this study. It describes the participants' level of interest in stuttering, their training and experience and whether they were specialists or generalists.

It was hypothesised that:

- There would be a wide range of SLTs working with AWS.
- SLTs who have a special interest in AWS will have more training and experience in working with this client group.

There is a very wide range of SLTs working with AWS. This included those qualified less than a year to those qualified for 53 years, SLTs who have seen as few as a single client to those who have seen as many as 179 clients over the past two years and those whose caseload of AWS is less than 3.5% to those whose caseload consists 100% of AWS.

Statistically, SLTs who have a special interest in AWS do have more post-qualification training and greater experience in working with this client group

This information will be used in further chapters to examine which factors are related to therapy practice with AWS. The next chapter will examine the results from Sections B-E.

CHAPTER 5: DATA ANALYSIS AND RESULTS: SECTION B-E

5.1 Introduction

This chapter discusses Sections B-E of the questionnaire whose purpose was to address the following research questions: “What is current practice in addressing psychosocial issues with adults who stutter amongst speech and language therapists?”, “Could the potentially most effective interventions be identified, summarised, defined and described to form a protocol for a clinical trial?” and in particular “What is happening in current speech and language therapy practice in the United Kingdom to address psychosocial issues in AWS?”

- a. Are SLTs reporting that clients describe similar issues to them as AWS recount in the published literature?
- b. Are SLTs recognising and addressing facets of social anxiety within therapy?
- c. Are SLTs using CBT related techniques?

These sections were designed to answer the research questions by investigating different aspects of the therapy pathway. Sufficient information in these areas had been published to allow Likert type scales to be developed to collect this information, although there were some open ended questions so that additional information could be collected. These sections were as follows (number of Likert type scales presented in each section in brackets):

Section B: Assessment (25)

Section C: What clients reported to the therapist (21)

Section D: Therapy goals (19)

Section E: Therapy techniques (24)

There were eighty nine statements and Likert type scales developed across these four sections. Each Likert type scale was considered to be a separate variable. The variables that made up each section were about a particular aspect of the therapy pathway, and each section or topic was analysed as a separate entity. Each section also had a number of open ended questions to allow participants to comment on any area which they felt needed more explanation.

Due to the large amount of data generated by these scales, the results needed to be summarised and interpreted. This chapter will discuss why and how the methods of analyses were chosen and carried out, and will present the results from these sections.

5.2 Methods of Analysis

The methods of analysis chosen to examine the data in this section were descriptive statistics, exploratory factor analysis and a modified Delphi technique.

5.2.1 Exploratory Factor Analysis (FA)

When initially planning the design of the survey instrument, it was thought that asking as few questions as possible about what happens in SLT with AWS would result in a better survey. It was soon discovered however that it was difficult to know what questions would capture the subject, especially since this was exploratory research. Eventually it was concluded that it would be better to ask many questions trying to capture all the aspects of therapy practice, than possibly miss out on understanding a crucial part of the therapy process. As a result, large amounts of data were generated. To make these data meaningful, a statistical technique to summarise the data was needed. Advice was sought from a statistician, who recommended exploratory factor analysis.

Rationale for Choice of Method

Factor analysis and principal component analysis are statistical techniques which analyse patterns of complex multi-dimensional relationships between variables. They aim to represent the underlying structure among the variables within each section (Hair, et al., 2006) and to reduce and summarise a data set to a manageable size while retaining as much of the original information as possible (Field, 2005). If there are clusters of answers from different variables which strongly correlate, it suggests that those variables could be measuring aspects of the same underlying dimensions. These underlying dimensions are known as factors or components (Field, 2005). This well described and much

used technique appeared completely appropriate to summarise the data collected in the survey (Field, 2005; Hair, et al., 2006).

Procedure

As discussed in Chapter 3, the data from the Likert type scales in the questionnaire were allocated numerical values and these values were placed into a SPSS database. These data were audited and cleaned, before any statistical analyses were conducted.

This was exploratory factor analysis because no other research of this nature has been published in this area. The techniques chosen are specific for exploring data. This means that the results are limited to this set of data (Field, 2005). Factor analysis decomposes the original data into independent linear variables (Field, 2005).

The analysis was carried out as follows:

Step 1:

Factor analysis was chosen from the data reduction option on the Analyze menu in SPSS. The Likert type variables from each section were selected. The method of initial analysis was a correlation matrix, and this resulted in a display of an unrotated factor solution, and a scree plot. Eigenvalues over 1 were extracted (Hair, et al., 2006).

Step 2:

Components were selected based on examining those with Eigenvalues of over one, and by seeing where the point of inflexion was on the corresponding scree plot.

Step 3:

Once the components were extracted, the analysis was run again. This time instead of choosing to extract factors with Eigenvalues over 1, a number of components identified in the previous step were chosen for extraction. An

orthogonal factor rotation (varimax) was then applied. This allows for the variables to be associated with the factor to which they relate most (Field, 2005). This resulted in a rotated component matrix.

Step 4:

Once the factor structure had been found, a decision was made as to which variables made up which factor. This was done by examining the factor loadings associated with each variable. A value of more than .45 was chosen as a significant factor loading as the sample size was greater than 150 (Hair, et al., 2006). The variables within each component were also checked to see whether they fitted together logically as a scale.

Step 5:

Once the factors were identified and organised into scales, reliability analysis was performed on each scale to see whether the items that it contained showed internal consistency. Internal consistency reliability indicates whether the items on the scale measure the same constructs; if so, the scale should be highly intercorrelated. Cronbach's alpha is the reliability coefficient used to assess the consistency of the scale. The lower limit agreed upon for Cronbach's Alpha is 0.70. It may decrease to 0.60 in exploratory research (Hair, et al., 2006). Items which decreased the Cronbach's Alpha by being part of the scales were in most cases omitted from the scale. An exception was made for one of the scales, section B component 3, where the reduction of each item further decreased Cronbach's alpha.

The components for each section are reported later in this chapter. The rotated factor matrices can be seen in appendix 5. The procedure used to interpret what the components represent (the underlying dimensions) is discussed next.

5.2.2 Delphi Technique

As discussed, factors or components emerged from the sections within the questionnaire. These factors consisted of groups of variables which strongly

correlate, and represent the underlying dimensions of the data. Factor analysis indicated the underlying components statistically, but did not indicate what these components might represent.

It was concluded that a group of experts in the area should examine the components and reach a consensus on what these components signified. A variety of methods to achieve expert panel consensus were explored, and a modified Delphi technique was chosen as the most appropriate method.

Rationale for Choice of Method of Analysis

A number of decisions needed to be made about how to reach expert consensus. The first of these decisions was around who could be considered an expert and this will be discussed in the procedure part of this section. Secondly, the experts chosen were likely to be widely geographically distributed across the United Kingdom, and practical issues such as meeting in a central location and at an acceptable time might prove to be a barrier. It was also thought that the experts might have differing opinions and strong personalities, and so a method was sought that would allow all the experts to participate equally and not face pressure to conform with more vocal or persuasive panel members. A controlled anonymous process which could take place across geographical boundaries was sought. The Delphi technique fitted these requirements. It is a well established technique which has been in use since the 1950s and has been used in very large numbers of studies (Bowles, 1999). The Delphi technique allows experts to communicate inexpensively and anonymously across geographical boundaries and refine their opinions until consensus is reached (Bowles, 1999).

A number of concerns have been raised about using the Delphi technique. These were considered and strategies implemented to make this process as robust as possible. The identification of “experts” to take part in a Delphi technique has been widely debated as a potential methodological flaw (Bowles, 1999; Kenealy, et al., 2004; McKenna, 1994), and so an approach for this procedure was carefully decided. There has also been debate that the Delphi technique does not have high reliability or validity, that researcher bias can influence the results and the technique is not “scientific” like other

quantitative methods, but it is also argued that this method is much more sound than many qualitative approaches (Bowles, 1999; Kenealy, et al., 2004; McKenna, 1994). It was decided that this approach in this study would hold greater reliability and validity than the primary researcher interpreting the principal components alone.

Procedure

The analysis was carried out as follows:

Step 1:

The first process was to identify characteristics that would be necessary in “experts” to interpret the data. It was hypothesised that the themes that would arise from the data were issues around stuttering, social anxiety, speech and language therapy and psychological therapies such as cognitive behaviour therapy. It was concluded that the different experts should be chosen to have knowledge in all of these areas. The researcher knew of only one person who was knowledgeable in all these fields, and so it was decided to ask those who had knowledge in at least one of these fields.

A number of sources of experts were considered. Firstly, there were suitable candidates from the people who had helped develop the questionnaire, and secondly the data from the questionnaire was statistically analysed to see whether any experts emerged from the participants. Experts were identified from the participants by comparing the factor analysis results of groups of therapists and establishing whether there were any statistically significant differences between groups of therapists based on certain characteristics such as training and experience. A group of expert therapists was chosen based on the characteristics identified as influencing practice. Twenty six participants emerged who met the criteria for each statistically different group (for example: post-qualification training, more than ten years experience working as an SLT, a special interest in stuttering). Of these 26 participants, 22 had indicated that they could be contacted via email for further participation in this study, and had provided a valid email address. Further ethics approval was sought and gained from the UEA Faculty of Health Ethics committee to contact these participants (see appendix 1).

Eight other people who were not participants were considered to be suitable experts. Four were speech and language therapists and one a clinical psychologist. All these were also academics and involved in the supervisory arrangements of this project. Three people who stutter were also asked to participate. One of these was also a well respected researcher in the field of dysfluency and another was a clinical psychology trainee. In total thirty experts were approached and asked to participate in this stage of the project. Twelve experts did not respond to the request. Six responded but indicated they had no time to take part, one indicated that they did not feel able to participate, and one replied by resending the original questionnaire.

There were ten experts who agreed to participate in the study. Nine of the ten participated in all three rounds of the study. One failed to respond to round two but asked to be involved again in round three. Since she was the only expert to be an expert in all fields of knowledge required, it was felt that her opinion should be included. The experts met the following criteria.

Expert	Stuttering	Speech and Language Therapy	Social anxiety	Cognitive behaviour therapy
1	Yes		Yes	
2			Yes	Yes
3	Yes	Yes		
4	Yes	Yes		
5	Yes		Yes	Yes
6	Yes	Yes	Yes	Yes
7- 10	Yes	Yes		Yes

Table 15

Experts and Their Fields of Knowledge or Expertise

Step 2: Round one

Once the list of experts and their contact emails had been established a personalised email was sent to each of them. The body of the email thanked them for their previous involvement in the study and explained about the study and this stage of the project and invited them to participate. Attached to the

email were two documents. The first was a brief description of exploratory factor analysis and a summary of the variables which made up each component in the corresponding sections. This document asked the experts to examine all the components, and to generate a theme and a label for each group of variables which made up a component. Each expert was informed that a number of experts in the area had been asked to take part, and that the results would be fed back to the experts in the hope of reaching a consensus (see appendix 5). A copy of the original questionnaire was included with the email so that the experts could see the context in which the questions were originally asked.

Responses were collated into one document. The principal researcher also added her own theme and label to the group of results.

Step 3: Round two

The experts were then sent another email. This email contained the summarised results of the first round, and an explanation of what the participants were asked to do next. They were asked to consider all the responses given by the other experts and, from the answers that had been given, to choose the theme and label which on reflection they felt best described the component. The experts were told they could also put in a second choice if they wished (see appendix 5).

Once the responses had been received from the experts, they were collated into one document. The responses were compared, and content analysis used to group labels and themes with similar meanings into categories. The number of responses in each category was counted. The frequency counts and categorisation of responses from round two of the responses can be seen in appendix 5.

Step 4: Round three.

Once the responses had been categorised and counted, they were summarised into the different themes and labels with the count attached. The label which reflected the majority of the group's responses or a new reworded label was chosen by the principal researcher, and put underneath the

categories (see appendix 6). Another document was prepared with the original variables which made up each component and the label and theme which had been chosen (see appendix 6). These documents were sent to the experts. The process that had resulted in these themes and labels were described, and the experts were asked to review the labels and themes, and respond if they disagreed with them. They were informed that if no response was received, it would be assumed that they were happy with the final choices.

After this email, responses were received from six of the experts. Three indicated they were completely satisfied with the results and two suggested minor changes in wording, but neither felt these were essential. The last respondent suggested that the themes seemed to lose a lot of data that she would have expected to see within the results, and that labels such as “behavioural approach” may have more than one meaning. Both email contact and a verbal discussion were had with this expert. It was agreed that the labels may be interpreted in different ways, and so this information would have to be reported carefully. It was also explained that the components did not represent all the data collected, and summarised only those variables which were strongly correlated and fell into components. She then indicated that she did not have any further objections. It is agreed in a Delphi exercise that a consensus is when 51% agreement is achieved (McKenna, 1994). This level of agreement was found in all categories. As nine out of the ten experts indicated they were satisfied with the results of all the categories (either by confirming by email or not responding) it was considered that a 90% consensus was achieved.

Step 5:

A final summary of the themes and labels was compiled. These themes and labels are used in this chapter to describe the components.

5.2.3 Descriptive Statistics

Rationale for Choice of Method of Analysis

The role of descriptive statistics is to help describe, organise and summarise quantitative data. This helps characterise the data and helps describe the variation in measured values (McCall, 1990).

Procedure

All the data from the surveys were entered directly into SPSS. Statistical tests from SPSS were then used to describe the distribution of the data, to produce measures of central tendency and dispersion of the data, and where appropriate, the summarised and reduced data in the form of factors derived from exploratory factor analysis. Graphs were produced via SPSS.

5.2.4 Open-ended Questions

The open ended questions asking specific questions in sections B to E were analysed using content analysis. The rationale and procedure for this method were discussed in chapter four and applied to these open ended questions.

There were a number of open ended questions throughout the survey which asked if the participant had any additional comments. The responses to these questions were very general and were not suitable for content analysis. However, these comments often gave further information about issues explored through the Likert type scales. These comments are all included in appendix 4, and many of these comments, with the participants tracking number, were used to aid interpretation of the quantitative data reported throughout the results chapters.

5.3 Missing Data

There was very little missing data from the survey responses. The Likert type scales had an additional tick box option next to the statement for “Don’t

know/Not applicable” so that if a participant had not come across a term before they could mark this box instead of leaving the item blank. When the data were entered into the database, boxes ticked as “Don’t know” were given a value of zero, so that when the scores were summed for each component, the “Don’t know” boxes would not influence the scores but would not be counted as missing data. The results from the “Don’t know” option are reported on in chapter 7. Missing data were left blank when entered into the database, so that it could be managed in a different way. Each variable presented gives the number of missing cases. When the analyses were carried out in SPSS, cases were excluded listwise. This means that if a respondent had a missing value for any variable, that respondent’s data would be excluded completely from that analysis (Field, 2005).

If less than ten percent of the data is missing and the missing data occurs in a random fashion, it can generally be ignored (Hair, et al., 2006). The greatest amount of missing data from any of the variables in sections B to E was 2.6%.

Summary

The methods, rationale and procedures for the methods of analysis for sections B to E have been discussed. The next section presents the results for sections B to E.

RESULTS

5.4 Section B: Assessment

Section B was designed to ask SLTs why and how they assess AWS.

Hypotheses:

- SLTs will assess the areas of practice such as onset and development of the dysfluency and speech behaviours as recommended by the RCSLT clinical guidelines.
- SLTs will assess the psycho-social aspects of living with a stutter.

In Section B there were 25 Likert type scales answering the questions “What areas do you as a SLT assess with AWS?”, and “How do you assess AWS?”

Factor Analysis was undertaken on all 25 variables to see whether the data could be reduced into components. These components summarised the themes which the variables represented. Figure 16 shows the screeplot for Section B and table 17 shows the Eigenvalues and total variance in section B.

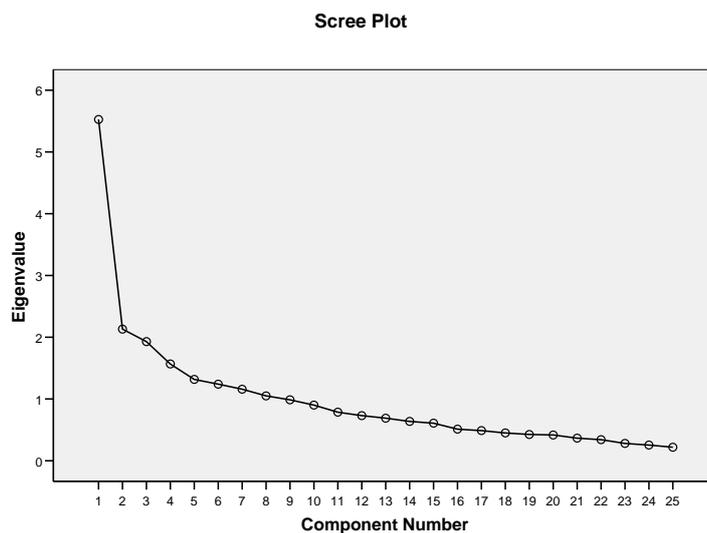


Figure 16
Scree Plot: Factor Analysis Section B

Three components emerged from this section. Sixteen variables fell into the components and 9 variables did not. These components were interpreted via the group of experts using a modified Delphi Technique. The components were given themes and labels agreed on by consensus of the experts. A separate variable representing each component was created by summing the scores of all the variables within a component group and dividing the summed score by the number of variables included. This resulted in a variable which was representative of the component.

Chapter 5: Section B-E Analysis and Results

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.572	22.288	22.288	5.572	22.288	22.288	4.113	16.453	16.453
2	2.236	8.944	31.232	2.236	8.944	31.232	3.086	12.345	28.799
3	1.950	7.799	39.031	1.950	7.799	39.031	2.558	10.233	39.031
4	1.558	6.231	45.263						
5	1.324	5.296	50.559						
6	1.257	5.027	55.587						
7	1.152	4.607	60.193						
8	1.042	4.169	64.362						
9	.969	3.876	68.238						
10	.916	3.665	71.903						
11	.768	3.073	74.976						
12	.702	2.808	77.784						
13	.689	2.755	80.539						
14	.631	2.526	83.065						
15	.594	2.375	85.440						
16	.513	2.051	87.491						
17	.467	1.866	89.358						
18	.438	1.753	91.111						
19	.435	1.739	92.850						
20	.407	1.628	94.478						
21	.359	1.435	95.914						

22	.336	1.344	97.258
23	.269	1.077	98.335
24	.235	.939	99.274
25	.182	.726	100.000

Table 17

Total Variance Explained: Factor Analysis Section B

Section B: Components

Section B	Component 1	Component 2	Component 3
Variables	Type of stuttering (.645)	Stuttering severity (.835)	Client's emotional response to their speech (.476)
	Speech behaviours (.710)	Stuttering frequency (.827)	Thought processes about stuttering (.522)
	Avoidance behaviours (.825)	Assess through quantifiable measures (.527)	Coping strategies (.628)
	Family history (.637)	Assess through labelling the stutter into categories (.529)	Client's readiness to change (.741)
	Life choices as a result of stuttering (.484)		Clients desired outcomes of therapy (.670)
	Previous therapy (.552)		
	Assess through case history (.724)		
Cronbach's Alpha	.829	.729	.580
Label	Key assessment factors	Quantitative stuttering measures	Assessment of cognitive and emotional issues related to stuttering
Theme	Key factors to consider for stuttering assessment	Quantifiable, objective, observable measures of the overt physical stammering behaviour	Psychological impact of stuttering on cognitions, emotions and attitudes

Table 18

Section B Components with Factor Loadings from the Rotated Component Matrix **(Numbers in brackets indicate factor loading)*

The components that emerged from factor analysis for section B which asked “What areas do you assess with AWS?” and “How do you assess AWS?” are shown in table 18.

Cronbach’s Alpha (reliability coefficient) for section B component 3 was .580. This indicates poor reliability for this scale. However this was exploratory research and this value is just under .6 which is considered acceptable for exploratory research. Despite the low Alpha, this component still gives relevant and useful information.

5.4.1 Section B: Descriptive Statistics: Variables and Components

The descriptive statistics of all three of the components emerging from Section B are shown in Table 19.

		Key Assessment Factors	Quantitative Stuttering Measures	Ax of Cognitive and Emotional Issues
N	Valid	191.00	187.00	190.00
	Missing	0.00	4.00	1.00
Median		5.00	3.75	5.00
Std. Deviation		0.41	0.88	0.30
Skewness ^a		-4.97	-0.63	-2.96
Kurtosis ^b		33.19	0.07	12.23
Range		3.00	4.00	2.20
Percentiles	25	4.71	3.00	4.80
	75	5.00	4.25	5.00

a Std. Error of Skewness is 0.17

b Std. Error of Kurtosis is 0.35

Table 19

Descriptive Statistics of the Three Emerging Components from Section B

These three components only account for 39% of the variance of the variables in this section (table 17). The individual variables which form the component are the key areas assessed by SLTs in therapy with AWS. Almost all SLTs within this sample often or usually assess the type of stuttering, stuttering and avoidance behaviours, family history, life choices and previous therapy

through a case history. This is in line with the recommendations from the RCSLT's Clinical Guidelines (Taylor-Goh, 2005).

Section B: Component 1: Key Assessment Factors

The percentages showing how often each individual variable and the component are assessed by this sample are shown in Table 20.

Variables and resulting component B1	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Type of stuttering	191	1.57	2.09	96.34
Speech behaviours	191	1.57	2.62	95.81
Avoidance behaviours	191	1.57	0.52	97.91
Family history	191	2.62	5.76	91.62
Life choices	191	2.09	6.28	91.62
Previous therapy	191	0.52	1.05	98.43
Assess through case history	191	1.57	1.05	97.38
Key assessment factors	191	1.05	0.00	98.95

Table 20

Frequency (%) of Each Variable within Key Assessment Factors Assessed

Section B: Component 2: Quantitative Assessment Measures

The percentages showing how often each individual variable and component 2 are used in assessment by this sample is shown by Table 21.

Variables and resulting component B2	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Severity	190	6.32	9.47	84.21
Frequency	190	10.00	21.05	68.95
Assess through labelling the stutter into categories	188	30.32	28.72	40.96
Assess through quantifiable measures	191	55.50	25.13	19.37
Quantitative stuttering measures	187	9.63	24.60	65.78

Table 21

Frequency (%) of Each Variable within Quantitative Assessment Measures

The component, quantitative assessment measures, shows that although most of this sample of SLTs often or usually try to measure the severity and frequency of the stuttering of their clients it is rare for them to do so using quantifiable measures such as percentage syllables stuttered. More of the sample assess key assessment factors (which predominantly happens through the taking of a case history) than assessing through quantitative measures.

Percentage syllables stuttered (%SS) are considered an essential part of some speak more fluently programs. When examined further, 51% of those who indicate they use speak more fluently programs indicated that they measure %SS. Ninety four percent of these SLTs indicated that they use informal rating scales.

Section B: Component 3: Assessment of Cognitive and Emotional Issues Related to Stuttering

The percentages showing how often each individual variable and the component are assessed by this sample are shown in Table 22.

Variables and resulting component B3	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Clients emotional response to their speech	191	0.00	0.00	100.00
Thought processes	191	1.05	4.19	87.43
Coping strategies	191	0.00	0.00	100.00
Client's readiness to change	190	2.63	4.74	91.58
Client's desired outcomes of therapy	191	0.00	0.52	99.48
Assessment of cognitive and emotional issues related to stuttering	190	0.00	0.00	100.00

Table 22

Frequency (%) of Each Variable within Assessment of Cognitive and Emotional Issues Related to Stuttering

This entire sample of SLTs assesses the cognitive and emotional issues relating to stuttering, in line with the guidance from the RCSLT Clinical Guidelines (Taylor-Goh, 2005).

5.4.2 Section B: Descriptive Statistics: Non-component Variables

There were nine variables which did not fall into any of the principal components for this section and therefore have to be examined separately. From table 23 it can be seen that the variables which do not fall into the components are assessed to varying degrees.

Variables which do not fall into principal components	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Variability	191	3.66	3.66	92.67
Communication skills	191	1.05	5.24	93.72
Language	191	37.17	38.22	24.61
Social skills	191	3.14	13.61	83.25
Assess through spontaneous discussion	190	0.53	3.68	95.79
Assess through structured questions	190	7.89	17.37	74.74
Assess through tools such as the Iceberg	186	10.22	15.59	73.66
Assess through informal self rating measures	191	4.71	13.09	82.20
Assess through formal/published tests	190	24.21	8.42	66.32

Table 23

Frequency (%) of All Non-component Variables from Section B

From table 23 it can be seen that the variables which do not fall into the components are assessed to varying degrees. Although most of the variables are assessed often or usually in line with the RCSLT Clinical Guidelines (Taylor-Goh, 2005), the assessment of an AWS' language is predominantly assessed by the majority of the sample only "sometimes".

Assessment through formal published tests only occurs "often" or "usually" 66.32% of the time (table 23). This is unexpected, as numerous tests exist to formally assess AWS. There are a number of possibilities why formal tests are not used. Perhaps the SLTs are so experienced they do not feel the need to use formal tests? This might be true of specialists but as so many SLTs in this sample indicated very little experience in this area this is unlikely to be the case. Perhaps SLTs do not have access to any tests if a department is not well resourced for AWS? This is supported from some comments from the participants: "Unsure where material came from but I think sections photocopied from a Winslow press book" (779), "Attitudinal scales and questionnaires directed to S's awareness of what he does, gleaned over the

years from published journal articles and from colleagues, mostly derived from USA” (827), “Have only just obtained WASSP for our department” (759). Perhaps SLTs do not find formal tests helpful? This is supported by other quotes “WASSP is the main one I use. I have used PSI, S24 which can be useful for discussion, but in the end I am not sure what they are useful for. I have also looked at locus of control” (994). “Predominantly used informal methods, WASSP” (727), “WASSP, although I've been using this less recently” (728). It is unclear why many SLTs do not use tests.

The next section examines the answers of the open ended questions, including what formal or published tests are used for assessment.

5.4.3 Section B: Frequency Count: Non-categorical Variables

In section B two additional open ended questions were posed. Firstly, the participants were asked, “If you use formal/published tests in assessment, which tests do you use?” and secondly “Do you use other prescribed approaches to assess your AWS?” These questions were analysed using content analysis. Both sets of answers are presented in tables 24 and 25 as frequency counts. A kappa statistic measuring inter-rater agreement (reliability) was calculated on each category and all categories were found to have a kappa value of over 0.66. A value of 0.61 or above is considered to be substantial agreement, and this would be suitable for work which is exploratory (Landis & Koch, 1977).

When considering these results, it must be remembered that the participants did not tick yes or no to these categories; rather 124 respondents indicated that they used the WASSP, while the other 65 did not mention this as a possibility. Twelve participants mentioned using the OASES (Yaruss & Quesal, 2006) which had not yet been published as a formal test at the time this questionnaire was distributed, although an article about its use, and measurement characteristics of this instrument had been published in a peer-reviewed journal.

Variable	Valid	Yes	No
WASSP ^a	189	124.0	65.0
	%	65.6	34.4
PSI ^b	190	13.0	177.0
	%	6.8	93.2
S24 ^c	190	33.0	157.0
	%	17.4	82.6
SSI ^d	190	10.0	180.0
	%	5.3	94.7
OASES ^e	190	12.0	178.0
	%	6.3	93.7

a Wright and Ayre Stuttering Self-rating Profile (Wright & Ayre, 1999)

b Perceptions of Stuttering Inventory (Woolf, 1967)

c Erickson S24 Scale (Erickson, 1969)

d Stuttering Severity Instrument (Riley, 1972)

e Overall Assessment of the Speaker's Experience of Stuttering (Yaruss & Quesal, 2006)

Table 24

Frequency Count of Categories Resulting from Content Analysis in of Formal Published Assessments

Variable	Valid	Yes	No
Personal Construct Therapy	191	31.0	160.0
	%	16.2	83.8
Cognitive Behaviour Therapy	191	4.0	187.0
	%	2.1	97.9
Block Modification	191	7.0	184.0
	%	3.7	96.3
The Camperdown Program	191	4.0	187.0
	%	2.1	97.9
Solution Focused Brief Therapy	191	7.0	184.0
	%	3.7	96.3
Neurolinguistic Programming	191	3.0	188.0
	%	1.6	98.4

Table 25

Frequency Count of Categories Resulting from Content Analysis of Other Prescribed Approaches to Assess

Personal construct therapy was the therapy approach mentioned the most in the open ended questions. Cognitive behaviour therapy as another prescribed approach to assess AWS was only mentioned by 4 participants. A number of other options such as the Swindon Dysfluency pack were mentioned as other

therapy approaches, however in all cases these were mentioned by only one or two participants.

The participants were asked to describe any additional options that had not been presented but that were either areas or ways used to assess AWS. Five participants indicated they assessed clients' expectations and three indicated they assessed the impact of stuttering on the AWS' life. Eight participants indicated that they used either audio or video recordings to aid their assessment, one respondent mentioned vocal fold management, another encouraged her clients to draw their stammer and another used Bach flower remedies.

Section B: Summary of Results

The hypotheses related to Section B were as follows:

- SLTs will assess areas of practice such as type of stuttering, family history and speech behaviours as recommended by the RCSLT clinical guidelines.
- SLTs will assess the psycho-social aspects of living with a stutter.

The descriptive statistics show that SLTs assess all the areas recommended by the RCSLT Clinical Guidelines (Taylor-Goh, 2005), although some areas are assessed more frequently than others. The key assessment factors (type of stuttering, speech behaviours, avoidance behaviours, family history, life choices as a result of stuttering, previous therapy, assess through case history) are consistently assessed and appear to be a cornerstone of the assessment process.

Quantitative stuttering measures (stuttering severity, stuttering frequency, assess through quantifiable measures, assess through labelling the stutter into categories) are also assessed but less frequently than the key assessment factors. Measuring percentage syllables or words stuttered (quantifiable measures) is not done frequently by most therapists, despite percentage syllables stuttered (%SS) making up part of the assessment of certain prolonged speech programs (O'Brian, et al., 2003).

Variables which did not fall into the components were reported to be used often by most SLTs with the exception of assessment of language skills which were used less frequently.

Only 66.32% of respondents indicated that they usually or often used formal published tests to assess their clients. The most frequently used instrument was the Wright and Ayres Stuttering Self rating profile (WASSP). Very few additional areas or ways of assessing were indicated in the open ended questions, implying that the questions in this section covered the topic of assessment well.

This provides support for the hypothesis that SLTs will assess areas of practice such as type of stuttering, family history and speech behaviours as recommended by the RCSLT clinical guidelines.

One hundred percent of SLTs reported assessing cognitive and emotional issues related to stuttering (client's emotional response to their speech, thought processes about stuttering, coping strategies, client's readiness to change and client's desired outcomes of therapy). "Life choices due to stuttering" is an area which 91.6% of therapists indicated they often/always assessed. As discussed in the literature review, the impact of stuttering on life choices has been well documented in the literature in recent times (Crichton Smith, 2002; Klompas & Ross, 2004) and it appears that SLTs are recognising the significance of this. This provides support for the hypothesis that SLTs will assess the psycho-social aspects of living with a stutter.

5.5 Section C: Therapist's Account of AWS Report

In section C there were 21 Likert Type scales asking the question "What do your clients who stutter report to you in therapy situations?" with statements.

Hypotheses:

- AWS will have reported features of social anxiety and negative adverse effects of stuttering to their SLTs.
- SLTs would recognise the features of social anxiety in their AWS, even if they did not call it social anxiety.

Factor analysis was undertaken on all 21 variables to see whether the data could be reduced into components. These components summarised the themes which the variables represented.

Three principal components emerged from this section. Twenty variables fell into the principal components and one variable did not. Figure 26 shows the screeplot for Section C and table 27 shows the Eigenvalues and total variance in section C.

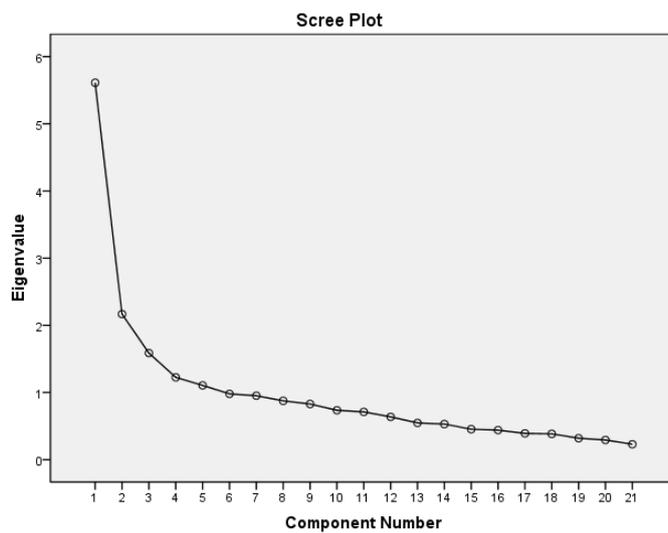


Figure 26
Scree Plot: Factor Analysis Section C

Chapter 5: Section B-E Analysis and Results

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.603	26.682	26.682	5.603	26.682	26.682	3.914	18.638	18.638
2	2.161	10.289	36.971	2.161	10.289	36.971	3.021	14.384	33.022
3	1.592	7.581	44.553	1.592	7.581	44.553	2.421	11.531	44.553
4	1.223	5.823	50.376						
5	1.100	5.238	55.614						
6	.994	4.732	60.346						
7	.956	4.554	64.900						
8	.869	4.139	69.039						
9	.826	3.935	72.974						
10	.739	3.519	76.493						
11	.715	3.404	79.897						
12	.630	2.998	82.896						
13	.542	2.583	85.478						
14	.530	2.522	88.000						
15	.455	2.167	90.167						
16	.438	2.087	92.254						
17	.393	1.872	94.127						
18	.383	1.824	95.950						
19	.327	1.558	97.509						
20	.293	1.396	98.904						
21	.230	1.096	100.000						

Table 27

Total Variance Explained: Factor Analysis Section C

The components that emerged from FA are shown in table 28:

Section C	Component 1	Component 2	Component 3
Variables	Evaluate their speech negatively (.660)	Stuttering affects their working life (.471)	Feelings of helplessness (.747)
	Evaluate their speech more negatively than I, as their therapist (.559)	Avoiding words (.551)	Stuttering varies according to the levels of stress (.530)
	Low self-esteem (.646)	Avoiding situations (.712)	Psychological problems are linked to stuttering (.678)
	Focus on only some of the information available to them (.813)	Being anxious about speaking (.624)	Stuttering affects their personal relationships (.517)
	Anticipate negatively what other people might think of them? (.696)	More difficulty speaking to some people than to others (.585)	Experiences involving their speech which upset them (.442)
	Interpret events in a negative way (.638)	People have reacted negatively to their stuttering (.570)	Blame themselves for their stuttering (.551)
	Beliefs or assumptions that are negative, unhelpful and possibly untrue (.703)	Restriction in their lives (.590)	
Cronbach's A	.821	.740	.708
Label	Client's report of negative cognitive beliefs and biases related to stuttering	Client's report of negative social impact of stuttering on daily life	Client's report of negative emotional psychological response to stuttering
Theme	Client's report of negative impact of stuttering on cognitions/thinking/ view of self	Client's report of restrictions on social and work life as a result of stuttering	Negative psychological impact and interpersonal responses to stuttering

Table 28

Section C Components with Factor Loadings from the Rotated Component Matrix *(Numbers in brackets indicate factor loading)

5.5.1 Section C: Descriptive Statistics: Variables and Components

The descriptive statistics of all three of the components emerging from Section C are shown in Table 29.

		Client report: negative cognitive beliefs and biases	Client report: negative social impact of stuttering on daily life	Client report: negative emotional psychological response
N	Valid	190.00	190.00	189.00
	Missing	1.00	1.00	2.00
Median		5.00	4.00	4.29
Std. Deviation		0.41	0.65	0.45
Skewness ^a		-4.97	-0.98	-0.26
Kurtosis ^b		2.47	-0.54	1.36
Range		4.29	1.86	3.83
Percentiles	25	3.57	3.86	3.00
	75	4.29	4.57	3.67

a Std. Error of Skewness is 0.17

b Std. Error of Kurtosis is 0.35

Table 29

Descriptive Statistics of the Three Emerging Components from Section C

Section C: Component 1: Client Report Negative Cognitive Beliefs and Biases

The percentages showing how often each individual variable and the component are reported in this sample are shown by Table 30.

Variables and resulting component C1	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Evaluate speech negatively	191	0.52	8.90	90.05
Evaluate more negatively than therapist	190	1.58	25.79	70.53
Low self-esteem	191	4.71	34.03	61.26
Focus on some of the information	191	2.09	27.23	69.11
Anticipate negatively	191	1.05	18.32	80.10
Interpret events in a negative way	191	5.24	34.03	54.45
Beliefs or assumptions that are negative	191	7.33	34.55	54.97
Client report of negative cognitive beliefs and biases related to stuttering	190	2.63	21.58	75.79

Table 30

Frequency (%) of each variable within Section C Component 1: Client Report Negative Cognitive Beliefs and Biases

It can be seen that 75.79% of SLTs in this sample report that often or usually their clients report negative cognitive beliefs and biases to them. In particular, most SLTs in this sample report that their clients evaluate their speech negatively, often or usually more negatively than the SLT would evaluate their speech, and they report that their clients focus only on some of the information available and anticipate events negatively. Some comments from the SLTs support this; “Tend to have all or nothing thinking. Things are either complete success or total disaster. Tend to over generalise and take one event as evidence of general pattern” (1052). “Feelings of catastrophic consequences of stammering (if covert in nature)” (925). These are features of the negative cognitive thinking associated with anxiety disorders such as social anxiety which were discussed in the literature.

Section C: Component 2: Client Report of Negative Social Impact of Stuttering on Daily Life

The percentages showing how often each individual variable and the component are reported by this sample are shown in Table 31.

Variables and resulting component C2	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Avoiding words	191	0.52	9.42	90.05
Avoiding Situations	191	0.52	7.85	91.62
Being Anxious	191	0.52	5.24	94.24
Difficulty speaking	191	0.52	7.85	91.62
People reacted negatively	190	7.37	34.21	58.95
Restriction	190	2.63	20.00	77.89
Affects working life	191	2.09	34.55	63.35
Client report of negative social impact of stuttering on daily life	190	0.00	8.95	91.05

Table 31

Frequency (%) of Each Variable within Component 2 Section C: Client's Report of Negative Social Impact of Stuttering on Daily Life

This sample of SLTs indicated 91.05% of their clients often or usually report a negative social impact of stuttering on their daily life (table 31). This sample of SLTs indicated that their clients are frequently reporting facets of social anxiety, particularly avoiding words, avoiding situations, being anxious about speaking and restriction in their lives. These SLTs may not use the term social anxiety to describe what their clients report to them, but these items correspond highly with criteria for the diagnosis of social anxiety according to DSMIV as reported in the literature review (American Psychiatric Association, 2003). This was supported by comments from some of the SLTs: "not being able to follow career path desired because of stammering" (1034), "Unable to achieve the sense of self they want, unable to achieve goals in life" (702), "Failure to contribute as extensively as they would like to e.g. meetings, lectures and conversations. As a result feeling they are not achieving their potential and that others may be unaware of the full extent of their

knowledge/expertise in a given area” (770), “Not being themselves can be to do with hiding and or not saying what they want to say” (839) and “Some report feelings of isolation or not being able to be themselves due to their stammer” (877).

Section C: Component 3: Client Report of Negative Emotional Psychological Response to Stuttering

The percentages showing how often each individual variable and the component are reported by this sample are shown in Table 32.

Variables and resulting component C3	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Feelings of helplessness	189	7.94	41.27	48.68
Stuttering varies according to stress	191	1.57	22.51	75.39
Psychological problems	191	15.71	49.21	28.80
Affects personal relationships	191	14.66	55.50	28.80
Experiences which upset them	191	7.85	38.74	52.36
Blame themselves	191	48.69	35.60	8.90
Client report of negative emotional psychological response to stuttering	189	8.99	51.85	39.15

Table 32

Frequency (%) of Each Variable within Section C: Component 3: Client Report of Negative Emotional Psychological Response to Stuttering

Three quarters of the sample of SLTs reported that their clients usually or often reported their stutter varies with levels of stress. Half of the SLTs surveyed indicated that their clients sometimes report negative emotional and psychological responses to stuttering. Some of the comments by some of the respondents indicated that the negative psychological and emotional responses to stuttering may be quite severe. Some of the comments to illustrate this are: “2 AWS link their chronic depression with their stammering. 1 client with chronic stammering has made two suicide attempts which he links directly to his stammer. Increased aggression and hostility to others, lot of

suppressed rage and anger” (1019), “Many report shame, some quite deep seated” (750), “2 of my 5 clients have resorted to illegal means to control stutter- heroin/alcohol leading to imprisonment. Neither of these would be in prison if they did not have stutter (in their opinion)” (751), “Anger towards others” (777) and “Depression - occasionally suicidal thoughts, isolation exacerbated by stammering being a "taboo" subject in family or school environment and bullying” (938).

It appears that clients report psychological difficulties as a result of their stuttering to their clinicians less frequently than negative cognitions or facets of social anxiety.

5.5.2 Section C: Descriptive Statistics: Non-component Variables

There is only one variable which does not fall into any of the principal components for this section and therefore has to be examined separately. This sample of SLTs (191) indicated that their AWS “cite nervousness as a factor in causing their stuttering” never or rarely 36.13%, sometimes 38.22% and often or usually 23.56%.

5.5.3 Section C: Open ended comments

In the open ended comments, a few SLTs reported some additional issues which were not posed in statement form in the Likert type scales. “2 AWS link their chronic depression with their stammering. 1 client with chronic stammering has made two suicide attempts which he links directly to his stammer. Increased aggression and hostility to others, lot of suppressed rage and anger” (8). “Depression - occasionally suicidal thoughts, isolation exacerbated by stammering being a ‘taboo’ subject in family or school environment and bullying” (161). “2 of my 5 clients have resorted to illegal means to control stutter-heroin/alcohol leading to imprisonment. Neither of these would be in prison if they did not have stutter (in their opinion)” (65). “Avoidance of eye contact, use of alcohol to try to avoid stammering and stressful situations” (69). “A few clients describe a belief that their stutter has made them a better person in some way - eg stronger, kinder, more aware of

their difficulties. A few clients have described social benefits associated with mild stuttering, e.g. standing out from the crowd, remembered by other people. One client described his belief that he has adopted a wild dangerous lifestyle in an attempt to gain a sense of belonging which he felt he did not have due to his stutter” (48).

Section C: Summary of Results

Section C asked questions about what clients reported to SLTs, specifically trying to answer the question “What do your clients who stutter report to you in therapy situations?” The research question for this section was “Are SLTs reporting that clients describe similar issues to them as AWS recount in the published literature?”

The hypotheses related to Section C were:

- AWS will have reported features of social anxiety and negative adverse effects of stuttering to their SLTs.
- SLTs would recognise the features of social anxiety in their AWS, even if they did not call it social anxiety.

Factor analysis and a modified Delphi technique found that in this sample of SLTs, three quarters reported their AWS usually or often report negative cognitive beliefs and biases related to stuttering to them within the therapy situation. These methods of analysis also found that within this sample of SLTs, 91.05% of their clients usually or often reported a negative social impact of stuttering in daily life to their therapist within the therapy situation.

These methods also found that within this sample of SLTs approximately half of the SLTs reported that their clients sometimes reported negative emotional psychological responses to stuttering, showing that these SLTs were asking clients about these issues, and that their clients were telling these therapists about the effects of their stuttering.

These findings show that within this sample of SLTs, AWS have reported features of social anxiety such as avoidance and anxiety and negative adverse effects of stuttering, such as restriction in their lives, impact on their

work and personal relationships and low self esteem to their SLTs. This provides support for the hypotheses.

The next section, section D examines the therapy aims and goals part of the therapy pathway.

5.6 Section D: Therapy Aims and Goals

Section D was designed to find out what SLTs targeted in SLT with AWS. In Section D there were 19 Likert Type scales answering the question “What areas or goals would you work on in therapy?”

The hypotheses around therapy aims and goals were:

- SLTs would be targeting or treating aspects of social anxiety in therapy with AWS even if they did not call it social anxiety.
- SLTs would be working on psycho-social issues in therapy.

Factor analysis was undertaken on all 19 variables to see whether the data could be reduced into components. (See appendix 5 for factor analysis.)

Two principal components emerged from this section. Twelve variables fell into the principal components and seven variables did not. Figure 33 shows the screeplot for Section D and table 34 shows the Eigenvalues and total variance in section D.

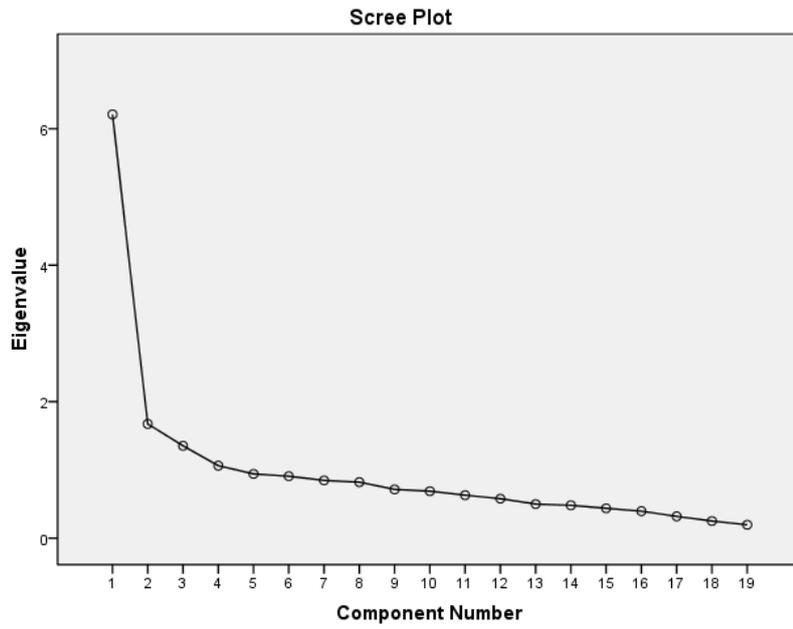


Figure 33

Scree Plot: Factor Analysis Section D

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.210	32.687	32.687	5.281	27.794	27.794
2	1.674	8.809	41.495	2.603	13.701	41.495
3	1.353	7.123	48.618			
4	1.062	5.590	54.209			
5	.941	4.952	59.160			
6	.908	4.777	63.937			
7	.846	4.451	68.389			
8	.821	4.319	72.707			
9	.714	3.757	76.464			
10	.688	3.622	80.086			
11	.630	3.314	83.399			
12	.578	3.041	86.441			
13	.499	2.628	89.069			
14	.481	2.530	91.599			
15	.436	2.296	93.895			
16	.395	2.081	95.976			
17	.318	1.676	97.652			
18	.251	1.319	98.971			
19	.195	1.029	100.000			

Table 34

Total Variance Explained: Factor Analysis Section D

The components that emerged from FA can be seen in table 35:

Section D	Component 1	Component 2
Variables	Avoidance issues (.717)	Feelings and attitudes related to speaking (.801)
	Avoidance of words (.619)	Anxiety related to stuttering (.716)
	Avoidance of situations (.752)	Identity issues related to stuttering (.566)
	Feelings that result in avoidance (.654)	Negative thoughts related to speaking (.731)
	Avoidance of relationships (.537)	
	Acceptance of stuttering (.455)	
	Practical problem solving (.599)	
	Openness/disclosure about stuttering (.641)	
Cronbach's Alpha	.846	.759
Label	Therapy goals targeting avoidance and acceptance issues related to stuttering	Therapy goals targeting cognitions and emotions related to stuttering
Theme	Dealing with avoidance related issues (including acceptance) related to stuttering	Dealing with feelings, emotions and attitudes, and thoughts and cognitions related to stuttering

Table 35

Section D Components with Factor Loadings from the Rotated Component

Matrix *(Numbers in brackets indicate factor loading)

5.6.1 Section D: Descriptive Statistics: Variables and Components

The descriptive statistics of all three of the components emerging from Section D are shown in table 36.

		Therapy goals: targeting avoidance and acceptance	Therapy goals: targeting cognitions and emotions
N	Valid	189.00	188.00
	Missing	2.00	3.00
Median		4.38	4.25
Std. Deviation		0.63	0.69
Skewness ^a		-1.18	-0.95
Kurtosis ^b		2.23	0.79
Range		3.63	3.25
Percentiles	25	3.81	3.75
	75	4.63	4.75

a Std. Error of Skewness is 0.17

b Std. Error of Kurtosis is 0.35

Table 36

Descriptive Statistics of the Two Emerging Components from Section D

The descriptive statistics of the variables which make up each component are shown in the following tables in their component groups.

Section D: Component 1: Targeting Avoidance and Acceptance

The percentages showing how often each individual variable and the component are targeted in this sample are shown by table 37.

Variables and resulting component D1	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Avoidance issues	191	2.09	5.24	92.15
Avoidance of words	190	13.16	25.79	59.47
Avoidance of situations	190	2.11	13.16	84.74
Feelings that result in avoidance	190	3.16	14.21	82.63
Avoidance of relationships	190	18.95	38.42	41.05
Acceptance	191	3.14	9.42	87.43
Problem solving	191	1.05	12.04	86.39
Openness/disclosure	190	3.16	6.84	90.00
Therapy goals targeting avoidance and acceptance issues related to stuttering	189	1.06	10.05	88.89

Table 37

Frequency (%) of Each Variable within Targeting Avoidance and Acceptance

This sample of SLTs report often or usually targeting avoidance and anxiety issues related to stuttering 88.89% of the time. Most of the respondents report targeting avoidance issues, including avoidance of situations and feelings. They also report working on accepting stuttering and problem solving issues. This would be considered to be targeting or treating aspects of social anxiety. This is also supported by comments from some of the respondents: "Acceptance of stammering is a prerequisite for long term change. Greater self knowledge and self awareness helps the patient to be his or her own therapist 24 hours a day" (1012). "The covert aspects of the stammer make up the majority of the stammer for most of my clients. These issues are often their main concerns and need addressing for their quality of life" (1037). "Helps client with acceptance of their stutter. Other issues (avoidance/anxiety etc) have built up over a number of years and have to be recognised and acknowledged" (1058). "Working on psycho-social issues anxiety and avoidance is equally as important to address. I have often found that overcoming these issues have more impact on a change in the clients life than speech modification" (801).

Section D: Component 2: Therapy Goals Targeting Cognitions and Emotions Related to Stuttering

The percentages showing how often each individual variable and the component are targeted by this sample is shown by table 38.

Variables and resulting component D2	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Anxiety	190	2.63	16.32	81.05
Identity	189	15.34	29.10	52.38
Negative thoughts	191	2.62	7.85	89.53
Feelings and attitudes	190	2.11	6.32	91.58
Therapy goals targeting cognitions and emotions related to stuttering	188	2.13	12.23	85.64

Table 38

Frequency (%) of Each Variable within Therapy Goals Targeting Cognitions and Emotions Related to Stuttering

Eighty five percent of this sample of SLTs reported targeting cognitions or emotions related to stuttering often or usually. In particular, most of the sample reported targeting anxiety, negative thoughts and feelings and attitudes indicating that this group of SLTs work on psychosocial issues related to stuttering. This is also supported by comments from the respondents: “Speech modification alone won't elicit change in behaviour if the client's underpinning negative beliefs about themselves are not changed” (1016). “The thought processes underlying stammering and the life changes as a result of stammering may be the things causing the client most difficulty” (817). “Someone's thought processes can have a profound effect on their behaviour and result in a negative speech cycle” (772).

5.6.2 Section D: Descriptive Statistics: Non-component Variables

There are seven variables which do not fall into any of the principal components for this section and therefore have to be examined separately.

The percentages showing how often each individual variable is targeted by this sample is shown by table 39.

Variables which do not fall into principal components in Section D	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Psychosocial issues	190	3.68	18.42	74.74
Communication skills training	191	9.42	31.94	57.59
Via spontaneous discussion	191	1.57	8.38	90.05
Via structured questions	191	12.04	19.90	67.54
Via questionnaires	191	20.42	28.27	50.26
Via diagrams/structured flowcharts	189	32.80	28.04	37.04
Via reports from others	190	64.21	28.95	4.74

Table 39

Frequency (%) of All Non-component Variables from Section D

The variables which do not fall into any of the principal components for this section indicate that most SLTs (74.74%) within this sample often or usually work on psychosocial issues, and usually or often do so through spontaneous discussion. This is supported by comments from the respondents: "I feel strongly that you cannot develop true potential of a client without working on psychosocial aspects alongside working directly on stammer. Stammering is such a complex disorder and overt and covert features both effect each other. I feel working on psychosocial factors will have longer term success" (1073). "My own belief is that speech modification will only be effective if some of the psycho-social and avoidance issues are addressed first, particularly within the level of service I am able to offer, I believe that work on psychosocial issues is likely to bring the greatest benefits to the client" (728). "Experience of direct speech work only is less effective than encompassing thoughts, feelings and attitudes about stammering" (739). "Psychological issues feed stammer and many people carry issues of reduced self worth, confidence, distorted thoughts, negative beliefs which severely impact on stammer and person's life and well being" (925). "PWS come to therapy wanting more than speech modification work. They want often, greater insight into what and why and when and where and to be listened to and to have their perspectives broadened" (861). "The covert aspects of the stammer make up the majority of the stammer for most of my clients. These issues are often their main

concerns and need addressing for their quality of life.” (1037). “Helps client with acceptance of their stutter. Other issues (avoidance/ anxiety etc) have built up over a number of years and have to be recognised and acknowledged” (1058). “Cause I feel these issues often impact greatly on the stammer and no positive lasting change can be made if these fundamental driving issues are not addressed. Working on such issues may make positive steps in leading to greater confidence, self esteem and acceptance.” (702).

Just over half the sample, 57.59%, usually work on communication skills with their AWS.

5.6.3 Section D: Frequency Count: Non-categorical Variables

In section D an additional question was posed asking the participants what kind of therapy approach they would use in therapy with their clients who stutter. The response had two parts: closed categorical yes/no questions and an open ended question asking what other approaches were used. The open ended question was analysed using content analysis. A kappa statistic measuring inter-rater agreement (reliability) was calculated on each category and all categories were found to have a kappa value of over 0.68. Both sets of answers are presented below as frequency counts.

Variable: Therapy approach		Valid	Yes	No
Speak more fluently approach	N	190	90.0	100.0
(fluency shaping)	%		47.4	52.6
Stutter more fluently approach	N	190	133.0	57.0
(stuttering modification)	%		70.0	30.0
Personal construct therapy	N	190	59.0	131.0
	%		31.1	68.6
Cognitive behaviour therapy	N	190	79.0	111.0
	%		41.6	58.4
Avoidance reduction therapy	N	190	130.0	60.0
	%		68.4	31.6
Combination of approaches	N	190	148.0	42.0
	%		77.9	22.1

Table 40

Frequency Count of Categorical Variables from Section D: Therapy approach

Open question: Other therapy approaches		Valid	Yes	No
Relaxation	N	188	64.0	124.0
	%		34.0	66.0
Hypnotherapy	N	189	8.0	181.0
	%		4.2	95.8
Neurolinguistic programming	N	189	22.0	167.0
	%		11.6	88.4
Breathing techniques	N	189	16.0	173.0
	%		8.5	91.5
Solution focused brief therapy	N	189	36.0	153.0
	%		19.0	81.0
Counselling	N	189	9.0	180.0
	%		4.8	95.2
Social skills training	N	189	7.0	182.0
	%		3.7	96.3

Table 41

Frequency Count of Categories from Content Analysis: Other Therapy Approaches Not Previously Mentioned

When considering these results, it must be acknowledged that content analysis data from open ended questions has limitations. However, later in the survey, participants were asked whether they used the technique of relaxation; 35.6 % indicated they used relaxation often or usually. This corresponds with the answer from the open ended question and indicates that the open questions may have captured reliable data.

A number of other topics were mentioned as other therapy approaches, however in all cases these were mentioned by fewer than five participants (usually one or two). Solution focused brief therapy, neurolinguistic programming and relaxation were mentioned by a fair number of this sample.

Seventy percent of this sample of British SLTs indicated that they use a stuttering modification approach, while only 47.4% indicated they used a fluency shaping approach. This is unexpected since as discussed in the literature review fluency shaping approaches, particularly prolonged speech programs have a considerable evidence base to support a reduction in stuttered speech, while stuttering modification approaches have no evidence base to support a reduction in stuttering, rather the evidence shows no

reduction in stuttered speech. It is theorised that this may be the result of the post qualification training that this sample of SLTs may have attended. In the open question in section A, respondents were asked whether they had any post-qualification training and if so what that training was. Although the question asked what type of post qualification training the participant had received, many respondents reported the place the training had been received. Forty percent of those who had post qualification training wrote that they had attended training at the City Literary Institute. As this was an open question, it is possible that more of the sample had attended training here, but didn't write it down. As it was not a suggested category in a closed question this figure might be under represented. (Forty three percent indicated they had block modification training). The City Lit was the most frequently mentioned place of training. On its website, the City Lit says it is a "UK national and international centre of excellence" and offers "professional training courses for qualified speech and language therapists". The course outlines describe four training courses for speech and language therapists. Two of these courses address speech modification. These courses teach block modification and vocal fold approximation (a fluency shaping technique) (City Literary Institute, 2010). It is possible that the training of the City Lit is influencing the practice of SLT with AWS, and in this case against the strongest evidence base. Those who received training at the City Lit reported using the stutter more frequently (or block modification) approach (Pearson Chi-Square= 3.954, df= 1, p=.047). This is speculation because this study predominantly asked about the treatment of the psychosocial aspects of stuttering, and did not ask the participants why they chose their particular speech modification approach. However one respondent commented, "Our policy is to assess and advise individually but offer signposts to intensive courses for full back up and help. Sadly only City Lit in London seems to do such recognised evidence based courses so most cannot access these" (790). This comment seems to imply that this participant thinks that the City Lit courses are the most evidence based within the United Kingdom.

5.6.4 Open Ended Question D13

In section D the question "If you do work on other issues apart from speech modification, why do you do so?" was asked. Most (80%) of the 191

respondents responded to this question and there was a mass of data to analyse. It was decided to choose thematic analysis to analyse this question as content analysis was not appropriate, but when the tentative results from this were presented to a supervisory panel, it was recommended that this question was not comprehensively analysed. This was because firstly there was a small amount of data from a very large number of participants which is not ideal for thematic analysis. Secondly, it was the only qualitative question in the questionnaire and it was a question that could not be compared with any other question. This meant that validity and reliability would be poor and no other methods or questions had been developed to carry out triangulation. The data collected from this question was not sufficiently robust to be interpreted, but attempting to analyse this data did influence the interpretation of the rest of the data. This question tried to address the motivation for SLTs working on psychosocial issues, and due to poor methods the data did not answer the question, but it did raise research questions which need to be considered. Some comments from the responses were used in supporting the interpretation of the quantitative results. The responses to this question are recorded in the appendix so that readers can see for themselves that responses presented are representative.

Section D: Summary of Results

Section D asked questions about what SLTs targeted in therapy with AWS by asking the question “What areas or goals would you work on in therapy?” in trying to address the research questions “What is current practice in addressing psychosocial issues with adults who stutter amongst speech and language therapists?” and “Are SLTs addressing facets of social anxiety within therapy?”

The hypotheses around therapy aims and goals were:

- SLTs would be targeting or treating aspects of social anxiety in therapy with AWS even if they did not call it social anxiety.
- SLTs would be working on psycho-social issues in therapy.

The results from this section show that more than 85% of this sample of SLTs report that they usually or often have therapy goals targeting avoidance and

acceptance issues related to stuttering and therapy goals targeting cognitions and emotions related to stuttering. Over 74% indicated that they usually or often work on psychosocial issues related to stuttering.

Therapy goals targeting avoidance, anxiety, cognitions and emotions show what SLTs are focusing on in therapy with AWS and indicate that this sample of SLTs are targeting or treating aspects of social anxiety in therapy with AWS even if they did not call it social anxiety. The results from this section provide support for the hypotheses.

5.7 Section E: Therapeutic Techniques and Principles

In Section E there were 24 Likert Type scales answering the questions “What techniques and principles do you work on in therapy with AWS in addition to or instead of working directly on speech modification?”

Hypotheses:

- SLTs will be using cognitive therapy type techniques within their therapy sessions with AWS.
- SLTs will be using behavioural therapy type techniques within their therapy sessions with AWS.

Factor analysis was undertaken on all 24 variables to see whether the data could be reduced into components. Three components emerged from this section. Eighteen variables fell into the components and six variables did not. Figure 42 shows the screeplot for Section E and table 43 shows the Eigenvalues and total variance in section E.

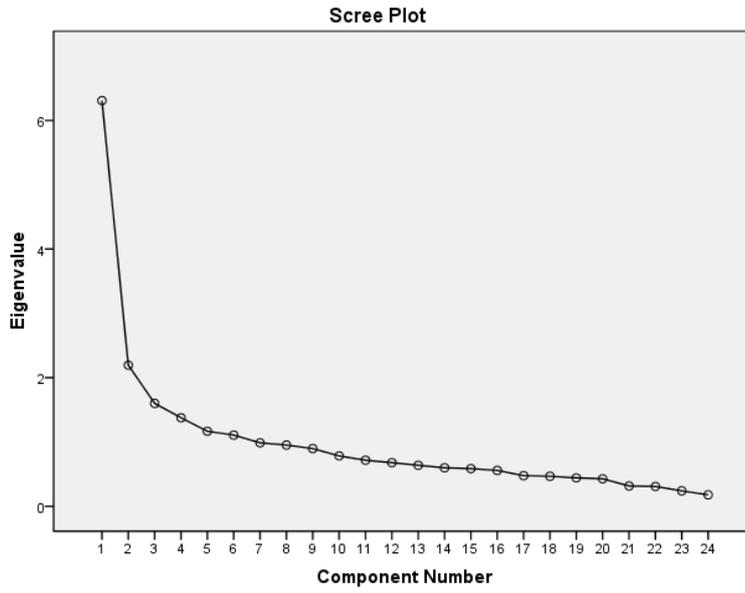


Figure 42
Scree Plot: Factor Analysis Section E

Chapter 5: Section B-E Analysis and Results

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.310	26.292	26.292	4.688	19.535	19.535
2	2.194	9.142	35.435	3.816	15.900	35.435
3	1.600	6.665	42.100			
4	1.377	5.737	47.836			
5	1.166	4.859	52.696			
6	1.107	4.613	57.308			
7	.986	4.110	61.419			
8	.952	3.967	65.386			
9	.897	3.739	69.125			
10	.783	3.262	72.386			
11	.717	2.988	75.374			
12	.678	2.827	78.201			
13	.638	2.660	80.861			
14	.598	2.492	83.352			
15	.585	2.438	85.791			
16	.557	2.322	88.113			
17	.476	1.985	90.098			
18	.467	1.944	92.042			
19	.442	1.843	93.885			
20	.427	1.780	95.665			
21	.316	1.315	96.980			

22	.308	1.282	98.262
23	.240	.999	99.261
24	.177	.739	100.000

Table 43

Total Variance Explained: Factor Analysis Section E

The components that emerged from FA are shown in table 44:

Section E	Component 1	Component 2	Component 3
Variables	Discuss their thoughts (.558)	Set up experiments (.587)	Carry out surveys (.722)
	Explore their interpretations (.835)	Set specific goals (.618)	Find out what other people think of stuttering (.614)
	Evidence for their beliefs (.789)	Disclose their speech difficulties (.492)	Audio or video work (.672)
	Challenge their perspectives (.709)	Expose gradually to difficult situations (.654)	Deliberately stutter (.520)
	Use questioning, summarising and reflection (.577)	Work through hierarchies (.694)	
	Talk through difficult experiences and deal with the feelings and emotions (.562)	Set homework (.562)	
	Problem-solve (.573)		
	Discuss the listeners' perspective (.602)		
Cronbach's A	.842	.783	.662
Label	Therapeutic Techniques: Cognitive Approach	Therapeutic Techniques: Behavioural Approach	Therapeutic Techniques: Reality testing with regards to stuttering
Theme	Therapeutic techniques which target negative cognitive beliefs and biases related to stuttering	Therapeutic techniques and strategies which target behavioural change	Therapeutic techniques and strategies to help clients examine their own and others' reactions to stuttering and to get a more balanced and objective perspective to stuttering

Table 44

Section E Components with Factor Loadings from the Rotated Component Matrix *(Numbers in brackets indicate factor loading)

5.7.1 Section E: Descriptive Statistics: Variables and Components:

The descriptive statistics of all three of the components emerging from Section E are shown in table 45.

		Therapeutic Techniques: Cognitive Approach	Therapeutic Techniques: Behavioural Approach	Therapeutic Techniques: Reality Testing
N	Valid	188.00	189.00	190.00
	Missing	3.00	2.00	1.00
Median		4.31	4.17	3.00
Std. Deviation		0.58	0.65	0.83
Skewness ^a		-0.82	-1.33	0.03
Kurtosis ^b		0.84	2.92	-0.21
Range		3.25	3.50	4.00
Percentiles	25	3.88	3.83	2.50
	75	4.75	4.67	3.50

a Std. Error of Skewness is 0.17

b Std. Error of Kurtosis is 0.35

Table 45

Descriptive Statistics of the Three Emerging Components from Section E

Section E: Component 1: Therapeutic Techniques: Cognitive Approach

The percentages showing how often each individual variable and the component are used by this sample are shown in table 46.

Variables and resulting component E1	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Discuss their thoughts	190	0.00	3.16	96.84
Explore interpretations	190	3.16	14.21	82.11
Evidence for their beliefs	190	4.74	15.79	78.42
View things/challenge their perspectives	191	0.52	7.33	92.15
Questioning, summarising and reflection (Socratic)	191	2.09	14.14	82.20
Discuss experiences and deal with feelings	190	2.11	17.89	80.00
Problem solve any arising issues	190	2.63	13.68	82.11
Discuss what the listeners perspective may be	190	3.16	21.05	75.79
Therapeutic techniques: cognitive approach	188	0.53	9.04	90.43

Table 46

Frequency (%) of Each Variable within Therapeutic Techniques: Cognitive Approach

More than 90% of this sample of SLTs usually or often takes a cognitive approach when working with AWS. As discussed in the literature, the techniques described in this component are techniques commonly used in cognitive behaviour therapy.

Section E: Component 2: Therapeutic Techniques: Behavioural Approach

The percentages showing how often each individual variable and the component are used by this sample are shown in table 47.

Variables and resulting component E2	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Experiments	191	4.71	20.94	74.35
Specific goals	191	1.57	10.47	87.96
Disclose	191	5.76	26.18	67.54
Expose clients	189	6.88	29.63	62.43
Work through hierarchies	190	7.37	10.53	80.53
Homework	190	1.05	6.32	92.63
Therapeutic techniques: behavioural approach	189	2.12	10.05	87.83

Table 47

Frequency (%) of Each Variable within Therapeutic Techniques: Behavioural Approach

Most of this sample of SLTs (87.83%) often or usually uses behavioural techniques when working with AWS. These therapists report setting specific behavioural goals and working in a hierarchical way in therapy.

Section E: Component 3: Therapeutic Techniques: Reality Testing

The percentages showing how often each individual variable and the component are used by this sample are shown in table 48.

Variables and resulting component E3	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Surveys	191	65.45	19.37	10.47
Other people think	191	18.32	36.65	43.98
Audio or video work	190	24.74	26.84	47.89
Deliberately stutter	190	15.79	35.79	47.89
Therapeutic techniques: Reality testing with regards to stuttering	190	21.58	45.26	33.16

Table 48

Frequency (%) of Each Variable within Therapeutic Techniques: Reality Testing

Reality testing is a technique which is used by far fewer of this sample of SLTs than cognitive or behavioural techniques. Reality testing is the only one of the components in this section which approximates a normal distribution.

5.7.2 Section E: Descriptive Statistics: Non-component Variables

There are six variables which do not fall into any of the principal components for this section and therefore have to be examined separately. The percentages showing how often each individual variable is used by this sample are shown in table 49.

Variables which do not fall into principal components in section E	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Relaxation techniques	191	21.47	42.93	35.60
Assertiveness training	189	37.57	48.15	13.23
Imagine	191	23.04	38.74	38.22
Role-play	191	10.99	40.31	48.69
New information/understanding	191	1.57	8.90	89.01
Worst case scenarios	191	9.42	37.17	52.88

Table 49

Frequency (%) of all Non-component Variables from Section E

Most of this sample of SLTs (89%) usually or often spent time with their AWS clients giving them new information or understanding (educating them) about their speech difficulties. Only 35.6 % of this sample often or usually use relaxation techniques when working with PWS. Although relaxation techniques are sometimes considered to be a behavioural technique since relaxation is often not linked to cognitive thoughts it is thought that relaxation techniques do not have lasting effects (Beck, 1976). As discussed in the literature review Boyle and Blood (2009) have recently found that the perceived cause of stuttering effects perceptions of PWS. Attributing the cause of stuttering to anxiety is likely to result in PWS being stigmatised (Boyle, et al., 2009). Educating PWS about the genetic and neurological underpinnings of stuttering is likely to have a positive effect in managing issues around identity and social anxiety associated with living with a stutter.

Section E: Summary of Results

Section E asked questions about the therapeutic techniques and principles used in therapy with AWS. It answered the questions “What techniques and principles do you work on in therapy with AWS in addition to or instead of working directly on speech modification?” and the research question “Are SLTs using CBT related techniques?”

The hypotheses for this section were:

- SLTs will be using cognitive therapy type techniques within their therapy sessions with AWS.
- SLTs will be using behavioural therapy type techniques within their therapy sessions with AWS.

The results from this section found that most of this sample of SLTs usually or often used cognitive and behavioural approaches when treating their AWS, providing support for the hypotheses and answering the research question that this sample of SLTs use CBT related techniques.

Another component, reality testing, was also found from the summarised results. The reality testing component indicates that some of this sample of SLTs sometimes encourages their AWS clients to ask or gauge others’ perceptions about stuttering via surveys or deliberately stuttering. This component refers to ways that AWS may gain a different, more objective view of their stutter.

5.8 Correlations

As discussed in chapter 3, the survey was designed to reflect the therapy pathway in AWS. It was expected that if AWS were describing similar issues to SLTs as they were recounting in the published literature, then SLTs would be recognising and assessing psychosocial issues. It was expected that if clients were reporting psychosocial issues to the SLTs and the SLTs were assessing psychosocial issues such as social anxiety they would be addressing social anxiety in therapy. It was expected that if they were targeting social anxiety in therapy they would be using CBT related techniques to do so.

The hypotheses for these relationships were as follows:

- SLTs that have clients who report psycho-social issues will assess psycho-social issues.
- SLTs that assess psychosocial issues will target psychosocial issues, particularly social anxiety in therapy goals.
- SLTs that have clients who report psycho-social issues will target psychosocial issues, particularly social anxiety in therapy goals.
- SLTs who target psychosocial issues such as cognitive and emotional factors and aspects of social anxiety will use cognitive and behavioural techniques in therapy.

5.8.1 Method

These relationships were tested by looking for significant correlations.

5.8.2 Results

Hypothesis 1

- SLTs that have clients who report psycho-social issues will assess psycho-social issues.

Table 50 shows significant correlations between the components from the section on assessment and the components from the section on client report. In particular, assessment of cognitive and emotional issues positively correlates with client's report of negative social impact of stuttering, negative cognitive beliefs and biases and negative emotional psychological responses. However these correlations are low. This provides partial support for the hypothesis SLTs that have clients who report psycho-social issues will assess psycho-social issues.

	Correlation Spearman's rho	Client report: Negative cognitive belief and biases	Client report: Negative social impact	Client report: Negative emotional psychological response
Key Assessment Factors	Correlation Coefficient		.190**	
	Sig. (2-tailed)		.009	
	N		190	
Ax of Cognitive and Emotional Issues	Correlation Coefficient	.210**	.186*	.202**
	Sig. (2-tailed)	.004	.010	.005
	N	189	189	188

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 50

Correlations between Assessment Components (Section B) and Client Report Components (Section C), Significant Components Only

Hypothesis 2

- SLTs that assess psychosocial issues will target psychosocial issues, particularly social anxiety in therapy goals.

Table 51 shows predominantly significant positive moderate correlations between the key assessment factors and assessment of cognitive and emotional issues and therapy goals targeting avoidance and acceptance and cognitions and emotions. Key assessment factors included items such as assessment of avoidance behaviours and life choices as a result of stuttering. This provides support for the hypothesis that SLTs that assess psychosocial issues will target psychosocial issues, particularly social anxiety in therapy goals.

Correlation Spearman's rho		Therapy goals: Targeting avoidance and acceptance	Therapy goals: Targeting cognitions and emotions
Key assessment factors	Correlation	.362**	.228**
	Coefficient		
	Sig. (2-tailed)	>.001	.002
	N	189	188
Ax of cognitive and emotional issues	Correlation	.427**	.432**
	Coefficient		
	Sig. (2-tailed)	>.001	>.001
	N	188	187

** . Correlation is significant at the 0.01 level (2-tailed).

Table 51

Correlations between Assessment Components (Section B) and Therapy Goals Components (Section D), Significant Components Only

Hypothesis 3

- SLTs that have clients who report psycho-social issues will target psychosocial issues, particularly social anxiety in therapy goals.

Table 52 shows that there are significant positive correlations between clients reporting negative beliefs and biases, negative social impact of stuttering and negative emotional psychological responses and SLTs targeting therapy goals of avoidance and acceptance and cognitions and emotions. However the correlation between reporting negative beliefs and biases and negative social impact of stuttering and targeting psychosocial issues is small. The correlation between reporting negative emotional psychological responses and targeting psychosocial issues is strong. This means that when clients report more difficult psychosocial issues, SLTs target psychosocial issues and provides support for the hypothesis.

Correlation Spearman's rho		Therapy goals: Targeting avoidance and acceptance	Therapy goals: Targeting cognitions and emotions
Client report: Negative cognitive belief and biases	Correlation	.206**	.363**
	Coefficient		
	Sig. (2-tailed)	.005	>.001
Client report: Negative social impact	Correlation	.288**	.207**
	Coefficient		
	Sig. (2-tailed)	>.001	.005
Client report: Negative emotional psychological response	Correlation	.365**	.447**
	Coefficient		
	Sig. (2-tailed)	>.001	>.001
	N	188	187
	N	188	187
	N	187	186

** . Correlation is significant at the 0.01 level (2-tailed).

Table 52

Correlations between Client Report Components (Section C) and Therapy Goals Components (Section D), Significant Components Only

Hypothesis 4

- SLTs that target psychosocial issues such as cognitive and emotional factors and aspects of social anxiety will use cognitive and behavioural techniques in therapy.

Table 53 shows predominantly moderate to strong positive correlations between SLTs targeting therapy goals of avoidance and acceptance and cognitions and emotions and the use of the cognitive, behavioural and reality testing therapeutic approaches. This provides support for this hypothesis.

Correlation Spearman's rho		Therapeutic techniques: Cognitive approach	Therapeutic techniques: Behavioural approach	Therapeutic techniques: Reality testing
Therapy goals: Targeting avoidance and acceptance	Correlation Coefficient Sig. (2-tailed) N	.589** >.001 187	.570** >.001 188	.422** >.001 189
Therapy goals: Targeting cognitions and emotions	Correlation Coefficient Sig. (2-tailed) N	.611** >.001 186	.351** >.001 187	.273** >.001 188

** . Correlation is significant at the 0.01 level (2-tailed).

Table 53

Correlations between Therapy Goals Components (Section D) and Therapeutic Techniques (Section E), Significant Components Only

5.9 Summary and Conclusions

This chapter has addressed the research questions:

- 1. *What is happening in current speech and language therapy practice in the United Kingdom to address psychosocial issues in AWS?***
 - a. *Are SLTs reporting that clients describe similar issues to them as AWS recount in the published literature?***
 - b. *Are SLTs recognising and addressing facets of social anxiety within therapy?***
 - c. *Are SLTs using CBT related techniques?***

It did so by presenting the methods of analysis and results of the data analysis for Sections B to E.

It found that this sample of SLTs were very aware of psychosocial issues within their clients who stutter and that they addressed psychosocial issues within therapy. They indicated that their clients reported psychosocial issues such as a negative social impact on daily living, negative cognitive beliefs and biases and negative psychological emotional responses to stuttering. This is in

line with experiences recounted by people who stutter in the published literature reported on in the literature review.

This sample of SLTs indicated that they assess psychosocial issues, including avoidance and life choices as a result of stuttering as well as cognitive and emotional issues as part of their regular practice. They reported that they targeted avoidance and acceptance and cognitive and emotional issues as part of their therapy goals and that they used cognitive, behavioural and reality testing approaches to do so.

This sample of SLTs recognised the facets of social anxiety in the clients who stutter and used cognitive behaviour related techniques to address these issues.

The next chapter will analyse the open ended questions from section F examining evaluation of therapy and discharge criteria.

CHAPTER 6: DATA ANALYSIS AND RESULTS: EXPLORATORY OPEN ENDED QUESTIONS, SECTION F

6.1 Introduction

As discussed in previous chapters, the questionnaire grouped topics in sections. These sections corresponded with the therapy pathway. The first five sections dealt with the following:

A. Biographical data, B. Assessment, C. What clients reported to the therapist, D. Therapy goals and E. Therapy techniques.

There was a substantial amount of published literature which discussed each of the areas, B to E. Statements about these areas could be drawn from the literature, and Likert type scales developed to measure the participants' reporting of these areas.

The next steps of the therapy pathway, evaluation and discharge, are not well documented in the literature. It was not possible to develop statements about evaluation and discharge from the literature. This meant that Likert type scales could not be used to collect information. As a result, this was an area which needed exploration, and it was decided that open ended questions were the best way to collect information about these two areas.

This chapter examines the open ended questions which aimed to explore the issues of evaluation and discharge (section F) within speech and language therapy with AWS. It aims to answer the research questions:

- How do SLTs evaluate the success of therapy with adults who stutter?
- Do therapists use established outcome measures to evaluate therapy?
- Do SLTs have in place protocols for the long term management of stuttering?
- What criteria do SLTs use when discharging clients who stutter?

The results of this chapter were published in a paper in the International Journal of Speech-Language Pathology (Davidson Thompson, McAllister, Adams, & Horton, 2009). A copy of the paper can be seen in appendix 7.

6.2 Method of Analysis

As this was exploratory research and very little had been published in these areas, it was decided to use open ended questions to find out how this sample of SLTs evaluated the success of therapy and decided how to discharge their clients. Three open ended questions were designed to ask about these areas.

It was unclear what type of responses would be received to these open ended questions. The decision about what method of analysis to use was made based on the responses received once the questionnaires were returned. Examination of the data revealed that responses to the open ended questions fell into categories. Content analysis was chosen as the best way of analysing these questions (Oppenheim, 1992; Weber, 1990). The rationale for choosing this method of analysis, reliability and validity of this type of analysis and the procedure were all discussed in chapter 4 and apply to these questions presented here. Additional information about procedure and evaluation of the analysis methods specific to this section are presented below.

Procedure

Two questions were used to gain information about evaluation. As the concepts were repeated interchangeably across both questions by the respondents, the data from the two questions were merged so that the same concepts were not counted twice in the frequency counts.

Fifty four responses had additional comments which could not be accommodated within the categories established during the initial phase of analysis. These responses were assigned to a category 'Other'. These were examined to see whether any additional categories emerged. Ten of these responses were unique, i.e. only given once in the complete data set. In some cases, more than one person gave the same answer, but the number of people mentioning the same category was always less than nine (< 5%).

Reliability

Reliability was measured via reproducibility, which measures the consistency of shared coding, and therefore shared meanings of the data between two coders (Weber, 1990). Two sets of data resulted from the procedure. Both (one from each data coder) were audited by calculating a kappa co-efficient to examine inter-rater agreement (reliability). In any instance where the kappa co-efficient was less than 0.61, the researcher and initial data coder examined differences between coding. They then reached a joint decision about how that item should be coded. Seven out of ten categories had a Kappa co-efficient greater than 0.61. As a result the inter-coder disagreements in three categories were reviewed and a joint decision reached about how those data should be coded.

Validity

The validity of content analysis depends on whether the content categories represent what they intend to represent. The weakest form of validity is face validity where a number of judges agree that the categories measure the construct which it intends to measure (Litwin, 1995). Face validity was achieved for evaluation and discharge criteria, in part through inexpert coders allocating the data into the categories, recognising the inherent meaning of both the data and the categories and in part through the supervision team agreeing with the principal researcher that the categories were representative. Construct validity is when the content categories are compared with an external criterion (Weber, 1990). Since many of the categories were novel, they could not be compared with external criteria or other variables in the study. However some categories were comparable, for example if an SLT used the WASSP test as a formal assessment measure it was likely that they may use the WASSP as an outcome measure. In this way some indication of the construct validity of the questions and the resulting data could be measured, as these two groups were found to have a Pearson's correlation co-efficient of 0.5 indicating a strong positive correlation (Field, 2005). Hypothesis validity is when the variables in a relationship act in the way they are expected to, that is, when the data supports a hypothesis or theory

(Weber, 1990). It will be clear later in this chapter that the content analysis categories do support the original hypotheses.

Methodological Constraints

In view of the exploratory nature of the research reported here and the methodological constraints of content analysis, some limitations of the data should be recognised. The frequency counts are an indication of what clinicians do, but because this is qualitative data, generalisations cannot be made from the categories. As therapists were not asked to comment on specific categories, it was impossible to tell whether some therapists who did in fact use a category did not think to write it in the response.

6.3 Results

6.3.1 Evaluation

The RCSLT's guidance on best practice, Communicating Quality 3, indicates that therapists and services should evaluate intervention through the use of outcome indicators to show if intervention is having an impact (Royal College of Speech and Language Therapists, 2006). As discussed in the literature review, evaluation of the success of therapy is vital. It helps the therapist to establish which therapy techniques are effective. Evaluation promotes better practice, and ultimately leads to the development of an evidence base (Onslow, 2006).

In recent years, researchers have recognised that methods of evaluation that focus only on the client's speech do not give a complete picture of the experience of stuttering in a person's life. If the effectiveness of therapy is only measured in this way, then for many people who stutter, therapy might be seen to have no long lasting effects, since speech often relapses post-therapy (Craig, 1998; Huinck, et al., 2006). As a result, researchers have also called for other aspects of stuttering such as cognition and affect to be measured (Susca, 2006). How should covert aspects of stuttering which are not easily observable be assessed? It has been suggested that self-reporting may be considered a valuable way of gauging change (Guntupalli, et al., 2006).

It was hypothesised that:

- Therapists will use a number of ways to evaluate practice.
- Some therapists may not be adequately evaluating practice.
- Some therapists will not be using established outcome measures to evaluate therapy.

The questions designed to address these hypotheses were:

F1. How do you **evaluate change** with your AWS in areas other than direct speech modification?

F2. What **tools** do you use to evaluate change?

The data show that this sample of SLTs uses a number of different methods to evaluate their therapy (see table 54). Most therapists indicated that they used more than one method to evaluate. Many of these methods are recommended in the literature, but some, such as rating scales and “evidence”, are novel categories. This lends support to the hypothesis that therapists will use a number of ways to evaluate practice.

A few therapists (2.1%) indicated that they did not use any outcome measures at all and 8.9% stated that they relied on therapist skills to evaluate the success of therapy. This was illustrated by some of the comments in response to question F2 ‘What **tools** do you use to evaluate change?’

‘None’ (1021, 709)

‘My ears, eyes, etc.’ (1060)

‘Therapist’s analytical skills.’(747)

‘I don’t but I’d like some’ (755)

This provided support for the hypotheses some therapists will not be using established outcome measures to evaluate therapy and some therapists may not be adequately evaluating practice.

Construct validity was measured by comparing variables which should correlate. The content category ‘the use of formal tests to evaluate’ from the open ended question was compared with the variable ‘the use of formal tests to assess’ (drawn from the Likert type scales in Section B of the

questionnaire), and these two variables were found to correlate significantly (Spearman's $\rho = 0.682$, $p < 0.01$).

Content Analysis				
Categories	Examples of statements from the surveys.		Yes	No
Outcome	'1) WASSP. 2) Locus of control.' (875)	N	117.0	71.0
measures	'Repeat WASSP and Erikson' (703)	%	62.2	37.8
Scales	'Rating scales.' (1042)	N	95.0	92.0
	'Self rating scales.' (1078)	%	50.8	49.2
Self report	'Self report from client as to own confidence, avoidance of situations' (1023)	N %	104.0 55.6	83.0 44.4
	'Client reports.' (1042)			
Discussion	'1) Spontaneous discussions.' (1042)	N	50.0	137.0
	'Informal discussion' (1057)	%	26.7	73.3
Questionnaires	'self rating questionnaire' (1057)	N	40.0	147.0
	'Questionnaires eg. WASSP; own outcome measure questionnaire tapping into attitude change' (1008)	%	21.4	78.6
Therapist skills	'Therapist's analytical skills.' (747)	N	17.0	174.0
	'My ears, eyes, etc.' (1060)	%	8.9	91.1
Goal setting	'2) Progress towards client generated goals.' (875)	N	33.0	154.0
	'Make a hierarchy of goals-small steps to achieve.' (702)	%	17.6	82.4
Audio/Video	'Video' (1057)	N	27.0	160.0
	'Video recordings.' (710)	%	14.4	85.6
Evidence	'The client is doing/saying things/entering into situations they would have not considered previously.' (1004)	N %	22.0 11.8	165.0 88.2
	'when they tell me how they are changing their lives eg going for job interviews going out with friends, using the phone' (1019)			
None	'I don't.' (768)	N	4.0	187.0
	'None' (709)	%	2.1	97.9

Table 54

Frequency Count Results from F1 and F2. (Evaluation of Therapy)

Overall, only 62.2% of SLTs reported using an outcome measure to evaluate the success of their therapy. On further analysis, 80.3% of the specialist therapists reported using outcome measures, while only 51.3% of the generalist therapists reported doing so (Pearson Chi Square = 14.862, $p < 0.001$). The outcome measures that SLTs did report they were using are shown in table 55.

Outcome measure used		Yes	No
Wright and Ayre Stuttering Self Rating Profile (WASSP)	N	101.0	88.0
	%	53.4	46.6
Overall Assessment of Speakers Experience of Stuttering (OASES)	N	7.0	184.0
	%	3.7	96.3
Erikson S24 Scale	N	15.0	176.0
	%	7.9	92.1
Stuttering Severity Instrument (SSI)	N	3.0	188.0
	%	1.6	98.4
Perception of Stuttering Inventory (PSI)	N	7.0	184.0
	%	3.7	96.3
East Kent Outcome System (EKOS)	N	2.0	189.0
	%	1.0	99.0
Locus of Control (LOC)	N	3.0	188.0
	%	1.6	98.4

Table 55

Frequency Count of Outcome Measure Used to Evaluate Therapy

There was a wide variation in practice regarding evaluation of therapy, with some therapists reporting a number of methods to evaluate and some therapists indicating they did not evaluate at all. For example:

‘Do not evaluate formally. If client tells me situation has changed then I accept that is how it is’ (768).

In addition to significant differences in practice between specialists and generalists in their use of outcome measures, they also differed in their use of reporting evidence as a way of evaluating. Specialists indicated that they used

evidence 21.1% of the time, while generalists indicated that they used evidence 6.1% of the time (Pearson Chi Square = 9.378, $p < 0.002$).

6.3.2 Discharge

As discussed in the literature review, discharge from speech and language therapy is the point of closure with the client and when other professionals are informed that the course of assessment, treatment and review is finished. It should be a client-centred decision, preferably at the discretion of the SLT with the agreement of the client. Discharge may be initiated by the SLT or the client (Royal College of Speech and Language Therapists, 2006).

It was hypothesised that:

- There will be variability between different SLTs on whether there is provision for the long term management of stuttering, and when a client is discharged.
- Some clinicians will discharge based on lack of resources, or department specific service limitations rather than clinical need even though this is not considered by the RCSLT to be acceptable.

To investigate these hypotheses, SLTs were asked the question:

F3. At what point would you **discharge** a client from therapy?

Validity was much weaker in the section on discharge than in the section on evaluation as there is even less published literature in this area than on evaluation. Face validity was achieved through inter-rater agreement.

Construct validity could not be measured via correlation of variables as there were no corresponding variables with which to contrast. Many of the categories developed from the data match those found in Communicating Quality 3 (Royal College of Speech and Language Therapists, 2006). Some hypothesis validity could be noted.

Content Analysis Categories	Comments		Yes	No
Goals met	'When established goals achieved.' (722)	N	99.0	92.0
	'When set goals have been met/re-evaluated' (1016)	%	51.8	48.2
Mutual Agreement	'Through discussion and agreement with client' (877)	N	43.0	148.0
	'mutually decided between AWS and SLT' (738)	%	22.5	77.5
Client requests discharge	'when goals are achieved or client wished to see SLT less. Discharge usually comes from client.' (1034).	N	71.0	120.0
	'when client is satisfied with progress (can be before I feel that client is at discharge stage)' (1047)	%	37.2	62.8
End of a block of therapy	'Each client is provided 4-6 sessions of general advice and then discharged' (1023)	N	19.0	172.0
	'Care pathway allows for only 4-6 sessions' (1025)	%	9.9	90.1
Long term review	'After a 1-3 month maintenance review phase following a block of therapy' (769)	N	9.0	182.0
	'Probably after a period of open review'.(747)	%	4.7	95.3
Open re-referral	'Operate on an open referral system - client can re-refer self if further problems/goals arise.' (845)	N	24.0	167.0
	'When they feel they can go it alone, but always say they can contact me in future if required' (743)	%	12.6	87.4
No further change	'Plateaued and client appears unmotivated to continue' (754)	N	42.0	149.0
	'When therapy is not working. Non-compliance.' (878)	%	22.0	78.0
Have never discharged	'Have never discharged. Tend to stop coming or put on long term review' (1021); 'At (<i>Institution</i>) clients can choose	N	5.0	186.0
	whether they want to enrol on another course - we don't really discharge clients' (988)	%	2.6	97.4
DNA (Do Not Arrive)	'Varying reasons, including DNAs' (1037)	N	16.0	175.0
	'For non-attendance.' (1087)	%	8.4	91.6
Refer onward	'If therapy is inappropriate/ineffective patient requires psych input/group therapy' (745)	N	7.0	184.0
	'I would transfer to specialist if limited progress and/or more than normal dysfluency' (1031)	%	3.7	96.3

Table 56

Frequency Count Results From F3 (Discharge Criteria)

As can be seen from Table 56, there were 10 categories that emerged during content analysis. The category 'Open re-referral' refers to when the client leaves the service when they no longer need treatment, but returns to the service if they need input again. 'Long term review' is when the client is not discharged, but offered appointments at long intervals. The category 'Other' was once again used for any comment that did not fit into the 10 categories, but there were only 24 comments which fell into 'Other'. There were no obvious commonalities in those 24 comments. There was wide variation in practice in this area, but there were no statistical differences between specialists and generalists.

There was wide variability among clinicians on how they managed to provide a service for the long term management of stuttering. This variation extended from some clinicians never discharging to those who only allowed for a certain number of therapy sessions. Only a few clinicians (2.6%) indicated that they had never discharged. In the majority of these cases this seemed to indicate good practice as clinicians indicated in the reasons they supplied for not discharging that they were making provision for the ongoing nature of stuttering. For example:

'At (*Institution*) we never discharge a client in the sense that a client is always able to access our courses once they have attended an advisory session.' (987).

'I don't 'discharge' private clients. Generally we space out sessions until we stop but they know they can always call and book a further session, or more, if they want.' (825).

However, more than one clinician indicated a lack of ability as the reason for not discharging. These comments all came from therapists who considered themselves to be generalist therapists.

'Have never discharged. Tend to stop coming or put on long term review.' (1021).

'To be honest patients attend regularly then begin to DNA and are discharged. I probably go on too long as not confident when to discharge' (1035).

A number of therapists (9.9%) indicated that they discharge at the end of a block of therapy. Although some of the therapists indicated that another block of therapy may happen subsequently, some of the other therapists'

justifications for why they discharge were for service provision reasons. For example:

‘Each client is provided 4-6 sessions of general advice and then discharged’ (1023).

‘Care pathway allows for only 4-6 sessions.’ (1025).

‘Max 6 sessions per client we do not have resources to offer more.’ (742).

The results provided support for the hypotheses:

- There will be variability between different SLTs on whether there is provision for the long term management of stuttering, and when a client is discharged.
- Some clinicians will discharge based on lack of resources, or department specific service limitations rather than clinical need even though this is not considered by the RCSLT to be acceptable.

The most ethically challenging comment in this section was the following:

‘[I discharge] if I think stammering is a ruse’ (1081)

This was problematic as it indicated possible harmful practice. This, with some of the other comments on discharge, strongly indicated that there are professional SLTs who are insufficiently informed to be working with this client group.

Summary

This chapter examined the open ended questions which aimed to explore the issues of evaluation and discharge (section F) within SLT with AWS. It found that many SLTs evaluate the success of therapy with adults who stutter in a number of ways including those recommended by the published literature such as outcome measures and self report and in novel ways such as rating scales and evidence, but that some SLTs do not seem to evaluate their therapy practice in line with recommendations.

It found that many SLTs have in place protocols for the long term management of stuttering, but there is variability between different SLTs on service provision and some clinicians discharge based on lack of resources, or

department specific service limitations rather than clinical need even though this is not considered by the RCSLT to be acceptable.

The next chapter will discuss the characteristics of this sample of SLTs which have an impact on their therapy choices and practice.

CHAPTER 7: DATA ANALYSIS AND RESULTS: DIFFERENCES BETWEEN GROUPS

7.1 Introduction

This chapter examines the data to compare practice between different groups of therapists within this sample. Chapter 4 presented the characteristics of this sample of SLTs who work with AWS. Chapter 5 and chapter 6 reported the data about clinical practice from sections B to F: Assessment, client report, therapy goals, therapy techniques, evaluation and discharge criteria. This chapter integrates the results of these three chapters. The characteristics recorded from section A are used to compare and contrast the practice (as described by sections B to F) of different groups of therapists within this sample. An attempt is made to identify practitioners who exhibit expert practice, in line with current recommendations from the literature.

7.2 Method of Analysis

The method of analysis chosen to examine the between-group differences in these data was inferential statistics. Specific hypotheses were tested by contrasting the characteristics determined in section A against the components determined by factor analysis described in chapter 5 and the variables which did not fall into the components. Where the distribution of the data was normal, independent t- tests were used to compare means. Where the data was not normally distributed, non-parametric tests (the Mann Whitney test) were used to compare means. A result was considered statistically significant if the p value was <0.05 (Field, 2005). In all instances the values used were those which did not assume equal variance, as this was considered to make the results more robust (Zimmerman, 2004). When more than one mean was compared, an analysis of variance (ANOVA) test was used for normally distributed data, and a Kruskal-Wallis test was used for data which did not follow a normal distribution. The corresponding variables were then examined using the appropriate independent test to compare means (Field, 2005).

Correlation was used in some instances to compare the relationship between two sets of continuous variables. If the data were normally distributed a Pearson's correlation co-efficient was calculated. If the distribution of the data was not normal a non-parametric test, the Spearman's rho correlation co-efficient was calculated (Field, 2005).

Only the statistically significant results for each characteristic are reported in this chapter. Effect size calculations have also been presented, as has the percentage of responses from the categories never/rarely, sometimes, often/usually and don't know. The results displayed were chosen to aid interpretation of the results. The category "don't know/not applicable" was included as an option on the survey, so that those who had a more limited knowledge of the topic presented had an option to indicate they did not know, rather than simply leaving an answer out resulting in missing data.

Multiple comparisons of the data were made. This can increase the risk of significant differences being achieved by chance. Instead of exploring the data to find any differences that existed (data mining), the comparisons were chosen to address specific hypotheses. Post hoc tests such as Bonferroni corrections were therefore considered unnecessary because these comparisons were hypothesis driven (Field, 2005).

7.3 Differences in Themes Between Groups

In chapter 5, factor analysis was carried out on the Likert scales from each section of the survey, resulting in components or factors which described the summarised and reduced data. In this chapter, differences in practice are measured by comparing the differences in the descriptive statistics of the components and any remaining variables between different groups of SLTs within the sample. Inferential statistical testing was then carried out to assess whether there were any statistically significant differences between the different groups. The results are displayed in the following categories derived from the characteristics of this sample of SLTs reported on in chapter 4. They are training, level of interest, experience and specialism

7.3.1 Training

It is likely that most student SLTs receive comparable undergraduate training in dysfluency regardless of the university attended, as all courses which allow graduates to apply for registration as an SLT are approved by the Health Professions Council (Health Professions Council, 2010). Many SLTs go on to do additional training once they have qualified. Two areas of training were investigated in Section A. The participants were asked about post-qualification training in dysfluency, and whether they had cognitive behaviour therapy training.

Hypotheses:

- Those who had post qualification training would report different practice to those who had not had training. Those who had training would indicate a greater awareness of the facets of social anxiety.
- Those who had CBT training would manage cognitive issues in therapy differently than those who had not had this training.

Post qualification Training

The statistically significant results about training are presented in tables 57 and 58. These results show that within this sample of SLTs, those with post-qualification training always assess cognitive and emotional issues. They target avoidance and acceptance and cognitions and emotions in therapy and use a cognitive approach and reality testing more often than those without training. These goals and approaches are those associated with treatment for social anxiety. This provides support for the hypotheses that those who had post qualification training would report different practice to those who had not had training and that those who had training would indicate a greater awareness of the facets of social anxiety. This was supported by a comment from one of the participants: "Working with AWS is a challenging area- which if you have not had sufficient training can be very difficult and often not satisfactory for clients." (870).

Components	Post qualification		Never/ Rarely (%)	Some-times (%)	Often/ Usually (%)	Mann Whitney U	Asymp. Sig. (2-tailed)	Effect Size	
	training	N						Value	Effect Size
Assessment of cognitive and emotional issues	yes	133	0.0	0.0	100.0	2938.50	.006	0.46	Medium
	no	56	3.5	31.6	64.9				
Therapy goals: Targeting avoidance and acceptance issues	yes	133	1.5	6.8	91.7	2795.00	.007	0.39	Small-
	no	56	0.0	17.9	82.1				Med
Therapy goals: Targeting cognitions and emotions	yes	133	0.8	8.3	91.0	2708.50	.005	0.48	Medium
	no	55	5.5	21.8	72.7				
Therapeutic techniques: cognitive approach	yes	131	0.0	4.6	95.4	2720.00	.003	0.51	Medium
	no	57	1.8	19.3	78.9				
Other variables									
Assess: Through formal published tests (WASSP)	yes	133	19.5	6.0	74.4	2561.50	<.001	0.57	Medium
	no	56	35.7	14.3	46.4				
Therapy goals: Psychosocial issues	yes	133	2.3	15.8	78.9	3082.00	.045	0.29	Small
	no	56	7.1	25.0	64.3				

Table 57

Statistically Significant Component and Non- Component Variable Differences Between SLTs with Post Qualification Training and Those Without (Non- Normal Distribution)

Normal Distribution: Component	Post qualification training?	N	Never/ Rarely (%)	Some-times (%)	Often/ Usually (%)	T-Test	Sig.(2- tailed)	Effect Size Value	Effect Size
Therapeutic techniques: Reality testing	yes	133	12.8	47.4	39.8	3.72	<.001	0.59	Medium
	no	57	42.1	40.4	17.5				
Non- component Variable:									
Techniques: Use relaxation techniques	yes	133	23.3	46.6	30.1	-1.97	.052	-0.31	Medium
	no	57	15.8	35.1	49.1				

Table 58

Statistically Significant Component and Non- Component Variable Differences Between SLTs with Post Qualification Training and Those Without (Normal Distribution)

From this sample, SLTs who have not had post qualification training use relaxation techniques far more frequently than those who have had training. It raises the question that perhaps those without training use relaxation techniques as they do not know what else to do in therapy with AWS.

Cognitive Behaviour Therapy Training

Tables 59 and 60 show data collected about cognitive behaviour therapy training. The data show those who have undergone cognitive behaviour therapy training always assess cognitive and emotional issues. Their clients report negative cognitive beliefs and biases and negative emotional psychological responses more frequently than those who have not had CBT training. This implies that SLTs with CBT training may ask different questions of their AWS clientele which probe cognitive issues more deeply. From within this sample of SLTs, those with CBT training target cognitions and emotions more frequently and use a cognitive and reality testing approach more frequently than those without this training.

This provides support for the hypothesis that those who had CBT training would manage cognitive issues in therapy differently than those who had not had this training

Components	CBT Training?	N	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)	Mann Whitney U	Sig. (2- tailed)	Effect Size Value	Effect Size
Assessment of cognitive and emotional issues	yes	94	0.00	0.00	100.00	3563.00	.013	0.43	Med
Total: 186	no	92	0.00	1.09	98.91				
Client report: Negative cognitive belief and biases	yes	94	1.06	14.89	84.04	3587.00	.044	0.29	Small
Total: 186	no	92	3.26	28.26	68.48				
Client report: Negative emotional psychological response	yes	95	5.26	49.47	45.26	3246.00	.004	0.47	Med
Total: 185	no	90	12.22	54.44	33.33				
Therapy goals: Targeting cognitions and emotions	yes	94	0.00	7.45	92.55	3409.00	.022	0.41	Med
Total: 184	no	90	4.44	16.67	78.89				
Therapeutic techniques: Cognitive approach	yes	94	0.00	2.13	97.87	3076.00	.001	0.57	Med
Total: 185	no	91	1.10	15.38	83.52				
Other variables									
Assess: Through formal/ published tests (e.g. WASSP)	yes	95	21.1	6.3	72.6	3618.50	.037	0.29	Small
Total: 186	no	91	28.6	9.9	60.4				

Table 59

Statistically Significant Differences between Components and Non- Component Variables Related to CBT Training (Non-Normal Distribution)

Normal Distribution: Components	CBT Training?	N	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)	T-Test	Sig.(2- tailed)	Effect Size Value	Effect Size
Therapeutic techniques: Reality testing	yes	94	9.57	47.87	42.55	3.54	.001	0.52	Med
Total: 186	no	92	32.61	42.39	25.00				
Other variables									
Techniques: Do assertiveness training?	yes	93	30.1	54.8	15.1	2.61	.010	0.38	Small
	no	92	45.7	42.4	10.9				
Techniques: Encourage AWS to imagine and work through in their imagination their feared situations?	yes	95	15.8	40.0	44.2	2.10	.037	0.31	Small
	no	92	30.4	37.0	32.6				

Table 60

Statistically Significant Differences between Components and Non- Component Variables Related to CBT Training (Normal Distribution)

7.3.2 Interest

As discussed in the literature review, Enderby and John (1999) found that therapy outcomes in dysfluency were different across different Trusts. They argued that Trusts who did not have a SLT with any interest in dysfluency had poorer outcomes (Enderby & John, 1999). From discussion with SLTs in different primary care trusts through the course of clinical work, it was theorised that in some NHS trusts and in private practice, those SLTs who had an interest in dysfluency were more likely to see AWS. In other Trusts, all SLTs were required to see anyone who was referred to the clinic, including any AWS. The participants in this survey were asked to indicate whether they had a special interest in stuttering, some interest in stuttering or no interest in stuttering. These three groups were compared to see whether having an interest in stuttering would have an impact on their therapy practice.

Hypothesis:

- Those who had a special interest in stuttering would find out more about the condition and were more likely to offer therapy assessing psychosocial aspects of stuttering and targeting facets of social anxiety than those who had no interest.

The statistically significant results about level of interest are presented in the tables 61 and 62. The results show that within this sample of SLTs, those with a special interest in stuttering target avoidance and acceptance issues and cognitions and emotions more often than SLTs with less interest in the subject. Those with a special interest in the subject are more likely to use a cognitive approach and reality testing approach and are more likely to assess through tools and formal published tests. Those with a special interest in the subject are less likely to use relaxation techniques while those with no interest in dysfluency report using relaxation techniques more frequently (very large effect size) with this client group.

This is supported by comments from some of the participants: "I am a team leader for Adult Acquired Neurological Difficulties. No one here is really interested in stammering so we all take them on" (1060).). "I only work with adults one day a week but I do have an interest in stammering (adults and

paediatrics) it has been hard to develop skills with AWS as they are such a small part of the caseload.” (885).

The results of this section provide support for the hypothesis that those who had a special interest in stuttering would find out more about the condition and were more likely to offer therapy assessing psychosocial aspects of stuttering and targeting facets of social anxiety than those who had no interest.

Components	Level of interest	N	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)	Kruskal- Wallis Sig	(Mann Whitney U)	Asymp. Sig. (2- tailed)	Effect Size	
									Value	Effect Size
Therapy goals: Targeting avoidance and acceptance issues	Special & no interest	118	1.7	5.9	92.4	<.001	357.00	<.001	1.09	V. large
	Special & some interest	56	0.0	12.5	87.5	<.001	2779.00	.090	0.19	Small
	Some & no interest	15	0.0	33.3	66.7	<.001	203.50	.002	0.94	Large
Therapy Goals: Targeting Cognitions and Emotions	Special & no interest	118	0.8	5.1	94.1	<.001	399.00	<.001	0.92	Large
	Special & some interest	55	1.8	23.6	74.5	<.001	2244.50	.001	0.55	Med
	Some & no interest	15	13.3	26.7	60.0	<.001	312.50	.150	0.44	Med
Therapeutic techniques: Cognitive Approach	Special & no interest	116	0.0	2.6	97.4	.001	391.00	.001	0.97	Large
	Special & some interest	57	1.8	15.8	82.5	.001	2579.00	0.18	0.42	Med
	Some & no interest	15	0.0	33.3	66.7	.001	279.50	.040	0.55	Med
Therapeutic techniques: Behavioural Approach	Special & no interest	117	2.6	8.5	88.9	<.001	333.50	<.001	1.21	V. large
	Special & some interest	57	1.8	5.3	93.0	<.001	3310.00	.937	-0.05	None
	Some & no interest	15	0.0	40.0	60.0	<.001	141.00	<.001	1.30	V. large
Normal Distribution:		N	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)	ANOVA	T-Test	Sig.(2- tailed)	Effect Size	
									Value	Effect Size
Therapeutic techniques: Reality testing	Special & no interest	118	12.7	43.2	44.1	<.001	7.88	<.001	2.16	V. large
	Special & some interest	57	29.8	50.9	19.3	<.001	3.56	.001	0.57	Med
	Some & no interest	15	60.0	40.0	0.0	<.001	3.78	<.001	1.10	V. large

Table 61

Statistically Significant Differences Between Components Related to Level of Interest.

Other variables	CBT Training?	N	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)	Don't Know (%)	Kruskal-		Asymp. Sig. (2- tailed)	Effect Size Value	Effect Size
							Wallis Asymp. Sig	(Mann Whitney U)			
Assess: Through tools (such as the Iceberg, etc)	Special & No Interest	115	6.1	12.2	81.7	0.0	.003	498.50	.004	0.72	Large
	Special & Some Interest	56	14.3	21.4	64.3	0.0	.003	2574.50	.021	0.38	Small
	Some & No interest	15	26.7	20.0	46.7	6.7	.003	317.50	.133	0.44	Med
Assess: Through formal/ published tests (WASSP)	Special & No Interest	119	14.3	7.6	78.2	0.0	<.001	228.50	<.001	1.78	V. large
	Special & Some Interest	56	32.1	10.7	55.4	1.8	<.001	2468.00	.002	0.51	Med
	Some & No interest	15	73.3	6.7	13.3	6.7	<.001	220.50	.004	1.08	V. large
Normal Distribution:		N	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)	Don't Know (%)			Sig.(2- tailed)	Effect Size Value	Effect Size
							ANOVA	T-Test			
Techniques: Use relaxation techniques	Special & No Interest	119	23.5	47.1	29.4	0.0	.014	-3.66	.002	-1.00	V. large
	Special & Some Interest	57	22.8	36.8	40.4	0.0		-0.76	.450	-0.12	Small
	Some & No interest	15	0.0	33.3	66.7	0.0		-2.85	.008	-0.83	Large

Table 62:

Statistically Significant Differences Between Non-component Variables Related to Level of Interest.

7.3.3 Experience

Ongoing clinical experience in an area is considered to increase proficiency and eventually expertise in that area (Royal College of Speech and Language Therapists, 1996). It was however very difficult to determine a single factor which would indicate experience. As a result SLTs were asked about four different factors which would correspond with experience. These were the number of years qualified, number of years working with AWS, proportion of caseload and number of AWS seen over the previous two year period.

Hypothesis:

- SLTs with greater experience as a clinician and in working with AWS (determined by number of years qualified, number of years working with AWS, proportion of caseload and number of AWS seen) would be more likely to work on psycho-social issues related to stuttering than those with less experience.

The statistically significant correlations relating to experience are presented in table 63. There are positive small to medium correlations between an increase in experience and assessing and working with psychosocial issues.

The results show that an increase in experience of working with AWS determined by number of years qualified, number of years working with AWS, proportion of caseload and number of AWS seen, does positively correlate with an increase in targeting avoidance, acceptance, cognitions and emotions. Specifically, an increase in the number of years working with AWS, the larger the proportion of the caseload and greater the number of AWS seen is associated with a positive moderate correlation with an increased use of the cognitive approach as a therapeutic technique.

The results show that the determinant of experience which shows the greatest number of statistically significant correlations with psychosocial items is the proportion of caseload that are AWS. This would imply that if clinicians from this sample spend more of their clinical time working with AWS, they will develop greater skills at recognising and meeting the psychosocial needs of their clientele.

Some participants made comments about the impact experience has on clinical skills: "Because an adult stammering caseload is fairly small it takes time to build a body of clinical experience. It also makes it difficult to get funding to attend courses and study days." (1012). "Percentage of patients very few and therefore therapy is very exploratory looking into different areas, probably taking longer than need be in order to feel I've covered enough issues with patients. Due to lacked confidence as not a specialist area and access to specialists is limited." (1035). "Although I have worked with AWS for 15 years, there have been long periods with no AWS" (746). "We seem to get relatively few SLT refs for adult non-fluency" (772). "AWS make up a very small part of the adult caseload: currently 2% but it can be less than this. So I feel my work with AWS is limited by 2 or more main factors - 1) limited opportunity to gain experience with the client group because of demands of the rest of the caseload, 2) lack of opportunity to access further post-grad training" (811). "I work more with children who stammer rather than adults. This is mainly because we have a very low referral rate for adults in this relatively rural area. Staffing levels preclude us being more proactive in making our service known to potential clients" (824). "I only work with adults one day a week but I do have an interest in stammering (adults and paediatrics) it has been hard to develop skills with AWS as they are such a small part of the caseload. Funding for postgraduate courses is also a problem, especially for adult courses." (885). "Although I am recognised as a specialist in stammering my caseload of AWS is very small. Amid a general adult caseload (mainly stroke patients) or patients with progressive neurological disorders, this means that I can rarely run groups (as I would like to). I work in a very rural location, (large geographical catchment area) and this restricts the service I can offer." (974). "Difficultly in small services regarding maintaining any specialist skills with AWS." (930). "My case load is very small, and has been over the past 10 years - approx 1 referral per year plus children who stammer growing into the 16+ category" (933). The quantitative data and the comments from participants raise concerns about the standards of clinical care for those who hold very small caseloads of AWS.

These results provide support for the hypothesis that SLTs with greater experience as a clinician and in working with AWS (determined by number of years qualified, number of years working with AWS, proportion of caseload and number of AWS seen) would be more likely to work on psychosocial

issues related to stuttering than those with less experience, and that proportion of caseload may be the factor determining the greatest contribution to experience as part of an SLT's expertise.

		Ax: cognitive and emotional issues	Assess: Coping strategies	Ax through formal published tests	CR: Negative emotional psychological response	Thpy goals: Targeting avoidance acceptance	Thpy goals: Targeting cognitions emotions	Therapeutic techniques: Cognitive approach	Therapeutic techniques: Reality testing
Number of years qualified	Correlation Coefficient Sig. (2-tailed) N		.209* .005 182			.270* <.001 180	.216* .004 179	.255* .001 179	
Number of yrs working with AWS	Correlation Coefficient Sig. (2-tailed) N					.255* <.001 187	.187* .010 186	.279* <.001 186	.208* .004 188
No. of AWS worked with past 2 years	Correlation Coefficient Sig. (2-tailed) N			.359* <.001 190	.167* .022 189	.201* .005 189	.192* .008 188	.217* .003 188	.362* <.001 190
Proportion of caseload (percentage)	Correlation Coefficient Sig. (2-tailed) N	.148 .043 187		.229* .002 186	.144* .050 186	.291* <.001 186	.223* .002 185	.242* .001 185	.359* <.001 187
				Therapeutic techniques: Behavioural approach	CR: Negative cognitive belief & biases				
Proportion of caseload (percentage)	Correlation Coefficient Sig. (2-tailed) N	.196* .008 183	.181* .013 187	.229* .002 186	.152* .038 187				

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed)

Table 63

Statistically Significant Correlations Between Psychosocial Components and Variables Related to Experience

7.3.4 Specialism

Generalist vs. Specialist

In chapters two and four, a debate was presented around the definition of a specialist and a generalist. It was concluded that in this study a specialist clinician in dysfluency were SLTs who considered themselves to be highly specialist in working with AWS, who had post qualification training and who reported having a special interest in dysfluency. In most cases a specialist would have their role in working with AWS acknowledged in their job description. It was hypothesised that specialist SLTs practice would differ considerably from the practice of generalist SLTs. The term generalist SLT here is used to include all therapists who took part in this study who are not specialists in dysfluency, even if they are specialists in another area.

It was hypothesised that:

- Specialist clinicians could be identified and their practice described and defined for a clinical trial.

It was hypothesised that specialist SLTs would be different from generalists in the following ways:

- Specialist SLTs would assess and treat the psychosocial aspects of living with a stutter more frequently than their generalist counterparts.
- Specialist SLTs would recognise the facets of social anxiety more frequently than their generalist counterparts.
- Specialist SLTs would use the techniques and principles of cognitive behaviour therapy more frequently than their generalist counterparts.
- Specialist SLTs would evaluate the success of therapy differently to their generalist counterparts.
- Specialist SLTs practice would be more consistent compared to their generalist counterparts.
- Specialist SLTs would be more confident in working with psychosocial issues than their generalist colleagues.

The statistically significant results concerning specialist vs. generalist practice are presented in tables 64 to 67.

Variable		N	Mean	Std Dev	Range	Skew-ness	Kurtosis	Mann Whitney U	Sig. (2-tailed)	Effect Size Value	Effect Size
Number of years qualified	Specialist	68	22.02	9.78	50.50	.41	.575	1696.00	<.001	1.03	Very large
	Generalist	112	12.01	9.73	41.00	1.09	.466				
Number of years working with AWS	Specialist	71	15.94	10.30	46.50	.65	.229	2027.00	<.001	0.93	Very large
	Generalist	116	7.83	7.69	41.60	1.82	3.94				
Number of AWS worked within past two years	Specialist	72	27.92	30.11	177.00	3.30	12.817	1331.00	<.001	0.97	Very large
	Generalist	117	8.64	9.43	69.00	3.30	16.00				
Proportion of caseload (percentage)	Specialist	71	34.06	29.61	99.00	1.11	.295	1610.50	<.001	0.85	Very large
	Generalist	115	12.64	22.16	100.00	3.13	9.18				

Table 64

Difference in Characteristics Between Specialist and Generalist Therapists

Normal Distribution		N	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)	Don't Know (%)	T-Test	Sig.(2- tailed)	Effect Size Value	Effect Size
Therapeutic techniques:	Specialist	71	5.6	45.1	49.3		5.692	<.001	0.86	Large
: Reality testing	Generalist	117	31.6	46.2	22.2					
Techniques: Use	Specialist	72	26.4	50.0	23.6	0.0	-1.944	.054	-0.29	Small
relaxation techniques	Generalist	117	18.8	38.5	42.7	0.0				
Techniques: Do	Specialist	70	27.1	60.0	12.9	0.0	2.354	.020	0.36	Small
assertiveness training	Generalist	117	42.7	41.9	13.7	1.7				

Table 65

Statistically Significant Differences Between Specialists and Generalists in Components and Other Variables (Normal Distribution)

Non Normal Distribution		N	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)	Don't Know (%)	Mann Whitney U	Sig. (2- tailed)	Effect Size Value	Effect Size
Key assessment factors	Specialist	72	0.0	0.0	100.0		3566.00	.047	0.33	Small
	Generalist	117	1.7	0.0	98.3					
Client report: Negative emotional psychological response	Specialist	72	5.6	48.6	45.8		3316.50	.022	0.39	Small
	Generalist	115	11.3	54.8	33.9					
Therapy goals targeting avoidance and acceptance issues	Specialist	71	0.0	1.4	98.6		2750.50	<.001	0.72	Large
	Generalist	116	1.7	15.5	82.8					
Therapy goals: Targeting cognitions and emotions	Specialist	71	0.0	4.2	95.8		3076.00	.004	0.54	Medium
	Generalist	115	3.5	17.4	79.1					
Therapeutic techniques: Cognitive approach	Specialist	70	0.0	2.9	97.1		3010.50	.003	0.53	Medium
	Generalist	116	0.9	12.9	86.2					
Therapeutic techniques: Behavioural approach	Specialist	70	0.0	7.1	92.9		3387.00	.047	0.40	Small - Medium
	Generalist	117	3.4	12.0	84.6					
Assess: Through formal/ published tests (e.g. WASSP)	Specialist	72	13.9	6.9	79.2	0.0	2891.50	<.001	0.58	Medium
	Generalist	116	31.0	9.5	57.8	1.7				
Confidence in working with psychosocial issues	Specialist	71	1.4	1.4	97.2		2515.00	<.001	0.78	Large
	Generalist	117	6.0	29.9	64.1					

Table 66

Statistically Significant Differences Between Specialists and Generalists in Components and Other Variables (Non- Normal Distribution)

Levene's Test for Equality of Variances: Components	Group	N	Mean	Std.	F	Sig
				Deviation		
Key Assessment Factors	Specialist	72	4.88	.218	5.851	.017
	Generalist	117	4.76	.492		
Therapy goals: Targeting avoidance and acceptance issues	Specialist	71	4.42	.412	15.359	<.001
	Generalist	116	4.03	.692		
Therapy Goals: Targeting Cognitions and Emotions	Specialist	71	4.40	.513	9.972	.002
	Generalist	115	4.07	.762		
Therapeutic Techniques: Cognitive Approach	Specialist	70	4.44	.467	4.399	.037
	Generalist	116	4.16	.622		
Therapeutic Techniques: Behavioural Approach	Specialist	70	4.28	.491	4.416	.037
	Generalist	117	4.05	.710		

Table 67

Variability in Statistically Significant Different Components Between Specialists and Generalists (Levene's Test of Equality of Variance)

These results show that, within this sample, specialist SLTs have identifiably different practice from generalist therapists. Table 64 shows that there are very large effect size differences in the experience characteristics between generalists and specialists. Specialists have worked as SLTs and with AWS for far longer than generalists. They have seen far more clients who stutter than generalists and a far higher proportion of their caseload are AWS than generalists.

Table 66 shows that specialist SLTs assess what are considered to be key assessment factors more frequently than generalist SLTs, but there is no statistically significant difference between the groups in the assessment of cognitive and emotional issues. Table 66 also shows that specialist SLTs use formal tests more frequently to assess their clients than generalists.

Table 66 also shows that the clients of specialist SLTs report negative emotional and psychological responses more frequently than the clients of generalists. This may be as a result of specialists being more aware of these issues and asking questions which might encourage clients to reveal their difficulties.

Specialist SLTs treat avoidance and acceptance and cognitions and emotions (facets of social anxiety) more frequently than generalist SLTs and also use cognitive and behavioural therapeutic approaches and reality testing techniques more frequently (table 66). They use relaxation techniques less frequently than generalists (table 65), who might use these techniques as they are not sure what else to do within therapy. Generalists may also use relaxation techniques because they might believe stuttering is as a result of anxiety or underlying psychosocial issues. This is reflected in some comments from generalist therapists: "It is essential to work on the cause (psychosocial) as well as the symptoms" (1081), "Bigger barrier to successful communication. Unsure of best approach to take" (711), "emotions often the route of the problem" (sic) (829).

Table 66 shows a large effect size difference in confidence in dealing with psychosocial issues between specialists and generalists. Specialists are much more confident in dealing with these issues than generalists.

In chapter 6 the results of content analysis categories from the open ended questions on how SLTs evaluate therapy were presented. When these are analysed to see whether there are any differences in practice between generalists and specialists it was found that only 52.2% (60) of the generalist therapists reported using outcome measures, while 80.3% (57) of the specialist therapists reported doing so (Pearson Chi Square = 14.862, $p < 0.001$). In addition, 21.1% (15) specialists indicated they used evidence as a way of evaluating the success of therapy while only 6.1% (7) generalists indicated that they used evidence to evaluate success (Pearson Chi Square = 9.378, $p < 0.002$). (Although it must be remembered that only limited conclusions can be drawn from the results of content analysis categories.)

Table 67 shows the variance in practice between specialists and generalists across the previously established statistically significant components. Five of the seven components show less variance when Levene's test of equality of variance is used, indicating that specialist SLTs' practice is more consistent compared to their generalist counterparts.

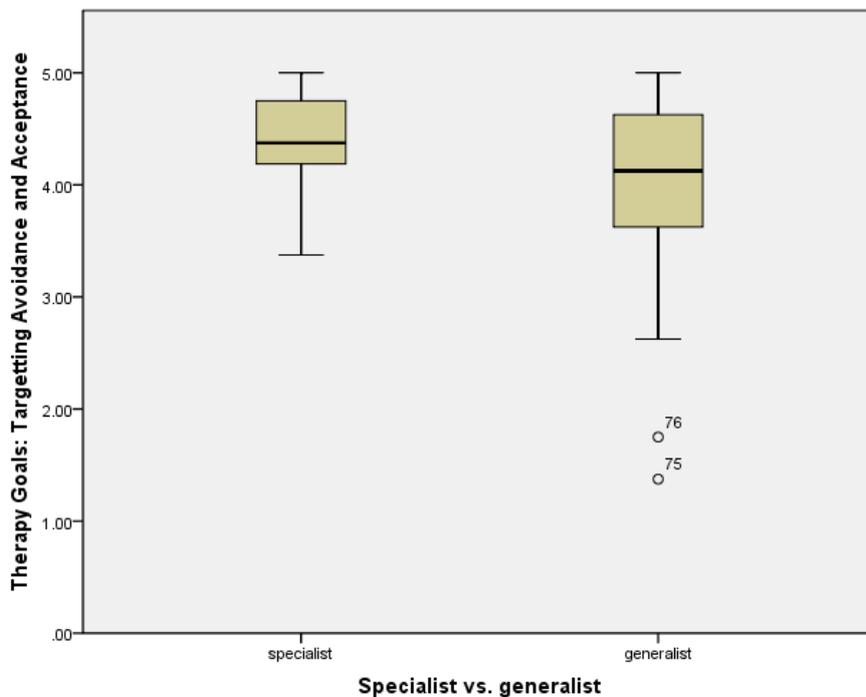


Figure 68
Box Plot Showing Difference in Practice Between Specialists and Generalists in Therapy Goals Targetting Avoidance and Acceptance

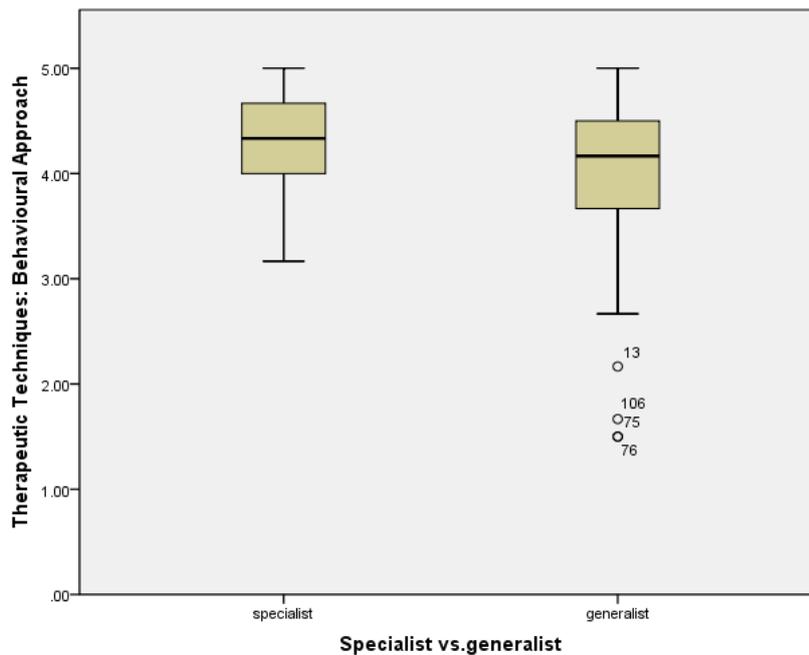


Figure 69

Box Plot Showing Difference in Practice Between Specialists and Generalists in Therapeutic Techniques: Behavioural Approach

Figures 68 and 69 graphically show the difference between specialists and generalists on two of the components. These box plots clearly show that specialists firstly target acceptance and avoidance more than generalists and that they use behavioural techniques more than generalists. These figures also clearly show that the practice of specialists is more consistent (shows less variance) than their generalist counterparts. It is also of interest to note that there are relatively few outliers in these components and that two of the outliers are outliers in both components. They were also both outliers in the component: key assessment factors and one was an outlier in therapy goals targeting cognitions and emotions and the other was an outlier in assessment of quantitative stuttering measures. When further investigated it was found that these two SLTs within the sample indicated that they used only SFBT (to the exclusion of all other approaches) when treating their clients.

While there was no evidence showing that specialists assessed psychosocial issues differently from generalist therapists, the specialist SLTs in this sample did treat avoidance and anxiety, cognitions and emotions (the facets of social

anxiety), and use cognitive and behavioural approaches, more frequently than generalists. Their practice was more consistent and they were more confident in working with psychosocial issues. The two groups also differed in terms of the way that they evaluated the success of therapy.

There were comments from some participants emphasising the difference between specialist and generalist practice, and the concern that generalists feel about their clinical skills: "I think there are relatively few posts where it is possible to be considered or think of yourself as highly specialist in stammering - often stammering is tagged onto voice as a specialism but this is historic rather than a true reflection of the nature of stammering assessment and therapy. Because an adult stammering caseload is fairly small it takes time to build a body of clinical experience. It also makes it difficult to get funding to attend courses and study days." (1012). "There are no specialists in the department to go to for further advice so much of my learning is done from text books recommended from when I was at uni." (811). "As a generalist it's very difficult to give these patients what they need. Financial constraints and a lack of specialist posts mean these patients receive a limited service. Definitely a post code lottery. I often suggest they attend private intensive courses if I feel they will benefit" (1021). "So rarely work with AWS that skills and confidence are low! But generalist caseload = they must be seen. There is no specialist input in the locations I work. I tend to work through a programme from relevant resource book!!" (792). "Difficulty in small services regarding maintaining any specialist skills with AWS." (930) "Definite lack of undergraduate training in therapy specifically, then a lot of generalist therapists muddling through" (743). The majority of these comments are from clinicians who indicated they were not confident in dealing with psychosocial issues in AWS.

These results provide support for all the hypotheses apart from "Specialist SLTs would assess the psychosocial aspects of living with a stutter more frequently than their generalist counterparts".

The question that is considered next is: Could a sub group of specialists or experts be found that would exhibit practice that showed less variance and was more in line with recommendations from current published research?

7.4 Emergence of a Profile for “Expert” Clinicians?

All of the above characteristics have resulted in statistically significant differences in practice, but an assumption has been made that the differences seen result in *better* practice. For example, those with more experience, more training and a specialism in dysfluency are likely to deliver better practice (practice in line with emerging research in published peer-reviewed journals) than their colleagues. As these results are from a self-report study and not a trial with measurable outcomes, this argument is based on logic rather than irrefutable evidence.

It was hoped to identify experts from the respondents to the survey based on the characteristics found to result in differences in practice. It was surmised that the practice of these experts would form the basis of a protocol of best practice.

7.4.1 Definition of Expert

An expert is generally considered to be “one who has acquired special skill in or knowledge of particular subjects through professional training and practical experience” (Webster's Dictionary, 1976, p. 800).

In chapter five, the modified Delphi technique used in this study was described and the rationale behind choosing particular people as experts was discussed. A number of experts (26) were identified from the respondents of the survey as those SLTs who met the following criteria:

- Post qualification training in working with AWS
- Training in CBT
- Specialists
 - Training
 - Special interest in dysfluency
- Highly experienced
 - More than ten years qualified as an SLT
 - More than ten years working with AWS
 - More than 10% of their caseload AWS
 - Seen more than 10 AWS in the past two years

The data from these SLTs were examined to establish whether their practice was statistically different to the all the other therapists who took part in the study. Their data were also examined to see whether their practice was different to the practice of those identified as specialists.

7.4.2 Differences between Specialists and Experts

Method of analysis

Group differences between experts and all other participants and experts and specialists were examined using t-tests and Mann Whitney tests across all eleven components which emerged from factor analysis. Levene's test for equality of variance was examined to see whether the practice of experts was more consistent than either specialists or all the participating SLTs.

Results

Three statistically significant different results were seen in the eleven components between experts and everyone else in the survey (table 70). Only two components showed differing variances between the groups (table 71). No statistically significant differences were found between the group of experts and the specialists, and with the exception of key assessment factors, the variance between the groups was equal.

From these results, the practice of experts identified from these characteristics does not appear to be very different from either the specialists or the rest of the SLTs who responded. As a result, the group of therapists whose practice shows the greatest statistical difference from the entire group of respondents and whose practice is less variable than the rest is the group of specialists. It appears appropriate therefore to describe the practice of the specialists as the best practice within this sample of SLTs.

Components		N	Never/	Some-	Often/	(Mann	Asymp.	Effect	Effect
			Rarely	times (%)	Usually	Whitney	Sig. (2-	Size	
			(%)		(%)	U)	tailed)	Value	Size
Key assessment factors	Expert	26	0.0	0.0	100.0	1597.50	.019	0.65	Medium
	All others	165	1.2	0.0	98.8				
Therapeutic techniques: Cognitive approach	Expert	25	0.0	0.0	100.0	1463.50	.023	0.66	Medium
	All others	163	0.6	10.4	89.0				
Normal Distribution						T-Test)	Sig.(2-		
							tailed		
Therapeutic techniques: Reality Testing	Expert	25	4.0	32.0	64.0	4.327	<.001	0.93	Large
	All others	165	24.2	47.3	28.5				

Table 70

Statistically Significant Differences Between Experts and All Other Participants in Component Variables

Levene's Test for Equality of		Std				
Variates	Group	N	Mean	Dev	F	Sig.
Key assessment factors	Expert	26	4.93	.163	4.341	.039
	All others	165	4.79	.435		
Therapy goals: Targeting avoidance and acceptance	Expert	25	4.42	.397	6.057	.015
	All others	164	4.14	.649		

Table 71

Differences in Variability Between Experts and All Other Participants (Levene's Test of Equality of Variance)

7.6 Summary

This chapter used the characteristics recorded from section A (chapter 4) to compare and contrast the practice (as described by sections B to F) of different groups of therapists within this sample. Specialist SLTs were found to have statistically significant differences in their practice to generalists. An attempt was made to identify expert clinical practitioners within this sample using statistics, but a subsection of expert practitioners did not emerge from the data.

The next chapter will describe specialist practice.

CHAPTER 8: A DESCRIPTION OF SPECIALIST PRACTICE

8.1 Introduction

The previous chapters have described how self report information on clinical practice in therapy with adults who stutter was collected and analysed. The practice of different groups of therapists was summarised and compared, and specialist therapists were found to have significantly different practice from other groups. It was considered that their practice was most in line with current research and clinical guidelines (compared with other groups), as they tended to address the facets of social anxiety and their practice was more consistent as measured by Levene's test of equality of variance (chapter 7). As a result, it was concluded that a description of specialist practice might form the outline to develop a framework or protocol of good clinical practice for SLTs working with AWS which ideally could be tested in a clinical trial.

The information about the therapy pathway was collected in the following sections, and will be reported on in the same format, i.e.:

Section B: Assessment

Section C: What clients reported to the therapist

Section D: Therapy goals

Section E: Therapy techniques

Section F: Evaluation and discharge

8.2 Method

Descriptive statistics of specialist practice, including components from factor analysis and variables which did not fall into the components, have been used to present the data.

8.3 Section B: Assessment

There were three components and four additional variables which did fall not into the components in section B. Specialists reported that they assessed clients who stutter in the following ways:

8.3.1 Components that Specialist SLTs Assess

Key Assessment Factors

Specialists reported they assessed the following areas the majority of the time.

- Type of stuttering
- Speech behaviours
- Avoidance behaviours
- Family history
- Life choices as a result of stuttering
- Previous therapy
- Assess through case history

Table 72 shows the proportions of the variables which make up key assessment factors. They indicate the aspects of practice that should be addressed in all assessments of AWS.

Key Assessment Factors	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Type of stuttering	72	0.00	1.39	98.61
Speech behaviours	72	0.00	2.78	97.22
Avoidance behaviours	72	1.39	0.00	98.61
Family history	72	0.00	4.17	95.83
Life choices	72	1.39	4.17	94.44
Previous therapy	72	0.00	2.78	97.22
Assess through case history	72	0.00	0.00	100.00
Key Assessment Factors	72	0.00	0.00	100.00

Table 72

*Frequency (%) of Specialist Practice of Each Variable Within the Component:
Key Assessment Factors Assessed*

Quantitative Stuttering Measures

Specialists reported using the following measurable ways to assess stuttering 71.83% of the time.

- Stuttering severity

- Stuttering frequency
- Assess through quantifiable measures
- Assess through labelling the stutter into categories

Quantitative Stuttering Measures	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Severity	72	6.94	9.72	83.33
Frequency	72	8.33	18.06	73.61
Assess through quantifiable measures	72	55.56	25.00	19.44
Assess by labelling stutter into categories	71	29.58	25.35	45.07
Quantitative Stuttering Measures	71	8.45	19.72	71.83

Table 73

Frequency (%) of Specialist Practice of Each Variable within the Component: Quantitative Assessment Measures

Table 73 shows that specialist SLTs usually or often assess stuttering severity and frequency in most of their clients.

Assessment of Cognitive and Emotional Issues Related to Stuttering

Specialists reported measuring cognitive and emotional issues in the following ways the majority of the time (table 74):

- Client's emotional response to their speech
- Thought processes about stuttering
- Coping strategies
- Client's readiness to change
- Client's desired outcomes of therapy

Assessment of cognitive and emotional issues related to stuttering	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Client's emotional response to their speech	72	0.00	0.00	100.00
Thought processes	72	0.00	2.78	97.22
Coping strategies	72	0.00	0.00	100.00
Client's readiness to change	72	1.39	6.94	91.67
Client's desired outcomes of therapy	72	0.00	1.39	98.61
Assessment of cognitive and emotional issues related to stuttering	72	0.00	0.00	100.00

Table 74

Frequency (%) of Specialist Practice of Each Variable Within the Component: Assessment of Cognitive and Emotional Issues

Specialist SLTs almost always assess cognitive and emotional issues through assessing thought processes, emotional responses and coping strategies.

8.3.2 Additional Variables that Specialist SLTs Assess:

Specialist SLTs also reported assessing the following variables which did not fall into principal components:

- Variability
- Communication Skills
- Language
- Social Skills
- Assess through spontaneous discussion
- Assess through structured questions
- Assess through tools such as the Iceberg
- Assess through informal self rating measures
- Assess through formal/published tests

Variables which do not fall into principal components	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Variability	72	4.17	6.94	88.89
Communication Skills	72	0.00	8.33	91.67
Language	72	27.78	43.06	29.17
Social Skills	72	2.78	11.11	86.11
Assess through spontaneous discussion	72	1.39	2.78	94.44
Assess through structured questions	72	5.56	19.44	75.00
Assess through tools such as the Iceberg	68	2.94	16.18	80.88
Assess through informal self rating measures	72	4.17	13.89	81.94
Assess through formal/published tests	72	13.89	6.94	79.17

Table 75

Frequency (%) of Non-component Variables from Section B (Assessment)

Table 75 shows that specialist SLTs almost always assess variability of stuttering, communication skills and social skills. It also shows that most specialist SLTs assess in informal ways such as spontaneous discussion and informal self-rating measures in addition to formal published tests.

8.3.3 Summary of Specialist SLT Practice with Regard to Assessment

Specialist SLTs in this sample almost always assess the following key assessment factors through obtaining a case history: the type of stuttering, speech and avoidance behaviours, family history, previous therapy experiences, and life choices as a result of stuttering. They also almost always assess cognitive and emotional issues including the client's emotional response to their speech, thought processes about their speech, their readiness to change and their desired outcomes of therapy, in addition to assessing their coping strategies.

Although quantitative stuttering measures are used less frequently, many specialist SLTs measure stuttering severity and frequency. Only 19% measure stuttering using quantifiable measures such as percentage syllables stuttered, while 45% assess through labelling the stutter into categories.

Frequently, this sample of specialist SLTs assesses variability of stuttering and social and communication skills; however, language skills are only assessed infrequently. It is possible that language skills are only investigated if the client presents with obvious language difficulties.

Specialist SLTs seem to assess predominantly through spontaneous discussion, but frequently use structured questions, informal self rating methods, published formal tests and tools such as the Iceberg (a picture representing the aspects of stuttering in each person which are visible or not visible to others) to help with the assessment process.

8.4 Section C: Client Report

There were three components and one additional variable which did fall not into the components in section C.

8.4.1 Components that Clients Report to Specialist SLTs

Client's Report of Negative Cognitive Beliefs and Biases Related to Stuttering:

Specialists indicated AWS reported the following negative cognitive beliefs and biases. They reported that their clients who stutter:

- Evaluate their speech negatively
- Evaluate their speech more negatively than I, as their therapist, would
- Reported low self-esteem
- Focus on only some of the information available to them
- Anticipate negatively what other people might think of them
- Interpret events in a negative way
- Hold beliefs or assumptions that are negative, unhelpful and possibly untrue

Table 76 shows that specialist SLTs recognise the negative cognitive beliefs and biases that their clients report to them. It is possible that these SLTs ask appropriate questions so that they can identify these issues in their clients, or

it may be possible that generalist SLTs don't recognise what their clients are reporting in these areas.

Variables and resulting component C1	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Evaluate speech negatively	72	0.00	8.33	91.67
Evaluate more negatively than therapist	71	1.41	28.17	69.01
Low self-esteem	72	2.78	40.28	56.94
Focus on some of the information	72	1.39	26.39	70.83
Anticipate negatively	72	1.39	12.50	86.11
Interpret events in a negative way	72	5.56	27.78	62.50
Beliefs or assumptions that are negative	72	4.17	26.39	68.06
Client's report of negative cognitive beliefs and biases related to stuttering	71	2.82	15.49	81.69

Table 76

Frequency (%) of Variables within Client's Report of Negative Cognitive Beliefs and Biases Related to Stuttering

Client's Report of Negative Social Impact of Stuttering on Daily Life

Specialists indicated that AWS reported the following negative social impact of stuttering on daily life. They showed that their clients who stutter reported:

- Stuttering affects their working life
- Avoiding words
- Avoiding situations
- Being anxious about speaking
- More difficulty speaking to some people than to others
- People have reacted negatively to their stuttering
- Restriction in their lives

Table 77 shows that most specialist SLTs recognise the facets of social anxiety such avoidance and anxiety most of the time.

Variables and resulting component		Never/ Rarely	Some- times	Often/ Usually
C2	Valid	(%)	(%)	(%)
Avoiding words	72	0.00	4.17	95.83
Avoiding situations	72	0.00	8.33	91.67
Being anxious	72	0.00	2.78	97.22
Difficulty speaking	72	0.00	2.78	97.22
Reacted negatively	72	4.17	38.89	56.94
Restriction	72	0.00	19.44	80.56
Affects working life	72	1.39	36.11	62.50
Client's report of negative social impact of stuttering on daily life	72	0.00	6.94	93.06

Table 77

Frequency (%) of Each Variable Within Client's Report of Negative Social Impact of Stuttering on Daily Life

Client's Report of Negative Emotional Psychological Response to Stuttering

Specialists reported AWS reported the following negative psychological responses to their stuttering. They reported their clients who stutter reported:

- Feelings of helplessness
- Stuttering varies according to the levels of stress
- Psychological problems are linked with stuttering
- Stuttering affects their personal relationships
- Experiences involving their speech which upset them
- Blame themselves for their stuttering

Table 78 shows the frequency with which clients report these issues to their specialist SLTs. Only 45.83% of clients report negative emotional psychological responses to their SLTs.

Variables and resulting component C3	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Feelings of helplessness	72	5.56	43.06	51.39
Stuttering varies according to stress	72	0.00	16.67	83.33
Psychological problems	72	12.50	56.94	27.78
Affects personal relationships	72	11.11	58.33	30.56
Experiences which upset them	72	5.56	37.50	56.94
Blame themselves	72	41.67	44.44	11.11
Client's report of negative emotional psychological response to stuttering	72	0.00	54.17	45.83

Table 78

Frequency (%) of Each Variable Within Client's Report of Negative Emotional Psychological Response to Stuttering

8.4.2 Additional Variables that Specialist SLTs Report that Clients Report

Specialist SLTs (72) also reported clients citing nervousness as a cause of stuttering never/rarely 33.3%, sometimes 45.8% and often or usually 20.8%..

8.4.3 Summary of Specialist SLT Practice with Regards to Client Report

From the above results it can be seen that specialist SLTs indicate that more than half of their clients report negative cognitive beliefs and biases related to stuttering. Most (93.06%) report a negative social impact of stuttering on daily life. They report that about half of their clients report a negative emotional psychological response to stuttering and cite nervousness as a cause of their stuttering sometimes. It appears that specialist SLTs might specifically ask questions in order to identify and recognise the facets of social anxiety. This would justify clinicians probing these areas with their clients for assessment purposes and to help with therapy goal setting.

8.5 Section D: Therapy Aims and Goals

There were two components and seven additional variables which did not fall into the components in section B.

8.5.1 Components that Specialist SLTs Target in Therapy

Specialists reported that they targeted therapy with clients who stutter in the following ways:

Therapy Goals Targeting Avoidance and Acceptance Issues Related to Stuttering

- Avoidance issues
- Avoidance of words
- Avoidance of situations
- Feelings that result in avoidance
- Avoidance of relationships
- Acceptance of stuttering
- Practical problem solving
- Openness/disclosure about stuttering

Table 79 shows that most specialist SLTs target the issue of avoidance, most of the time, through tackling avoidance of words and situations and feelings, in addition to acceptance, problem solving and openness/disclosure around the stutter.

Variables and resulting component	D1	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Avoidance issues	72	72	0.00	4.17	95.83
Avoidance of words	72	72	1.39	16.67	81.94
Avoidance of situations	72	72	0.00	6.94	93.06
Feelings that result in avoidance	72	72	0.00	6.94	93.06
Avoidance of relationships	72	72	6.94	43.06	50.00
Acceptance	72	72	0.00	4.17	95.83
Problem solving	72	72	0.00	4.17	95.83
Openness/disclosure	71	71	0.00	2.82	97.18
Therapy goals targeting avoidance and acceptance issues related to stuttering	71	71	0.00	1.41	98.59

Table 79

Frequency (%) of Each Variable within Targeting Avoidance and Acceptance

Therapy Goals Targeting Cognitions and Emotions Related to Stuttering

- Feelings and attitudes related to speaking
- Anxiety related to stuttering
- Identity issues related to stuttering
- Negative thoughts related to speaking

Table 80 shows that specialist SLTs often target anxiety, negative thoughts and feelings and attitudes; all aspects of social anxiety.

Variables and resulting component	D2	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Anxiety		72	1.39	11.11	87.50
Identity		71	8.45	29.58	61.97
Negative thoughts		72	0.00	1.39	98.61
Feelings and attitudes		72	0.00	1.39	98.61
Therapy goals targeting cognitions and emotions related to stuttering		71	0.00	4.23	95.77

Table 80

Frequency (%) of Each Variable within Therapy Goals Targeting Cognitions and Emotions Related to Stuttering

8.5.2 Additional Variables that Specialist SLTs Report that They Target as Therapy Goals

Specialist SLTs also reported targeting the following variables which did not fall into principal components:

- Psychosocial issues
- Communication skills training

They were also asked “In therapy with AWS, how do you find out the attitudes, feelings, thoughts, beliefs and assumptions of your clients?”

- Via spontaneous discussion
- Via structured questions
- Via questionnaires

- Via diagrams/structured flowcharts (e.g. laddering/ scaffolding)
- Reports from others (from friends, partners, employers, etc)

Table 81 shows that most (81.94%) of specialist SLTs often or usually target psychosocial issues. Most use spontaneous discussion to target therapy goals.

Variables which do not fall into principal components in Section D	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Psychosocial issues	72	2.78	11.11	81.94
Communication skills training	72	5.56	34.72	59.72
Via spontaneous discussion	72	1.39	8.33	90.28
Via structured questions	72	11.11	18.06	69.44
Via questionnaires	72	16.67	25.00	58.33
Via diagrams/ structured flowcharts	71	29.58	28.17	42.25
Via reports from others	72	65.28	30.56	4.17

Table 81

Frequency (%) of All Non-component Variables from Section D: Therapy Aims and Goals

8.5.3 Section D: Frequency Count: Categorical Variables

In section D an additional question was posed asking the participants what kind of therapy approach they would use in therapy with their clients who stutter. The response had two parts: closed categorical yes/no questions and an open ended question asking what other approaches were used. The open ended question was analysed using content analysis. Both sets of answers for the specialist responses are presented in Tables 82 and 83 as frequency counts.

These indicate that specialist SLTs predominantly use a stuttering modification approach or a combination of approaches and that most use avoidance reduction therapy which has very similar aims to aspects of cognitive behaviour therapy for social anxiety.

Variable		Yes	No
Speak more fluently approach (fluency shaping)	N	38.0	34.0
	%	52.8	47.2
Stutter more fluently approach (stuttering modification)	N	59.0	13.0
	%	81.9	18.1
Personal Construct Therapy	N	33.0	39.0
	%	45.8	54.2
Cognitive Behaviour Therapy	N	45.0	27.0
	%	62.5	37.5
Avoidance Reduction Therapy	N	58.0	14.0
	%	80.6	9.4
Combination of approaches	N	63.0	9.0
	%	87.5	12.5

Table 82

Frequency Count of Categorical Variables from Section D

The most frequently used approach which was not mentioned in clinical guidelines but was reported by specialist SLTs is Solution Focused Brief Therapy (SFBT), which 36% of specialist SLTs indicated that they used.

Variable	Valid	Yes	No
Relaxation	N	22.0	50.0
	%	30.6	69.4
Hypnotherapy	N	5.0	67.0
	%	6.9	93.1
Neurolinguistic programming	N	14.0	58.0
	%	19.4	80.6
Breathing techniques	N	6.0	66.0
	%	8.3	91.7
Solution focused brief therapy	N	22.0	50.0
	%	30.6	69.4
Counselling	N	6.0	66.0
	%	8.3	91.7
Social skills training	N	6.0	66.0
	%	8.3	91.7

Table 83

*Frequency Count of Categories Resulting from Content Analysis in Section D
(What Other Kind of Therapy Approaches Do You Use with Your AWS?)*

8.5.4 Summary of Specialist SLT Practice with Regard to Therapy Goals and Aims

From the above results it can be seen that Specialist SLTs often and usually strive for therapy goals targeting avoidance and acceptance issues related to stuttering and cognitions and emotions related to stuttering and psychosocial issues. Therapy amongst specialists is most often conducted through spontaneous discussion.

Specialists within this sample tend to use a combination of approaches to target therapy aims; most address speech modification via a stutter more fluently approach (stuttering modification), and address psychosocial issues predominately through avoidance reduction therapy and then a cognitive behaviour therapy approach. Other therapy approaches are used much less frequently. The approaches to targeting psychosocial issues appear to match practice recommended in the psychological literature for treating social anxiety as discussed in the literature review chapter.

8.6 Section E: Therapeutic Techniques and Principles

There were three components and six additional variables which did not fall into the components in section E.

8.6.1 Therapeutic Techniques and Principles Components that Specialist SLTs Use

Specialists reported that they used therapeutic techniques and principles with clients who stutter in the following ways:

Therapeutic Techniques: Cognitive Approach

- Discuss their thoughts
- Explore their interpretations
- Evidence for their beliefs
- Challenge their perspectives
- Use questioning, summarising and reflection

- Talk through difficult experiences and deal with the feelings and emotions
- Problem solve
- Discuss the listeners' perspective

Table 84 shows that most specialist therapists often or usually use a cognitive approach to achieve their therapy targets.

Variables and resulting component E1	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Discuss their thoughts	72	0.00	1.39	98.61
Explore interpretations	71	0.00	9.86	90.14
Evidence for their beliefs	71	0.00	8.45	91.55
View things/challenge their perspectives	72	0.00	6.94	93.06
Questioning, summarising and reflection	72	1.39	12.50	86.11
Difficult experiences and deal with feelings	71	0.00	8.45	91.55
Problem solve any arising issues	71	0.00	8.45	91.55
Discuss the listeners perspective	71	0.00	16.90	83.10
Therapeutic Techniques: Cognitive Approach	70	0.00	2.86	97.14

Table 84

Frequency (%) of Each Variable within Therapeutic Techniques: Cognitive Approach

Specialists reported that they used therapeutic techniques and principles with clients who stutter in the following ways:

Therapeutic Techniques: Behavioural Approach

- Set up experiments
- Set specific goals
- Disclose their speech difficulties
- Expose gradually to difficult situations
- Work through hierarchies
- Set homework

Table 85 shows that most specialist SLTs use behavioural techniques such as setting up experiments and working through hierarchies to achieve therapy goals.

Variables and resulting component		Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
E2	Valid			
Experiments	72	2.78	18.06	79.17
Specific goals	72	1.39	5.56	93.06
Disclose	72	1.39	18.06	80.56
Expose clients	70	2.86	27.14	70.00
Work through hierarchies	71	2.82	12.68	84.51
Homework	71	1.41	4.23	94.37
Therapeutic techniques:	70	0.00	7.14	92.86
Behavioural approach				

Table 85

*Frequency (%) of Each Variable Within Therapeutic Techniques:
Behavioural Approach*

Therapeutic Techniques: Reality Testing

- Carry out surveys
- Find out what other people think of stuttering
- Audio or video work
- Deliberately stutter

Table 86 shows that specialist SLTs are very variable in their use of reality testing approaches within therapy. Most specialist SLTs would use these techniques on at least some occasions.

Variables and resulting component E3	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Surveys	72	55.56	29.17	12.50
Other people think	72	5.56	40.28	54.17
Audio or video work	71	15.49	25.35	59.15
Deliberately stutter	71	5.63	28.17	66.20
Therapeutic techniques: Reality testing with regards to stuttering	71	5.63	45.07	49.30

Table 86

Frequency (%) of Each Variable Within Therapeutic Techniques: Reality Testing

8.6.2 Additional Variables That Specialist SLTs Report That They Use as Therapeutic Techniques

Specialist SLTs also reported using the following techniques/variables which did not fall into principal components. They indicated that they:

- Use relaxation techniques
- Do assertiveness training
- Encourage AWS to imagine and work through in their imagination their feared situations (E.g. making telephone calls)
- Role-play difficult situations
- Give new information or understanding about their speech difficulties and communication skills (I.e. educate)
- Examine worst case scenarios

Table 87 shows that most specialist SLTs will often or usually educate their AWS. Many will sometimes use assertiveness training, role plays, imagination and worst case scenarios to achieve therapy goals.

Variables which do not fall into principal components	Valid	Never/ Rarely (%)	Some- times (%)	Often/ Usually (%)
Relaxation techniques	72	26.39	50.00	23.61
Assertiveness training	70	27.14	60.00	12.86
Imagine	72	15.28	44.44	40.28
Role-play	72	6.94	45.83	47.22
New information/ understanding (educate)	72	1.39	8.33	90.28
Worst case scenarios	72	5.56	43.06	51.39

Table 87

Frequency (%) of All Non-component Variables from Section E

8.6.3 Summary of Specialist SLTs Practice with Regard to Therapeutic Techniques and Principles

From the above results it can be seen that almost all Specialist SLTs use cognitive and behavioural therapeutic techniques often or usually. Approximately half the specialists SLTs often or usually use reality testing techniques as part of therapy often or usually explore worst case scenarios, and sometimes use relaxation as a therapeutic technique. Most therapists also provide new information or educate their clients who stutter.

It appears that most of the specialist SLTs use cognitive behaviour type therapy to treat their clients who stutter.

8.7 Section F: Evaluation and Discharge

Section F asked a series of open ended questions about evaluation and discharge criteria. These were analysed by content analysis.

8.7.1 Evaluation

The results of how specialists reported that they evaluated the success of therapy with clients who stutter are reported in tables 88 and 89. In this

sample of specialist SLTs, 80.3% indicated that they used formal outcome measures to evaluate the success of therapy, while 57.7% indicated that they used self report to evaluate the success of therapy. This is a method recommended in the literature (Guntupalli, et al., 2006).

Content Analysis			
Categories	Valid	Yes	No
Outcome measures	N	57.0	14.0
	%	80.3	19.7
Scales	N	38.0	33.0
	%	53.5	46.5
Self report	N	41.0	30.0
	%	57.7	42.3
Discussion	N	15.0	56.0
	%	21.1	78.9
Questionnaires	N	12.0	59.0
	%	16.9	83.1
Therapist skills	N	6.0	66.0
	%	8.3	91.7
Goal setting	N	10.0	61.0
	%	14.1	85.9
Audio/ video	N	10.0	61.0
	%	14.1	85.9
Evidence	N	15.0	56.0
	%	21.1	77.8

Table 88

Frequency Count Results About Evaluation of Therapy (From F1 and F2)

Outcome measure used	Valid	Yes	No
Wright and Ayre Stuttering Self Rating	N	47.0	24.0
Profile (WASSP)	%	66.2	33.8
Overall Assessment of Speakers	N	7.0	65.0
Experience of Stuttering (OASES)	%	9.7	90.3
Erikson S24 Scale	N	8.0	64.0
	%	11.1	88.9
Stuttering Severity Instrument (SSI)	N	2.0	70.0
	%	2.8	97.2
Perception of Stuttering Inventory (PSI)	N	3.0	69.0
	%	4.2	95.8
East Kent Outcome System (EKOS)	N	1.0	71.0
	%	1.4	98.6
Locus of Control (LOC)	N	2.0	70.0
	%	0.0	-1.0

Table 89

Outcome Measures Used by Speech and Language Therapists to Evaluate Therapy

8.7.2 Discharge Criteria

Table 90 shows the discharge criteria that specialists reported they used with clients who stutter.

Content Analysis Categories	Valid	Yes	No
Goals met	N	33.0	39.0
	%	45.8	54.2
Mutual agreement	N	20.0	52.0
	%	27.8	72.2
Client requests discharge	N	30.0	42.0
	%	41.7	58.3
End of a block of therapy	N	7.0	65.0
	%	9.7	90.3
Long term review	N	3.0	69.0
	%	4.2	95.8
Open re-referral	N	11.0	61.0
	%	15.3	84.7
No further change	N	17.0	55.0
	%	23.6	76.4
Have never discharged	N	3.0	69.0
	%	4.2	95.8
DNA (Do Not Arrive)	N	5.0	67.0
	%	6.9	93.1
Refer onward	N	2.0	70.0
	%	2.8	97.2

Table 90

Frequency Count Results Regarding Discharge Criteria (from F3)

8.7.3 Summary of Specialist SLT Practice with Regard to Evaluation and Discharge

From the above results it can be seen that many Specialist SLTs use outcome measures to evaluate the success of therapy. The most frequently used outcome measure in this sample of therapists is the Wright and Ayre Stuttering Self Rating Profile (WASSP). Around half of specialist SLTs use scales and self report to evaluate the success of therapy (this is consistent with what is recommended in the literature (Guntupalli, et al., 2006)).

The two most frequent reasons that specialist SLTs give for discharge are that the goals of therapy have been met or that the client requests discharge.

8.8 Summary

This chapter describes the practice of this sample of specialist SLTS with regards to psychosocial issues. It is concluded that many of the decisions and choices made by this group of therapists are consistent with good or recommended practice reported in the literature. It is proposed that this description of practice of specialist SLTs should be used as the basis of a clinical protocol for a clinical trial on managing the psycho-social aspects of living with a stutter as an adult. The next chapter goes on to discuss the results of this survey with reference to the literature.

CHAPTER 9: DISCUSSION

9.1 Introduction

In this chapter the methods, results and implications of this study will be discussed. The aims of the study and the methods chosen to achieve those aims will be summarised. The study will be critiqued, the summarised results of the study will be presented and the results linked to practice. The implications of this study for its value in clinical practice will be discussed.

9.2 Summary of Aims of Study

The overarching research questions were: **What is current practice for addressing psychosocial issues with adults who stutter amongst speech and language therapists? Can the potentially most effective interventions be identified, summarised, defined and described to form a protocol for a clinical trial?**

A survey of practice of speech and language therapists who work with adults who stutter was conducted to address the research questions and test the study hypotheses.

9.3 Critique of the Study

9.3.1 Summary of Methods to Achieve Aims

The method considered most appropriate to discover how SLTs currently manage psychosocial issues with adult clients who stutter was to survey SLTs who work with AWS. No current measurement instrument existed to establish how SLTs or other allied health professionals assess and treat psychosocial issues with their clients so a new survey instrument was designed. This instrument used both closed and open questions. The closed question Likert type scales were developed from the existing literature. Open ended questions were used to gain information on topics such as evaluation and discharge where, at the time of development of the survey, no or very little published

literature existed. Open ended questions were also used to ask about any areas of SLT practice which may not have been covered and to give the participants an opportunity to comment on any issues they deemed to be relevant.

Various statistical methods were used to analyse the results of the survey. These included exploratory factor analysis, descriptive statistics and inferential statistics. Content analysis was used to analyse open ended questions and a modified Delphi technique was used to aid interpretation of components which emerged from factor analysis. A distinct group of therapists became apparent from the data. Some of their practice (with regards to psychosocial issues) was in line with current research recommendations and was significantly different in statistical terms from the entire group of SLTs. Aspects of their practice were described and defined to form a basic guide of the therapy process for the development of a protocol for a clinical trial addressing psychosocial issues, particularly social anxiety, associated with stuttering.

The question “**What is current practice for addressing psychosocial issues with adults who stutter amongst speech and language therapists?**” was predominantly addressed in this study. The question “**Can the potentially most effective interventions be identified, summarised, defined and described to form a protocol for a clinical trial?**” was only partially addressed. This was due to an inability to statistically identify a group of expert practitioners, or establish whether the interventions identified were effective. Specialist practice was identified, summarised, defined and described, but forming a protocol for a clinical trial from this information was beyond the scope of this project due to the time scale and resources available.

9.3.2 Strengths and Limitations of Study

A well established five stage model for designing and evaluating complex interventions was used as a framework for developing the design of this study (Campbell, et al., 2000; Campbell, et al., 2007; Craig, et al., 2008; Pring, 2004). The first stage of the model is to describe the treatment or intervention that will be evaluated. A survey consisting of questions to gather predominantly quantitative information was considered to be the most

appropriate method for collecting data in order to describe and define current practice and address the research questions.

Qualitative vs. Quantitative Study

A quantitative study was chosen in order to best address the research questions. Firstly, qualitative methods were not used because it would have been difficult to establish who qualified as an “expert clinician” in working with AWS, and consequently who should be interviewed. A number of options, described in the method chapter, were considered for choosing knowledgeable SLTs to address the research questions, but none were considered to be satisfactory for establishing who could be considered an expert clinician. (The issues around establishing experts are discussed further in the section on the modified Delphi technique). At the start of this project it was not known what factors affect practice, and therefore who would qualify as an expert. It was for this reason that strategies were put in place to use a sample that encompassed as many SLTs working with AWS as practically possible.

Secondly, quantitative research allows for the investigation of the relationships between variables (Polgar & Thomas, 1995). One of the research questions was “What are the factors that affect the therapy choices made by therapists? Do training, experience, special interest and specialism affect clinical practice?” It was hypothesised that there would be great variation in the practice of SLTs working with this client group. Data about the treatment of AWS in day to day clinical practice would have been lost had only expert clinicians been consulted. Many comments from generalist SLTs on their perceived lack of abilities would have been missed and the relationships between different groups of therapists could not have been measured if this had been a qualitative study. This study allowed for a greater understanding of current SLT practice in Britain in managing psychosocial issues with adult clients who stutter, not just those few clinicians regarded as experts.

A survey enabled cost effective access to as many SLTs working with AWS as possible. On this basis, a survey was considered to be the best way to

examine a broad range of practice and to address the research questions. It is possible that the development of the survey instrument could have been improved had qualitative interviews with a number of reputable SLTs in the field had taken place prior to the development of the survey.

Survey Population and Sample

Ideally, to accurately report exactly what happens in SLT with AWS in the United Kingdom, the entire population of SLTs who work with AWS in the United Kingdom would have taken part in this survey. This was not practical as a population list of all SLTs who work with AWS did not exist. Instead time and resources were used to update the only known database (the British Stammering Association database) which did have a list of SLTs working with AWS. Although there is no way of knowing how many SLTs were missed from this list, since the study has taken place no additional SLTs who work with AWS in the United Kingdom have been identified. In addition a snowballing sampling strategy was used in order to identify as many SLTs working with AWS as possible. Each SLT contacted was asked if they knew of anyone else in their geographical area that should be included. All possible contacts were followed up and no names that emerged were omitted.

No sample size calculations were performed and the sample was not a random sample. The reasons for these decisions are as follows. Firstly, sample size calculations are based on the magnitude of the expected effect size (Field, 2005). As this was exploratory research, there was no knowledge as to what the expected effect size for the variables would be. Secondly, although a great deal of work was done to create a list of all SLTs working with adults who stutter in the United Kingdom, it was unclear how many of those contacted would meet all the criteria of the study (working with any AWS in the past two years). It was likely that the potential number of those who were eligible to participate in the study would be small. As the number of participants necessary for the minimum sample size could not be calculated, randomly sampling the small number of possible participants may have resulted in a sample that was too small to allow the outcome of any statistical test to be confidently accepted. This was proven to be the correct choice when the surveys were returned. Despite the list being updated, 65 (19.01%) of the

sample responded indicating they did not meet the criteria for the study (for example some indicated that they had only seen children who stuttered in the past two years).

A high response rate is important because it reduces the risk of non response bias and increases the relevance of the findings (Carr, 2003; McColl, et al., 2001a). Examination of survey results where response rates of 26%, 35% and 38.2% were published (Hayhow, et al., 2002; Kalinowski, Saltuklaroglu, Dayalu, & Guntupalli, 2005; Landers, et al., 2005) indicates that the response rate of 77.49% to this survey is very good. Particular strategies, such as addressing surveys to individuals, signing each letter by hand and offering incentives took place to achieve that response rate. It was of interest to note that 257 (81.33%) of the SLTs who were approached directly responded, while only 8 (30.77%) of those recruited via managers responded. Although not having a 100% response rate indicates that some bias is likely to exist in the reported results, it is argued that a sufficient response was achieved to gain an understanding of the field and issues facing clinicians working with this client group, and that there was a sufficient response to show between group differences in the sample.

Established Survey Instrument

This research is exploratory and the research questions resulted from identified gaps in the current published literature. As a result, no instrument either existed or could be easily modified from another field to address these research questions. This places some limitations on the conclusions that can be drawn from these results, but rigorous strategies were used to achieve validity and reliability as described in the method chapter. Test–retest reliability could not be performed for two reasons. Firstly the questionnaire is very long, and it would be asking a great deal of the participants to complete questionnaire twice. Secondly the survey had an educational effect. This was illustrated by comments from some of the respondents. An educational effect would most likely bring about a change in practice and answers to a subsequent round of the survey would be likely to be different to the original replies.

In addition, substantial positive feedback from both the participants and those who were asked to review the instrument prior to its distribution indicated face validity. There was very little missing data indicating a well designed instrument (Oppenheim, 1992). Careful planning ensured the analysis and interpretation of the data was thorough. An audit of all the data inputted took place. Statistical tests such as calculating Cronbach's Alpha and Kappa coefficients checked that the results were consistent and reliable. Interpretation of the data was validated by a panel of experts via a modified Delphi technique.

Although the majority of the questions developed for the survey were well designed and resulted in reliable and valid results, a few questions such as D13 which questioned the motivation for working on psychosocial issues were insufficiently robust to confidently analyse and draw clear conclusions. Discussion and evaluations of individual questions within the survey and methods of analysis have also been addressed within each chapter where appropriate. These questions have highlighted areas which require further clarification, or areas which, in a newly developed survey instrument, could be considered ambiguous. The results from these sections need to be interpreted cautiously and in many cases point to the need for further research. These issues will be developed further in the recommendations.

Self-report

The best way to strengthen an evidence base and establish whether current practice amongst speech and language therapists for addressing psychosocial issues with adults who stutter is successful and effective would be to examine outcomes from clinical trials. Self-report information is not objective; it is the subjective opinion of those who are reporting. An objective outcome based study of therapy success such as a clinical trial would have provided a stronger evidence base than a self-report study, but this was impossible as the pre-existing steps needed for such a study had not taken place. Therefore a self-report survey was the most appropriate method to answer the research questions at the time, and will be a stepping stone to more robust research studies.

Development of a Protocol for a Clinical Trial

As discussed in the literature review, many steps are needed to design and evaluate a complex intervention (Campbell, et al., 2000; Campbell, et al., 2007). At the start of this study it was anticipated that from the results of the survey there may be a way of determining best practice. This study design enabled the practice of specialist SLTs to be described and defined but it was not clear that specialists were necessarily delivering best practice, and the practice of experts could not be statistically differentiated from the other groups of therapists. Whether the approach of specialists is safe and effective can only be determined by a clinical trial, and as will be discussed further, it is unlikely that their approach is the best available. Although it was hoped that ascertaining a description of the practice of therapists delivering the “best” practice would enable the development of a protocol for a clinical trial, there were practical issues that made this task unrealistic. The two main issues preventing a protocol from being developed emerged. These were the inability to establish expert practice and the very detailed process required to develop a protocol entailing processes such as treatment integrity and treatment differentiation (Bond, Evans, Salyers, Williams, & Kim, 2000). Further methods such as manual writing, evaluating mechanisms of action and effective components of treatment would be required to develop a reliable treatment protocol (Bond, et al., 2000; Carroll & Nuro, 2002) and it was impossible to fit this additional work into the scope of this project. This study has produced a framework which with further work could be developed into a treatment protocol.

Delphi Technique

There is no clear consensus in the literature on how to carry out a modified Delphi technique (Bowles, 1999; Hsu & Sandford, 2007; Keeney, et al., 2001; McKenna, 1994; Rowe & Wright, 1999). Its purpose is to obtain anonymous expert consensus without political pressure to conform. However there is no precise established agreed method to collate or analyse the resulting data. Some texts indicate that categorical analysis of the open ended questions should take place resulting in frequency counts (which was how the consensus in this thesis was in part gained) (McKenna, 1994). Others require

that Likert type scales be presented in the second and third rounds and then variety of techniques of interpreting the medians or means of the Likert type scales are reported as consensus (Hsu & Sandford, 2007; Rowe & Wright, 1999). Others report on the success of post group consensus (once consensus is reached through subsequent rounds, the final consensus is reported and the group asked whether they are satisfied or dissatisfied with the consensus) (Rowe & Wright, 1999). This was also a method used in this study. The reported percentage agreement needed for consensus ranged from 51% (McKenna, 1994) to 80% (Hsu & Sandford, 2007), but in some cases consensus was not measured by percentage at all (Keeney, et al., 2001). There is an argument that consensus determined by the use of percentage measures is inadequate and that a more reliable alternative is to measure the stability of subjects' responses in successive iterations (Hsu & Sandford, 2007). There is little guidance in how to manage the data collected and generated from each round of a modified Delphi technique. A number of methods can be used to gain consensus and this calls into question the method's reliability and validity (Keeney, et al., 2001). The existence of consensus from a Delphi process does not indicate that a correct answer has been found. It is not a replacement for rigorous empirical studies. It is a technique that has many criticisms levelled against it (Bowles, 1999; Keeney, et al., 2001) but in this instance it is a useful, inexpensive consensus technique which provides for a more robust interpretation of the data than would result if the principal researcher alone attempted to interpret the meaning of the data.

As described previously the selection of "experts" to take part in a Delphi technique has been widely debated as a potential methodological flaw (Bowles, 1999; Kenealy, et al., 2004; McKenna, 1994). In this study the experts were chosen due to their fields of expertise. Experts were identified in two ways. Firstly the author was aware of their expertise through personal contact, or secondly, as explained in chapter 5, they were chosen as the descriptive statistics they reported in the survey indicated they were likely to be experts in the field due to their experience, interest and training. They were also selected on the grounds of their accessibility (through email addresses). Although they were chosen to take part in the modified Delphi technique, the practice of the expert clinicians identified from the survey was not significantly different in statistical terms from the entire group of SLTs or from those

identified as specialists. The RCSLT procured experts for their clinical guidelines by requesting nominations of experts from clinical advisors, special interest groups and institutes of higher education. Those nominated were asked to submit their curriculum vitae and experts were chosen from this process (Taylor-Goh, 2005). Many of the nine experts named in the clinical guidelines took part in this survey. However, when compared with the database of possible “experts” identified from this study, not all of the RCSLT expert clinicians met the criteria for experts identified in this study for the modified Delphi Technique exercise. This confirms that establishing who qualifies as an expert poses methodological difficulties. It could be argued that the Delphi process could have been strengthened by the choice of different expert clinicians and researchers who were not participants in this project and who might have interpreted the data in a less biased, more objective way. This was not initially considered and perhaps should have been. It still would have been difficult to establish who would have qualified as an expert in this field, and perhaps those who had published in peer reviewed dysfluency journals should have been considered, but the author is not aware of any recent publications from researchers in these areas who have experience of the British or NHS context who weren’t already invited to be part of this study. In addition, since the survey was sent to as many SLTs who worked with AWS in Britain as possible, it was unlikely that expert SLTs who had not been invited to take part in this study in Britain could be found to interpret this data. Perhaps international SLTs and researchers may have provided a different interpretation of the data, but it is possible that they would not have understood the context in which SLTs in Britain work and they may have drawn different conclusions that may not necessarily be more valid.

Exploratory Nature of the Study

This study has explored a considerable amount of new territory. While this makes it no less valuable than other studies, exploratory studies of this nature are prone to methodological weaknesses. Firstly the methods used to investigate the research questions have not previously been tested or critically analysed by others; secondly, the methods may be flawed or there may be better, more efficient ways of gaining the same information that have not yet been considered. In addition if the methods have not been trialled before,

there is likely to be little to compare and contrast the results against and reliability and validity of the methods may be poor. An example of possible methodological flaws is shown in chapter 7. Specific hypotheses were tested by contrasting the characteristics determined in section A (described in chapter 4) against the components determined by factor analysis (described in chapter 5). Multiple comparisons of the data were made, raising the likelihood of an increased error rate. However, because the analysis of the data was hypothesis driven rather than an exploration of the data to find differences (data mining), it was considered that Bonferroni corrections were not necessary and the data analysis still valid. The conclusions from this data need to be viewed with the exploratory nature of the study in mind, but this study has led to new insights and raised questions and issues not previously considered. This will allow for subsequent studies to investigate these issues with a greater understanding of the topic and with more robust techniques so that what has been found in this study can be checked and verified.

Value of the Study

This study, when carefully analysed and reported, provides valuable knowledge that has not been reported in the research literature previously. It gives concrete information about the difference in practice between specialist and generalists. The description of specialist practice will have many possible uses, and with additional analysis and development could form the basis for a protocol for a clinical trial. A clinical trial using many of the therapy goals and therapeutic techniques described in this study such as cognitive restructuring, graded exposure, and behavioural experiments has recently been published (Menzies, et al., 2008) adding weight to the evidence that this study investigates a currently relevant topic.

The results of this study have been presented at four conferences and received much positive feedback. The results of part of the study have been published in the International Journal of Speech Language Pathology (Davidson Thompson, et al., 2009) and have been cited by two articles (Body, 2010; Menzies, et al., 2009). The results of this study have also been used in a synthesis for a Resource Manual for Commissioning and Planning Services

for Speech Language and Communication Needs (Enderby, et al., 2009). Other positive feedback was received from the participants themselves.

9.4 Linking Research to Practice

This section examines some of the results of the survey and links the practice reported to the relevant published research.

9.4.1 The Therapy Pathway: What is Current SLT Practice in Britain?

The survey asked questions in sections relating to the cyclical therapy pathway of assessment, report, targeting goal, choice of techniques and evaluation and discharge (Bray, et al., 2006; Bunning, 2004; Royal College of Speech and Language Therapists, 2006; Taylor-Goh, 2005). Although the predominant focus of the survey was on psychosocial issues, some questions were asked which gave information about speech restructuring and speech modification. These results raised some interesting issues which need further investigation.

When examining all the participants as a cohort the following results were of particular interest.

Assessment and Treatment of Adults who Stutter

The results supported or partially supported the following hypotheses:

- SLTs assess areas of practice such as type of stuttering, family history and speech behaviours as recommended by the RCSLT clinical guidelines.
- SLTs assess the psycho-social aspects of living with a stutter.
- SLTs use formal published tests to assess AWS.
- SLTs target or treat aspects of social anxiety in therapy with AWS even if they did not call it social anxiety.
- SLTs work on psycho-social issues in therapy.

It was strongly agreed by respondents to the survey that type of stuttering, speech behaviours, avoidance behaviours, family history, life choices as a result of stuttering and previous therapy were key assessment factors and should always be assessed through a case history. Assessment of cognitive and emotional issues related to stuttering took place by asking about the client's emotional response to their speech, their thought processes about stuttering, their coping strategies, their readiness to change and their desired outcomes of therapy. Almost all therapists reported assessing these areas most of the time. This is consistent with the literature discussing the International Classification of Functioning, Disability and Health (World Health Organisation, 2002) and the need for assessing and treating the multiple aspects of disability and health related experience (Yaruss & Quesal, 2004; Yaruss & Quesal, 2006) and the RCSLT clinical guidelines (Taylor-Goh, 2005) and shows that SLTs do assess the psycho-social aspects of living with a stutter.

Only 66.32% of the sample of SLTs assessed often or usually through formal published tests. This is unexpected, as numerous tests exist to formally assess AWS. Formal published tests are used to establish a baseline measure at the start of therapy, against which outcomes at the end of therapy against which outcomes can be measured. Percentage syllable stuttered is the standard baseline measure for assessing stuttering severity (Bothe, et al., 2006; Riley, 1972). Within the psychosocial aspects of stuttering, formal published tests are also used help establish which aspects of the disorder might be having the greatest impact on the AWS (Wright & Ayre, 1998; Wright & Ayre, 1999; Yaruss, 2001; Yaruss & Quesal, 2006), and to highlight which areas should be the focus for therapy. If formal tests are not being used to assess clients, it will be difficult to establish priorities for therapeutic intervention, and any change as a result of the treatment. Without formal methods of assessing, it is impossible to measure outcomes which are vital in proving whether therapy is effective. If clinicians can't prove that their therapy is effective, they may have no evidence to justify their service (Yaruss, 2001).

9.4.2 Addressing Dysfluency: Speech Modification and Restructuring

Only 19.4% of the participants reported that they often or usually assess quantifiable measures such as percentage syllables stuttered. This is despite percentage syllables stuttered (%SS) making up part of the assessment of certain prolonged speech programs (O'Brian, et al., 2003) and measures of frequency of stuttering and rate of speech being considered minimum measurement requirements in the assessment of PWS (Andrews & Ingham, 1972). Therapists did indicate that they assessed stuttering severity and stuttering frequency. Eighty-two percent of the sample reported that they assessed through informal self rating methods (for example on a scale of 1-10 how is your speech today) and 41% of the sample indicated that they assessed severity and frequency by labelling into categories such as mild, moderate and severe. This is contrary to the recommendations of most prolonged speech treatment programs, and it can be argued that without measuring percentage syllable stuttered it is impossible to clearly measure any speech related outcome as a result of treatment. Labelling into categories or using informal self-rating measures are not objective measures of stuttering severity, and this leads to the question why are quantifiable measures not being assessed? It is possible that a large proportion of this sample of SLTs are unskilled in measuring %SS or do not find the technique useful. Perhaps these SLTs are not focusing on achieving fluency, as it is apparent from other results in the survey that the majority of therapists do not use prolonged speech programs (only 47%) despite this treatment approach having the strongest evidence base (Bothe, et al., 2006). Even though 47% indicated they use prolonged speech programs, only 44.5% reported using quantifiable measures sometimes and often and usually. In fact when examined further only 51% of those who indicate they use speak more fluently programs indicated that they measure %SS. Ninety four percent of these SLTs indicated that they use informal rating scales. This implies that at the time of this survey that clinicians who were carrying out speak more fluently programs were not using accepted conventions bringing into question the efficacy of their treatment. More recently though, a severity rating scale has been substituted to replace instrumentation for stutter-count measures in the Camperdown program (O' Brian, Carey, Onslow, Packman, & Cream, 2009) so perhaps these clinicians recognised that %SS was not essential for the treatment program or did not have the instrumentation available to make these

measures. The program developers may have recognised that in some situations %SS were difficult to measure or were not essential for the success of the program.

Block modification programs are used by 70% of this sample. It is not usual practice within block modification therapy to measure percentage syllable stuttered, rather the assessment of stuttering severity of the client is usually done through video or audio work and a period of time is spent on identifying the stuttering behaviours (Breitenfeldt & Lorenz, 1990). This raises a vital question: Why are SLTs within Britain not using the approach which has the strongest evidence base?

Van Riper therapy or block modification therapy arises out of a particular philosophical viewpoint where instead of trying to speak more fluently or without a stutter, the PWS tries to “stutter more fluently”. This therapy focuses on reducing the fears and anxieties around stuttering and tries to modify the behaviours of stuttering, to make them less physically stressful (Van Riper, 1971; Van Riper, 1973). It does not focus on successfully controlling the speech or eliminating dysfluencies like prolonged speech programs do, but rather concentrates on accepting oneself as a person who stutters and tries to reduce the negative consequences of stuttering such as avoidance reduction and managing stuttering (Blomgren, et al., 2005; Breitenfeldt & Lorenz, 1990; Langevin, et al., 2006; Plexico, et al., 2005; Van Riper, 1971; Van Riper, 1973). The heart of its ethos is that fluency is not the aim of therapy. In the recent systematic review of stuttering treatment research, block modification therapy was not shown to be an approach which reduced stuttering post treatment to 5% or less of percentage of syllables stuttered, which was the criteria considered acceptable for successful therapy (Bothe, et al., 2006). As reducing stuttering was the outcome criteria chosen to represent successful treatment, block modification was not going to be supported as an evidenced based therapy in this review because this is not the focus of this approach.

It could be argued that therapy which does not firstly reduce or eliminate dysfluency is pointless, as surely when questioned PWS are likely to indicate that if they had the choice they would choose fluency over dysfluency. So why is block modification therapy the predominant choice amongst this group of SLTs? As discussed in the literature, there is a high incidence of relapse after

treatment is completed. A significant proportion of those treated, in some cases more than two thirds, have been reported to relapse post intervention (Block, et al., 2006; Craig, 1998; Huinck, et al., 2006; Iverach, et al., 2009a; Saltuklaroglu, et al., 2004) and relapse is associated with greater negative emotional reactions (Huinck, et al., 2006). It has been argued that using controlled speech patterns throughout the speech act requires great attention and effort, and prolonged speech programs do not change the nature of the stutter (Dayalu & Kalinowski, 2001) and that speech restructuring techniques achieve “pseudofluency” involving a loss of spontaneity and an increased level of control which is unsustainable particularly when there is an increased cognitive load (Saltuklaroglu & Kalinowski, 2002). It is possible that SLTs in Britain choose a therapy approach which encourages an acceptance of stuttering so that the impact of relapse is not as distressing to their clients, and their clients are not under pressure to use speech techniques to attain “pseudofluency”. By creating an acceptance of stuttering rather than motivating AWS to change their speech the PWS is less likely to fail.

There are concerns if this is the case. As said before, it is likely that if asked most PWS would like to attempt to gain fluency, and the evidence base does support that it is possible to gain fluency through speech restructuring programs. If speech restructuring programs are not being offered by this sample of SLTs, how can AWS attempt to become fluent? There is definitely a need for intensive speech restructuring programs. The McGuire Program is an independent organisation which offers intensive courses based around a speech restructuring technique called intercostal breathing. It is usually a residential course, and the cost for the course without accommodation and other expenses taken into account is £700 in the United Kingdom. In 2009, 191 people in the United Kingdom attended their courses at this cost (The McGuire Program, 2010) indicating that AWS are prepared to pay for this service. This is an evidence based need that should be fulfilled by the NHS rather than an independent company.

It is possible that SLTs do not have faith in their skills to restructure speech due to inadequate training. Training will be discussed in greater detail later in this chapter. It is also possible that they are unable to deliver evidence based therapy due to poor resourcing. Ten percent of this sample of SLTs indicated that they were only able to offer a very limited number of sessions (for

example 4 to 6 one hour sessions) and only 11% indicated that they were able to offer intensive therapy which is one of the ways that prolonged therapy treatment programs are carried out (Block, et al., 2005; O' Brian, et al., 2009; O'Brian, et al., 2003). It is feasible that this sample of SLTs choose block modification therapy as their predominant approach because it fits with their beliefs about managing dysfluency in adults. Eighty seven percent of this sample of SLTs indicated that they work on acceptance of stuttering in therapy implying they have strong beliefs about the need to accept and live with dysfluency. It is also reasonable that these SLTs choose block modification therapy as it may be easier to carry out in individual or group therapy that is not intense and that fits better with a NHS model of blocks of weekly hour long sessions. It may be that they choose block modification therapy because that is all they are taught. When asked about the post qualification training that they had received, of the nine categories that emerged from content analysis, block modification was reported but prolonged speech programs or speak more fluently programs were not. In pre-registration SLT courses the curriculum guidelines state that current approaches to assessment, differential diagnosis and intervention in dysfluency and the current evidence base need to be taught (Royal College of Speech and Language Therapists, 2010).

It is likely that this sample of SLTs may be doing their clients a disservice. This may be as a result of deliberate choices, practical considerations or a lack of awareness of which approach has the best evidence base. Although there are many arguments to support the use of a speech modification approach, a prolonged speech approach should also be offered as a choice to clients, and it is unclear from the responses whether a conscious decision has been made not to offer speech restructuring or whether as a result of poor resourcing and poor training that this is how dysfluency services have developed. This area needs further investigation.

9.4.3 Addressing Dysfluency: Psychosocial Issues

SLTs Report of Client Report

The results of the study supported the hypotheses:

- AWS will have reported features of social anxiety and negative adverse effects of stuttering to their SLTs.
- SLTs would recognise the features of social anxiety in their AWS, even if they did not call it social anxiety.

Life choices as a result of stuttering have been well documented in the literature in recent times (Crichton Smith, 2002; Klompas & Ross, 2004) and the results show that SLTs are discussing these issues with their clients and do recognise the significance of this area. The three components which resulted from analysis and interpretation of client report as reported by SLTs were that clients often report negative cognitive beliefs and biases related to stuttering, usually report the negative social impact of stuttering on daily life, and sometimes report negative emotional psychological responses to stuttering.

The features of social anxiety include a fear of scrutiny by other people leading to avoidance of social situations, low self-esteem and fear of negative evaluation and anxiety. The avoidance, anxious anticipation, or distress in the feared social situation interferes significantly with the person's normal routine, occupational or academic functioning, or social activities or relationships, or there is marked distress about having the phobia (American Psychiatric Association, 2003; Craig & Tran, 2006; Crozier & Alden, 2001; World Health Organisation, 2007). These features are consistent with what this group of SLTs said that their clients report to them. Their clients often report low self-esteem, and usually report avoidance of words and situations, anxiety and restriction in their lives, and an impact on their working lives.

There are some features which SLTs report which do not fit precisely with the features of social anxiety. SLTs indicate that their clients report that many people react negatively to them rather than simply a fear of negative evaluation and clients do not report a distress about the phobia, but do report they often have experiences related to their speech which upset them. Stein et al. (1996) found that 44% of their cohort who were seeking therapy for stuttering would fulfil the diagnosis of social phobia if the DSMIV criteria were modified to state that the anxiety experienced was excessive compared to the severity of stuttering (Stein, et al., 1996). It could be argued that the anxiety observed should be considered independently of the severity of the stutter,

rather the judgement of excessive anxiety levels might be based on the negative encounters the AWS had experienced over their lifetime. Whether the anxiety response experienced is consistent with the level of threat posed to the person who stutters is debatable, but on the basis of participant responses, reactions of AWS are in response to negative experiences and have a justifiable cause rather than their fear being excessive or unreasonable, which is one of the diagnostic criteria of social anxiety (American Psychiatric Association, 2003).

This sample of speech and language therapists indicated that their clients report many negative adverse effects of living with a stutter and many features of social anxiety, this is consistent with recent research (Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004; Mahr & Torosian, 1999; Stein, et al., 1996) and with recent studies reporting increased mental health difficulties (Iverach, et al., 2009a) and a reduced quality of life in the vitality, social functioning, emotional functioning and mental health status domains (Craig, et al., 2009) for people who stutter.

SLTs are asking about, assessing and recognising the negative emotional and psychological impact of living with a stutter although the positive correlation between reporting psycho-social issues and assessing psycho-social issues is weak. It is good though that when clients report negative emotional psychological responses to SLTs there is a strong correlation with those SLTs targeting psychosocial issues. This means that when clients report more difficult psychosocial issues, SLTs target psychosocial issues appropriately. In light of all the research about the negative adverse effects of living with a stutter and the possible mental health impact, it would be better if SLTs were assessing this area in greater depth, rather than waiting for clients to report the issues to them.

Therapy Goals

Factor analysis of the data for this section resulted in two components. They indicated that most SLTs often or usually employed therapy goals targeting avoidance and acceptance issues related to stuttering and therapy goals targeting cognitions and emotions related to stuttering most (85% to 88%) of

the time. Of this sample of SLTs, 74.8% indicated that they usually or often worked on psychosocial issues.

CBT is regarded as an appropriate way of treating social anxiety (Butler, et al., 2006; Gould, et al., 1997; Taylor, 1996). CBT has two main components: working with cognitions or thoughts and working on specific behaviours such as avoidance, through exposure and behavioural experiments (Beck, 1995; Clark & McManus, 2002; Wells, 1997). By working on avoidance, acceptance, cognitions and emotions, this sample of SLTs are treating facets of social anxiety using some of the methods of CBT. This is in line with a recent clinical trial, previously mentioned using CBT in the treatment of clients with chronic stuttering (Menzies, et al., 1999).

These strategies are similar to the accounts of coping responses of AWS who reported that they were managing their stuttering (Plexico, Manning, & Levitt, 2009a; Plexico, et al., 2009b) which found more functional coping responses occur when a AWS changes from using emotional avoidant coping responses to cognitive-based approach-focused strategies.

It is important that SLTs help AWS cope with avoidance. Avoidance is a biological reaction to help protect one from danger (Malim & Birch, 1998; McNaughton & Corr, 2004) and so in certain situations it is an appropriate response, but when avoidance is the predominant driving motivation it can cause limitation and restriction in the lives of those who stutter (Crichton Smith, 2002; Klompas & Ross, 2004; McManus, 2007). It is very important that avoidance and cognitions are targeted in therapy so that the lives of those who stutter and struggle with social anxiety are not restricted and so that AWS can live full lives in areas such as education and employment.

Therapeutic Techniques and Principles

The hypotheses for this section were:

- SLTs will be using cognitive therapy type techniques within their therapy sessions with AWS.
- SLTs will be using behavioural therapy type techniques within their therapy sessions with AWS.

From the results three components emerged. It seemed that three types of techniques were used in this sample of SLTs. They were cognitive techniques, behavioural techniques and reality testing techniques. Of this sample of SLTs 87% to 90% used cognitive and behavioural techniques often and usually. Reality testing techniques were used less frequently; 45% of the sample reported using these techniques sometimes.

Techniques such as cognitive restructuring, behavioural experiments and challenging and testing perspectives are being used in therapy in Britain, prior to clinical trial evidence being widely reported. Recent clinical trial studies have indicated that these techniques are effective in bringing about change in social anxiety of people who stutter (McColl, et al., 2001b; Menzies, et al., 2008). This group of SLTs have developed these techniques from other approaches and applied them appropriately to this client group.

These results showed that this sample of SLTs were strongly aware of the psychosocial issues related to stuttering, and discussed issues around limitation and restriction and the negative adverse effects of living with a stutter with their clients. This sample of SLTs were recognising and treating the facets of social anxiety via cognitive behaviour type techniques, in many cases with little training in this area. As this survey was developed in 2006 and distributed in 2007, prior to the publication of a clinical trial and a tutorial in using CBT with AWS, it shows that this group of therapists from the United Kingdom have been using innovative therapeutic techniques to meet the needs of their clients.

Evaluation of Therapy and Discharge Criteria

It was hypothesised that:

- Therapists will use a number of ways to evaluate practice.
- Some therapists may not be adequately evaluating practice.
- Some therapists will not be using established outcome measures to evaluate therapy.
- There will be variability between different SLTs on whether there is provision for the long term management of stuttering, and when a client is discharged.

- Some clinicians will discharge based on lack of resources, or department specific service limitations rather than clinical need even though this is not considered by the RCSLT to be acceptable.

There is a wide variation in practice in both the way therapists evaluate their practice and their discharge criteria. There is good practice in that many specialist SLTs are using standardised outcome measures, in addition to self report, and other novel methods to evaluate their practice. There are areas though, particularly among generalist clinicians, where therapists are not using outcome measures, or indicate that they are not evaluating their practice. There is great variation in practice around discharge criteria, and evidence emerged that some SLTs are not confident in working with this client group, or due to reasons around service provision do not provide an adequate service.

SLTs use a variety of outcome measures to evaluate their practice. The WASSP, which was first published in 1999, was the most popular method used by this group of therapists to evaluate the success of therapy. The OASES had not been formally published for use at the time that this survey was distributed. Although articles in journals had been written about it, it is perhaps surprising that clinicians were using this measure prior to its formal release. Despite the Locus of Control and S24 being used to evaluate outcomes in clinical trials, few of this sample of clinicians use these measures regularly in therapy. Many therapists seem to do what Guntupalli et al. (2006) recommend and use self report to assess success in therapy. This is consistent with other fields in SLT such as aphasia (Kagan, et al., 2008).

The study identified examples of practice which were in line with the published literature with regard to evaluation. The results indicate that many SLTs were carrying out the good practice recommended by Susca (2006) and Guntupalli et al. (2006) prior to these recommendations being published and consequently being adopted by the SLT clinical community. It suggests that perhaps other options used for evaluation by SLTs should be investigated further as there may be alternative ways to measure the success of therapy; for example the use of rating scales or empirical evidence (e.g. clients doing things that they would not do before, such as making phone calls).

Of great concern though were cases where evaluation practice was shown to fall short of the recommended standards. A significant proportion of SLTs do not use recognised outcome measures to evaluate the success of their therapy. This may be as a result of a lack of available outcome measures, but none of the therapists indicated that this was the reason. It appears more likely that there is a lack of training, knowledge and access to resources among some of the therapists, and that some basic competencies should be met before allowing SLTs to work with this client group.

Overall, the findings support the hypotheses. Therapists use a number of ways to evaluate practice. Some therapists are not evaluating their practice. Some therapists do not use established outcome measures to evaluate therapy. There is a wide variation in practice regarding evaluation of therapy; therapists who have training and a special interest in therapy evaluate their therapy differently to those who do not.

The adoption of discharge criteria also showed a wide variation in practice. Many respondents showed encouraging working practices with regard to discharge, offering a service that meets the long term needs of AWS and adopting the discharge criteria advocated by RCSLT (2006). The categories 'Open re-referral' (when the client leaves the service when they no longer need treatment, but returns to the service if they need input again) and 'long term review' (when the client is not discharged, but offered appointments at long intervals) both provide ways of meeting the RCSLT clinical guidelines of making provision for relapse and management of long term change. Only 17.3% of therapists indicated that they either offer long term review or open re-referral.

Some therapists are not offering the services that are recommended by the RCSLT guidelines. It seems that this may be due to reduced service provision due to a lack of resources or a lack of training. Discharging due to lack of service provision is a cause for concern and needs further investigation. This finding was also supported by a number of questionnaires which were not included in the main analysis because they did not meet the criteria for participation; some reported that their service did not offer therapy to adults who stutter, only assessment and advice. In some circumstances SLTs may not have protocols for the long term management of stuttering and some SLTs

would discharge clients based on departmental policy even though this was not considered to be an acceptable reason in the RCSLT guidelines on best practice and service provision.

The findings confirm the hypotheses about discharge. In summary, there is variation in practice around the criteria used for discharge. There is variability between different SLTs around provision for the long term management of stuttering. There appear to be excellent elements of practice occurring, particularly among specialist SLTs. However, this research has also shown that some clinicians do not appear to be adequately equipped to work with this client group in line with published guidelines. Service provision and resources also affect the type of therapy that clients receive.

9.5 Differences Between Groups of Therapists: Characteristics of Speech and Language Therapists who Work with AWS and Factors that Impact on Psychosocial Issues in Clinical Practice

Chapter 4 described the characteristics and biographical details of the sample of 191 participants who took part in this study. It described the participants' level of interest in stuttering, their training and experience and whether they were specialists or generalists. The results supported the hypotheses:

- There would be a wide range of SLTs working with AWS.
- SLTs who have a special interest in AWS will have more training and experience in working with this client group.

Chapter 7 established that these characteristics had an impact on the therapy decisions of different groups of therapists. The results in chapter 7 supported the hypotheses:

- SLTs with greater experience as a clinician and in working with AWS (determined by number of years qualified, number of years working with AWS, proportion of caseload and number of AWS seen) would be more likely to work on psycho-social issues related to stuttering than those with less experience.
- Those who had post qualification training would report different practice to those who had not had training. Those who had training would indicate a greater awareness of the facets of social anxiety.

- Those who had CBT training would manage cognitive issues in therapy differently than those who had not had this training.
- Those who had a special interest in stuttering would find out more about the condition and were more likely to offer therapy assessing psychosocial aspects of stuttering and targeting facets of social anxiety than those who had no interest.

There were a number of factors which when compared resulted in statistically significant differences in practice between groups of therapists. Post-qualification training and training in CBT, special interest in stuttering and experience in working with AWS all enhanced the practice of SLTs so that it was more in line with recommendations from the literature.

9.5.1 Experience and Level of Interest

The results indicated that there was a very wide range of SLTs working with AWS in Britain, the majority who work in the NHS. Different therapists deliver therapy in different formats. The sample included those qualified less than a year to those qualified for 53 years, SLTs who have seen as few as a single client to those who have seen as many as 179 clients over the past two years and those whose caseload of AWS is less than 3.5% to those whose caseload consists 100% of AWS. The majority of therapists (79% (151)) working with this client group have five or more years experience working as an SLT. A quarter of the sample of SLTs had more than 25 years experience. Most of this group of therapists is highly experienced in working with people with communication disorders.

Despite SLTs being highly experienced in working with clients with communication disorders, many SLTs in this area have relatively little experience in working with AWS. AWS make up less than ten percent of the caseload of half of the SLTs who responded to the survey. A quarter of the respondents have a caseload proportion of three and a half percent or less. There is a very wide range (1- 179) in the number of AWS seen by SLTs over a two year period. Half of the therapists had seen fewer than 9 cases in a two year period. There are a large number of SLTs who work with this client group who see very few AWS each year.

As reported in chapter 7, there are numerous differences in practice based on clinical experience. An increase in experience positively correlates with an increase in targeting avoidance, acceptance, cognitions and emotions and using a cognitive approach, all approaches advocated in the published literature (Craig, 2003; Edelman, 1992; Heimberg, et al., 1995; McColl, et al., 2001b; Menzies, et al., 2008; Menzies, et al., 2009; Plexico, et al., 2009a; Taylor-Goh, 2005). The results show that the determinant of experience which results in practice most in line with research recommendations is the proportion of caseload that are AWS. This indicates that the clinicians from this sample who spend more of their clinical time working with AWS develop greater skills at recognising and meeting the psychosocial needs of their clientele. Those with greater experience spend more time working on psychosocial issues related to stuttering than those with less experience. The results show that an increase in experience does correlate with an increase in targeting avoidance, acceptance, cognitions and emotions. An increase in experience in working with AWS correlates with an increased use of the cognitive approach as a therapeutic technique.

The participants themselves brought up problems that come from having little experience, particularly only seeing a few clients or seeing clients infrequently. They reported that having little experience results in therapy that is exploratory, lacking confidence in their clinical skills and an inability to develop their skills further. They also indicated that small caseloads mean that it is difficult to get funding for further postgraduate training.

This is consistent with the referral rate found by Enderby and John (1999) who reported that the number of AWS referred for speech and language therapy is small relative to the number of people referred with other speech disorders such as dysarthria. Seeing only a few AWS clients each year will have an impact on the proficiency and expertise of therapy offered to this client group.

Enderby and John also found evidence to indicate that SLTs with no interest in the disorder do not achieve success in therapy (Enderby & John, 1999). Although this survey could not ascertain success in therapy as it was not an outcome based clinical trial, it did find that those who had little interest in dysfluency were significantly less likely to use formal published tests to

assess, more likely to use relaxation techniques with their clients and were less likely to target goals and carry out techniques recommended in the literature (Blomgren, et al., 2005; Breitenfeldt & Lorenz, 1990; Craig, 2003; Craig & Tran, 2006; McColl, et al., 2001b; Menzies, et al., 2008; Menzies, et al., 2009; Taylor-Goh, 2005). Those who had a special interest in stuttering targeted avoidance and acceptance, and cognitions and emotions via cognitive and behavioural techniques more frequently in therapy than their peers who had some or no interest in stuttering.

If SLTs do not regularly see AWS or have no interest in working with AWS they are unlikely to invest in the time required to read journal articles and attend special interest groups to keep them up to date with the latest advances in the field. They are unlikely to request that their departments buy appropriate resources such as formal published tests (this was supported by the data). If they are unable to access additional training, they are unlikely to be informed on the latest understanding of the causes of dysfluency and may base their education of the clients about their stutter on outdated disproved theories, which may be detrimental to the client.

In the past, and particularly to the uninformed, stuttering has been associated with a psychological cause. It has been shown that when stuttering is perceived to have a psychological cause negative attitudes and a stigmatization of the PWS occurs (Boyle, et al., 2009). SLTs that have had little contact with AWS have been found to have negative attitudes towards PWS (Crichton-Smith, Wright, & Stackhouse, 2003). Negative attitudes towards AWS can result in negative and distressing experiences for the PWS (Corcoran & Stewart, 1998; Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004), and the implication from recent studies are that the negative experiences as a result of living with a stutter may result in a poorer quality of life and possibly mental health difficulties (Craig, 2003; Craig, et al., 2009; Iverach, et al., 2009a; Iverach, et al., 2009b; Iverach, et al., 2009c). As persistent developmental dysfluency is a lifelong condition, AWS may return to therapy at different points across their lifespan. A therapist who does not understand the field, is not well educated in the underlying causes and consequences of living with a stutter and who does not know what to do in therapy may, at best, be ineffectual or waste the therapist and clients time. At worst, an ill-informed SLT may do lasting psychological damage. An ill-informed therapist may disillusion the client about the usefulness, safety and

effectiveness of therapy preventing the client from accessing therapy that may be helpful or life changing both at that point in time and possibly in the future.

Inexperienced and uninterested therapists may lead to under resourced, unrecognised services which are less likely to have a well developed clinical pathway, or to be audited and evaluated regularly, resulting in services which do not meet the recommended clinical guidelines (Taylor-Goh, 2005) for this client group.

9.5.2 Training

Insufficient Undergraduate Training

As previously reported in chapter 4 and discussed above, 84.3% of the sample indicated that they did not feel that they had sufficient undergraduate training to tackle psychosocial issues with AWS. When the data was examined further to see whether it was those who had trained a long time ago who felt this, it was found that 80.6% of those who had qualified in the previous 5 years reported that they had insufficient undergraduate training to tackle psychosocial issues. This indicates that current undergraduate training is inadequate. Coupled with the comments from SLTs about how difficult it was to access postgraduate training when the AWS caseload is small, this is very concerning.

It is possible that any newly qualified SLT would feel the same about any communication disorder, but if that was the case it would be expected that the respondents may have commented in some way to support that view and they did not. The majority of those asked (75.6%) indicated that psychosocial issues in AWS should be covered in more detail in undergraduate training although some SLTs indicated that this was impractical. The RCSLT curriculum guidelines outline the areas which courses need to cover in the area of dysfluency (Royal College of Speech and Language Therapists, 2010) and in theory these cover all aspects of dysfluency and should be sufficient for young graduates to treat this client group, but it is possible that undergraduate training may be flawed in a number of ways. It may be that there is a proportionally large focus on disproven theories about stuttering that are taught for their historical value or that the need to teach about to the

multidimensional nature of stuttering leaves little time to explore treatment options. It is feasible that the caseload of AWS is considered relatively small in comparison to other disorders and, as a result, less time is given to this topic.

If so few SLTs are seeing AWS as regular clients, placements in this area must be difficult to find and it is likely that students have insufficient clinical placements in this area to practise their theoretical knowledge.

There are approximately 700 to 900 new SLT students across Great Britain each year (Mir, 2010). Most of these students will rely on NHS clinical placements to get experience in working with AWS. If half of the 191 respondents had seen less than 9 AWS in a two year period and there are only 54 SLTs working in environments which regularly saw AWS, it is extremely unlikely that student clinicians will be able to access adequate clinical placements in this area. In addition, if this sample of SLTs is not offering the best evidence based treatment to their clients, those clinical placements will not be meeting the needs of future SLTs.

A cursory glance at the websites of the 18 universities and colleges in the UK offering recognised speech and language therapy courses indicates that only four of these educational establishments have a university or college based clinic offering SLT services. None of these advertise any courses for AWS although two highlight that they cater for children who stutter. All other courses rely on external placements for the students to obtain clinical experience. In other countries such as South Africa, the USA and Australia university clinics run intensive courses for PWS as part of their student training. This allows students to put their theoretical knowledge into practice and gain skills and confidence as undergraduates. Perhaps more educational establishments in Britain should consider running intensive courses for AWS as part of their clinical placements? University stuttering clinics would also address some additional issues that are difficult to deal with within the NHS. They would not face the boundary issues imposed by different NHS services which mean that NHS clinics can only see AWS from within their catchment areas, which in part causes the difficulties about the number of clients seen in individual services. University clinics could offer intensive block treatment which NHS therapists find difficult to deliver. Universities could work in conjunction with their surrounding NHS trusts to recruit knowledgeable therapists so that the needs

of their clients and those of student clinicians are met. This is another area which needs further investigation.

Post-qualification Training

Those who had post-qualification training assessed cognitive and emotional issues more frequently, and targeted the facets of social anxiety more often than those who did not have this training. They were more likely to assess through formal published tests and target psychosocial issues. Those who had CBT training assessed cognitive and emotional issues more frequently, asked their clients about their beliefs and biases and negative emotional and psychological responses to their stuttering more frequently, targeted cognitions and emotions more often and used cognitive therapeutic techniques more of the time than their colleagues who had not had this training. The evidence has clearly shown that post qualification training in dysfluency and in cognitive behaviour therapy makes a difference to the practice of this group of SLTs.

Half (50.8%) of the sample reported they had undergone some type of CBT training. Recently CBT training has been strongly advocated as the most effective approach for working with psychosocial aspects with AWS (Menzies, et al., 2008; Menzies, et al., 2009; St Clare, et al., 2009). Seventy-seven percent of the specialist SLTs asked had undertaken CBT training. The distribution of this survey was prior to the publication of the research supporting this approach showing that in clinical practice, specialists have been ahead of the research.

Although 65% of this sample of SLTs thought that more undergraduate training was necessary, the others argued that post graduate training may be more appropriate. Post graduate training is necessary to acquire specialist skills and to keep up to date with current advances in the field, but can be very expensive and difficult to access in terms of time, travel and funding.

In addition, post graduate training, unlike pre-registration training has no prescribed curriculum or good practice guidelines governing it (Royal College of Speech and Language Therapists, 2010). It means that anyone can provide

training in this area without any evidence base, and it seems that SLTs may not be applying critical analysis to the training they receive, relying instead on the popularity of the courses. It seems that this group of therapists may be inclined to follow the ethos of an establishment rather than search for evidenced based training.

As discussed earlier, 70% of this sample of British SLTs indicated that they use a stuttering modification approach, while only 47.4% indicated that they used a fluency shaping approach which has a considerable evidence base to support a reduction in stuttered speech, while stuttering modification approaches have no evidence base to support a reduction in stuttering; rather the evidence shows no reduction in stuttered speech. It is theorised that this may in part be the result of the post-qualification training that this sample of SLTs may have received. In the open question in section A, respondents were asked whether they had any post-qualification training and if so what that training was. Although the question asked what type of post-qualification training the participant had received, many respondents reported where they had received training. Forty percent of those who had post qualification training wrote that they had attended training at the City Lit. As this was an open question and not a suggested category in a closed question this figure might be under represented; it is possible that more of the sample had attended training here, but did not report it. (Forty three percent indicated they had block modification training). The City Lit was the most frequently mentioned place of training. On its website, the City Lit says it is a “UK national and international centre of excellence” and offers “professional training courses for qualified speech and language therapists”. The course outlines describe four training courses for speech and language therapists. Two of these courses address speech modification. These courses teach block modification and vocal fold approximation (a fluency shaping technique) (City Literary Institute, 2010). City Lit does not teach the prolonged speech approach which has the strongest evidence base for speech modification (Bothe, et al., 2006). It is possible that the training of the City Lit is influencing the practice of SLT with AWS, in this case against the strongest evidence base. Those who received training at the City Lit reported using the stutter more frequently (or block modification) approach (Pearson Chi-Square= 3.954, df= 1, p=.047). One respondent commented, “Our policy is to assess and advise individually but offer signposts to intensive courses for full back up and

help. Sadly only City Lit in London seems to do such recognised evidence based courses so most cannot access these” (790). This comment seems to imply that this participant thinks that the City Lit courses are the most evidence based within the United Kingdom.

Regardless of when this training is received, it is acknowledged that the current level of undergraduate training is insufficient to work competently with this client group and additional training is required.

In summary, working with AWS does not seem to follow many of the same intuitive patterns as might be found in other communication disorders. SLTs benefit from specific training in working with this client group, and many of this sample of SLTs are not aware of the best evidence base for speech modification and indicate insufficient training at an undergraduate level.

9.5.3 Service Delivery

From recent published literature and the results of this survey it seems clear that psychosocial issues, particularly social anxiety, associated with living with a stutter should be treated with cognitive behaviour therapy. This survey created an awareness of many issues around the practicalities in providing this service to AWS.

Client Numbers

Although some SLTs reported seeing large numbers of AWS, half of the therapists in this sample had seen fewer than 9 cases in a two year period. This is likely to have an impact on therapy provision. It is understood that increased experience in working with a client group brings proficiency and expertise in working in that area (Royal College of Speech and Language Therapists, 1996). As discussed before some of the SLTs indicated through comments that seeing such a small number of clients had an impact on their practice.

It is impossible to determine whether referral levels are so small because there are very few AWS who seek therapy, or because referrers and AWS do not know of the existence of a service, or feel that the service is ineffective. With such small caseloads it is difficult to build a reputation and a service that is effective. It is also difficult to develop skills and confidence in working with this client group, or to be able to recruit sufficient numbers to run intensive group courses.

Therapy Environment

The strongest evidence base for effective speech modification therapy is for intensive group therapy (Bothe, et al., 2006; O'Brian, et al., 2003). Only 11.5% of this sample of SLTs offered intensive therapy, and only 41.9% offered group therapy. It is likely that the therapy service delivery models supported by the NHS do not encourage intensive courses. This also means that students are unlikely to be able to access clinical placements where evidence based intensive group therapy takes place. However, there is a need for these courses, as clients seek out these and attend courses when organisations such as the McGuire program run them.

Lack of Resources

This study did not ask SLTs whether they were unable to deliver therapy due to a lack of resources, but the question on discharge criteria indicated that some SLTs would discharge clients based on departmental policy even though this was not considered by an acceptable reason in the RCSLT guidelines on best practice and service provision. This appeared to be resource-driven rather than evidence-driven. Other surveys were returned by participants which did not meet the inclusion criteria of this study because these SLTs were not seeing AWS. These were not analysed but indicated that in some areas a service to AWS was not provided due to a lack of resources.

The nature of the National Health Service means that its resources are impacted upon by the political climate. Speech and Language Therapy Departments have to allocate and justify the resources they have to

commissioning bodies. Services which are predominantly uni-disciplinary in nature, such as stuttering, and whose clients are not very vocal due to their disorder are likely to miss out. This is particularly true if they do not have the outcomes to justify their services, or if they only have small client groups and are not engaging with the best evidence based practice. It seems that therapy provision for AWS is a “postcode lottery” and with the government’s new ambition for services to be commissioned through local general practitioner consortia (Department of Health, 2010), this situation is likely to worsen.

9.5.4 Differences between Generalists and Specialists

The two factors that resulted in the greatest number of differences in components that were statistically significant were whether the SLT was a specialist or whether the SLT had CBT training. A specialist was defined as a clinician who considered herself to be highly specialist in working with AWS, who had post qualification training and who reported having a special interest in dysfluency. There were very large effect size differences in experience between specialists and generalists. Specialists had significantly more experience than generalists.

Recognition of Negative Emotional and Psychological Issues

Specialist SLTs indicate that their clients report more negative cognitive and emotional issues to them than their generalist colleagues. It is possible that the specialist SLTs are referred more complex cases than generalists SLTs, but as 84.1% (159) of the sample indicated they did not refer on to specialists this is improbable. A more likely explanation is that specialist SLTs are more aware of the negative impact of living with a stutter and are liable to ask more probing questions of their clients, revealing the truer underlying experiences of living with stuttering. Specialist SLTs recognise the facets of social anxiety more frequently than their generalist counterparts.

Targeting Avoidance, Acceptance, Cognitions and Emotions

Specialist SLTs treat the psychosocial aspects of living with a stutter more frequently than their generalist counterparts. There was a large effect size difference between specialists and generalists for targeting acceptance and avoidance, and a medium effect size difference for targeting cognitions and emotions. The practice of specialists is far more consistent than that of generalists which is much more variable. This was confirmed by Levene's Equality of Variance tests which showed that the difference in variability of the two groups is statistically significant. There is also a large effect size difference in reported confidence in working with psychosocial issues. Specialists report being more confident in working with psychosocial issues than their generalist colleagues.

Using Cognitive, Behavioural and Reality Testing Techniques

Specialist SLTs use the techniques and principles of cognitive behaviour therapy more frequently than their generalist counterparts. There are significant differences between specialists and generalists in all three therapeutic technique components. Specialists use cognitive techniques, behavioural techniques and reality testing techniques more frequently than their generalist counterparts.

Relaxation Techniques

Specialists use relaxation techniques in their therapy with AWS less frequently than generalists. Relaxation and distraction techniques are behavioural strategies that are unlikely to change beliefs (Beck, 1976). Relaxation for social anxiety disorder is typically not effective unless it is applied, combining relaxation and exposure to help individuals cope in anxiety provoking situations (Heimberg, 2002). The use of relaxation techniques by generalists is more likely to be a result of not knowing what to do in therapy than a carefully chosen technique combined with exposure. The therapists were asked in an open ended question whether they used any other therapy approaches with their clients who stutter. Some (34%) wrote they used relaxation techniques; none of them wrote that they used relaxation techniques with exposure.

Evaluation

Specialist SLTs evaluate the success of therapy differently to their generalist counterparts. Specialist SLTs report using outcome measures to evaluate the success of therapy far more frequently than their generalist counterparts. They also report using “evidence” as a way of evaluating therapy far more than their generalist colleagues. Evidence was a category which developed from content analysis of the open ended questions about evaluation of therapy. A similar method of evaluating the success of therapy has recently been used in the clinical trial of CBT for chronic stuttering. A hierarchy of feared speaking situations was constructed for each AWS. A method of quantifying the level of anxiety or distress each item on the hierarchy scored. A measure of success was analysing the fear hierarchy tasks completed (Menzies, et al., 2008). These approaches show a concrete way of measuring success and change in the real life impact of living with social anxiety and stuttering.

Specialist therapists seem to be delivering therapy to address psychosocial issues in line with the recommendations from the literature. However it seems unlikely that they are delivering best evidence based practice to restructure speech. This may be in line with a particular philosophical viewpoint around dysfluency treatment of acceptance and living with a stutter. But it is unclear whether they give their clients the choice to explore alternative options, or whether they are aware of the evidence base themselves.

In summary, there is a wide variation in the experience and training of SLTs working with AWS, and many SLTs feel that with small caseloads of AWS they have insufficient access to the specialist training and experience required to work with this client group. Intensive therapy, which has the strongest evidence base, is rarely offered within the NHS.

9.6 The Importance of Addressing Psychosocial Aspects

The results from the Likert type scales and the correlations between the sections on assessment, client report, therapy goals and therapeutic techniques show that in this sample of SLTs from the United Kingdom, therapy is an iterative process and therapists assess cognitive and emotional issues,

discuss the impact of stuttering with their clients and recognise and address psychosocial issues, particularly social anxiety. Most of this group of SLTs recognise that managing the psychosocial aspects of stuttering is a vital part of the therapeutic process. The importance of managing the psychosocial aspects of stuttering is increasingly being acknowledged within the literature. Qualitative studies and theoretical articles have highlighted the need for treating psychosocial issues (Corcoran & Stewart, 1998; Craig, 2003; Craig & Tran, 2006; Crichton Smith, 2002; Klompas & Ross, 2004), but more recently stuttering has measurably been shown to have a negative impact on quality of life and it has been argued that it is important to address the emotional and psychological aspects related to stuttering (Craig, et al., 2009).

Does working on the psychosocial aspects of stuttering such as anxiety have a direct impact on fluency? A laboratory study, where the cognitive aspects of social anxiety were manipulated, found that dysfluency increased with an increase in cognitive anxiety (Onslow, et al., 2005). An increase in dysfluency was also reported when AWS experienced “high stress” days (Blood, et al., 1997). The belief that anxiety, emotion and cognitive processing can have an impact on fluency was held by some of the SLTs in this sample.

Physiologically this is logical. Stuttering has a neurological underpinning (Brown, et al., 2005; Giraud, et al., 2008; Neumann, et al., 2005; Watkins, et al., 2007). Emotion, particularly negative emotional distracters, slow brain processing resulting in tasks taking longer to execute (Hartikainen, et al., 2000; Mitchell, et al., 2008; Rolls, 2000). The speech of AWS is sensitive to interference from concurrent attention-demanding cognitive processing. Under dual-task conditions, either dysfluencies increased or complexity of language decreased in PWS compared to controls. These results suggest that sentence generation and production required greater sustained attentional processing in PWS than controls (Bosshardt, 2002; Bosshardt, 2006). This implies that increasing the cognitive or emotional burden will slow speech processing in someone who stutters. Emotion and attentional bias and cognitive processing all play a role in psychosocial issues with people who stutter. Assisting management of the psychosocial issues of stuttering may have an impact on fluency.

A recent study showed that AWS who had high stuttering frequency and high self-reported avoidance did not maintain fluency after speech restructuring

treatment (Iverach, et al., 2009a). This concurs with other research which indicates that those with severe stuttering have a higher rate of relapse (Block, et al., 2006; Craig, 1998; Huinck, et al., 2006). It also indicates that if psychosocial issues such as avoidance are not targeted the success of speech restructuring treatment may be in jeopardy. This view is also supported by some of this sample of SLTs.

9.7 What Constitutes Success in Therapy?

The recent trial of a CBT package with PWS found that the CBT component of the treatment did not have any impact on stuttering frequency although it decreased social anxiety. If anxiety increases dysfluency, a reduction in anxiety should theoretically decrease dysfluency. It was speculated that this did not happen because the CBT may have reduced the negative cognitive processing around stuttering, and the AWS may not have been as motivated to control their stuttering with speech restructuring techniques (Menzies, et al., 2008). Speech restructuring programs are cognitively mediated consciously planned motor strategies. Using controlled speech patterns throughout the speech act requires great attention and effort, and although these programs target core behaviours with stuttering, they do not change the nature of the stutter (Dayalu & Kalinowski, 2001). Saltuklaroglu and Kalinowski (2002) suggest that therapy should be aiming for automatic fluent speech that is natural and spontaneous, not effortful. If PWS do not feel the need to use speech restructuring techniques and are able to communicate effectively with less effort and more spontaneity perhaps the success of therapy should not be gauged by how fluent the AWS is, but by the reduction in the negative impact that the stutter has on the life of the AWS. It appears that this group of SLTs might concur with this view. They report evaluating the success of therapy by self-report, discussion, rating scales and evidence. They show that they determine the success of therapy in a number of ways including increasing the client's confidence and self esteem, and self acceptance.

For those who have a severe stutter, perhaps speech restructuring treatment is not the way to achieve success in therapy. Although a study has shown that fluency shaping techniques can reorganise neuronal communication and change speech patterns in people who stutter (Neumann, et al., 2005), it has

also been shown that stuttering severity is correlated with activity in the basal ganglia (Giraud, et al., 2008). It is possible that stuttering severity is related to the amount of disruption in the cortical and sub cortical neural systems. Perhaps the more severe the stutter, the more disruption to the system? If the cause of stuttering is predominantly neurological, a large disruption to the system or a reduction in brain plasticity as an adult would make relapse after speech modification programs more likely. If many psychosocial issues develop as a result of stuttering, and the stuttering is the result of a brain condition that is difficult to change, more emphasis will need to be placed on the psychosocial issues in therapy rather than modifying speech. This may be why this group of SLTs appear to focus on acceptance and stuttering management rather than focusing on fluency.

9.8 Good Practice?

It is difficult to know whether this sample of SLTs in Britain is all delivering good practice. They certainly take approaches that are not considered to be the best evidence base (block modification) and they use techniques which at the time of the survey were unproven (for example CBT type techniques). They used informal rating scales over speech count measures prior to changes in recommendations being made. It could be argued either that these are innovative therapeutic techniques to meet the needs of their clients or that this group of SLTs is engaging with irresponsible practices with no evidence to support them. Clinical practice often is ahead of research, and the practice of these SLTs with regards to psychosocial issues seems imminently sensible and pragmatic. However, without collecting outcomes to evidence the effectiveness of their therapy or acknowledging the evidence base they are not strongly justifying the choices they make.

In this sample, there is evidence that many SLTs are delivering practice in line with recent research recommendations. Specialist SLTs in particular are aware of the negative adverse effects of living with a stutter and recognise and treat the facets of social anxiety and the other psychosocial issues that impact on AWS. They use CBT type techniques to treat these issues, and have been doing so prior to the confirmation of the success of these approaches in a clinical trial (Menzies, et al., 2008). They have been using self report data to

evaluate the success of therapy prior to that recommendation being published (Guntupalli, et al., 2006) and use additional techniques such as self rating scales which may well come to be considered good practice in the future. Their practice needs to be described and trialled objectively to establish whether these methods offer successful treatment as would be expected from the results of this survey.

There are great concerns though that many SLTs, particularly generalist SLTs, feel that they may not have the skills to work with this client group, but have no alternative, and are unable access training and specialist help. Just over 4% of the sample reported that they never or rarely feel confident in dealing with psychosocial issues in AWS, and 18.9% reported only feeling confident sometimes in working with this client group.

The literature review documented how PWS have reported feeling that some SLTs did not have the requisite skills and knowledge to treat the disorder (Bricker-Katz, et al., 2009), and others reported a lack of belief or trust between therapist and client (Klompas & Ross, 2004). Enderby and John (1999) found that across four NHS sites outcomes in the treatment of AWS varied significantly. They concluded that this was due to therapists' lack of skills, knowledge and interest in the field of dysfluency (Enderby & John, 1999). A survey to SLTs in 2000 found that generalists were unsure about appropriate treatments to use with people who stammer (Crichton-Smith, et al., 2003). This study has confirmed that these issues are still problems in the field of dysfluency today.

This is of great concern. AWS who seek treatment are arguably more likely to be anxious (Craig, et al., 2003) and are seeking to change their circumstances. A poor experience may be detrimental to their well being and may influence their decision to embark on further therapy in future. In some cases poor therapy might well be harmful. A response to the open ended question "At what point would you discharge a client from therapy?" was "if I think stammering is a ruse" (1081). This response was from a generalist therapist who had been qualified for more than 20 years, and who had worked with PWS for the previous three years. She had no training in the area and "some" interest in dysfluency. From this response, this therapist has shown a lack of understanding of the issues around dysfluency, and if she regularly

discharges clients because she thinks their stuttering is a ruse, the therapy she delivers may have a negative impact on her clients.

A different SLT wrote in four different places across her survey that she uses Bach flower remedies to treat her AWS because “emotions are often the route of the problem” and that “Bach flower remedies are very effective, harmless and can have profound positive effects on anxiety, fear and confidence. Speeds up therapy” (57). The Bach Centre which promotes and sells Bach flower remedies replies to the frequently asked question “Has the efficacy of the remedies been proven scientifically?” “We don't see it as our role to 'prove' that the remedies work, then - instead we simply demonstrate how to use them and let people prove the effect on themselves” (The Bach Centre, 2009). They provide two links citing research on the flower remedies. None of the research cited shows any evidence for the effectiveness of Bach Flower remedies. The well designed reports which they refer to and which are published in reputable journals show no statistical differences between Bach flower remedies and placebos (The Bach Centre, 2009). It is concerning that a SLT is advising the use of complementary therapies with no evidence base to her clients.

This survey has shown that many therapists self-report good practice, but that some therapists have reported they do not feel confident or skilled in working with this client group. These therapists indicate that they are unable to access the relevant training or are unable to acquire sufficient experience or access to specialist colleagues. In addition, some therapists show distinctly dubious practice.

9.8.1 Solution Focused Brief Therapy

Solution focused brief therapy (SFBT) is a strengths based intervention. It concentrates on finding solutions to goals and focuses on how the individual has found success in the past. It includes the use of a miracle question (“If you woke up tomorrow, and a miracle happened so that everything was exactly how you would like it to be, what would be different?”), scaling questions and goal setting (Kim, 2008). The evidence base for this approach is very mixed (Gingerich & Eisengart, 2000; Kim, 2008; Knekt, et al., 2008), and possibly

shows small positive treatment effects, but many studies on SFBT have been shown to have methodological shortcomings. SFBT was mentioned by 36 (19%) SLTs within the sample as an additional approach which they use with their clients. Two SLTs within the sample indicated that they used only SFBT (to the exclusion of all other approaches) when treating their clients. When examined, their practice was found to be different from the practice of all the other therapists in the sample. Most of the box plots illustrating the difference in practice between specialist and generalists had the same recurring outliers (figures 68 and 69). These were the same two therapists whose practice is so far removed from the rest of the SLTs that they statistically deviate markedly from other members of the sample. They were both outliers in the components: key assessment factors, therapy goals targeting acceptance and avoidance and therapeutic techniques: behavioural approach. One was an outlier in therapy goals targeting cognitions and emotions and the other was an outlier in assessment of quantitative stuttering measures. This shows that SLTs who use SFBT exclusively to treat clients do not deliver practice which is in line with current recommendations and are likely to be doing their clients a disservice. The other SLTs who used SFBT used it in combination with other approaches and their practice did not seem markedly different from the majority of the other SLTs in this sample.

9.9 Who Should be Treating Psychosocial Issues in AWS?

Some therapists have reported a lack of confidence in working with psychosocial issues associated with living with a stutter. A number of factors such as post-qualification training, training in CBT, experience in working with this client group, an interest in working with this client group and a specialism in dysfluency all contribute to the self reported clinical practice of this group of SLTs. This leads to the question: Who should be treating psychosocial issues in AWS?

SLTs or Psychologists?

As has been shown by the recent clinical trial of CBT in chronic stuttering, this client group responds well to CBT (Menzies, et al., 2008). In this clinical trial

the CBT component of the treatment package was delivered by a trained clinical psychologist, and treatment proved to be successful (Menzies, et al., 2008). The results of this survey have shown that 50.8% of this sample of SLTs had undergone some form of CBT training and 90.43% use cognitive therapeutic techniques. Should they be delivering the psychological component of therapy to AWS? The arguments for SLTs delivering this type of therapy are discussed below.

Holistic Approach

A review of the use of personal construct psychology in speech therapy with AWS indicated that some clinicians might not regard the management of psychological issues connected to dysfluency as part of their remit, and would refer AWS to other professionals (Stewart & Birdsall, 2001). The authors indicate that this would go against the adoption of a more holistic management approach (Stewart & Birdsall, 2001) which PWS have said they want (Hayhow, et al., 2002). Treatment for this client group should address both psychological issues and speech management issues. The clinical trial for CBT in chronic stuttering addresses both the psychological and speech restructuring issues of the AWS (Menzies, et al., 2008). Ideally, as in the clinical trial, AWS should be treated by a team of professionals who can address all aspects of the disorder. In this survey, 77.9% of the sample indicated they would use a combination of approaches when treating their AWS. Most who reported using a combination of approaches indicated they would use block modification therapy and avoidance reduction therapy. In practice, it is unlikely in the United Kingdom that collaboration between SLTs and psychologists to treat AWS is possible within the NHS. Eighty nine percent of the sample of the survey work within the NHS. The author and the BSA are not aware of any psychologists in the United Kingdom who specialise in working with AWS, or who work alongside or with any specialist dysfluency clinic (Lieckfeldt, 2010). If treatment is to be holistic and not fragmented all issues related to stuttering should be treated together. Perhaps this could be done by either a SLT or a psychologist? It is likely that any psychologist who did take on this role would need training in dysfluency and knowledge of the negative evaluations that PWS experience to be effective in working with this client group.

SLTs have been using avoidance reduction therapy which promotes acceptance of the stutter and reducing avoidance and appears to have many similar principles to CBT for social anxiety since the 1950s (Hayhow & Levy, 1989). From this survey, many SLTs in this sample have indicated that they do think it is their role to work on the psychosocial issues related to stuttering, and from what they have reported they are using principles and techniques consistent with CBT.

There is a possibility that AWS may consider that going to a psychologist is stigmatizing but attending speech therapy is more acceptable. This is substantiated by the recent research by Boyle et al. (2009) who found that when the causality of stuttering was thought to be psychological, PWS were perceived more negatively than when the causality of stuttering was thought to be genetic or unknown (Boyle, et al., 2009).

Although this is an area which is likely to continue to be debated, in the United Kingdom it is currently SLTs who are predominantly delivering services to meet the psychosocial needs of AWS. Their practice is variable, and so the next question which arises is: If SLTs are delivering therapy to meet the psychosocial needs of AWS, which SLTs should be delivering this therapy?

Which SLTs Should Be Delivering Therapy?

As already discussed, many SLTs reported confidence in treating the psychosocial issues associated with stuttering but some did not. The practice of SLTs was variable, and only some of the practice of this sample of SLTs was in line with recommendations from the literature. There were multiple factors which had an impact on practice. These were post-qualification training, cognitive behaviour therapy training, experience, interest in dysfluency and specialism in dysfluency. It was apparent from the results of the survey that SLTs who work with this client group need training in managing the psychosocial issues related to stuttering. Specialist therapists were found to have significantly different practice from other groups. It was considered that their practice was in line with current research and clinical guidelines with regards to psychosocial issues, as they tended to address the

facets of social anxiety and their practice was more consistent as measured by Levene's test of equality of variance (chapter 7). Whether those whose practice is in line with current research recommendations is effective and efficacious needs to be objectively measured through clinical studies.

9.10 Implications for NHS funding

This study indicates that SLTs who work with AWS should at the very least have training in working with this client group but preferably should be specialists in working with AWS. As many SLTs see relatively few AWS each year, it is impossible to keep all generalist SLTs up to date with the latest research recommendations. It would be better that AWS were not seen in a generalist clinic by any SLT but by a SLT who has an interest in this field and training in this area and access to specialist practitioners for advice and information and possible onward referral. This is consistent with findings from other studies (Bricker-Katz, et al., 2009; Cooper & Cooper, 1996; Crichton-Smith, et al., 2003; Enderby & John, 1999). Perhaps regional specialist centres should be developed that would be able to offer therapy in line with the best evidence base such as intensive group therapy for speech modification and cognitive behaviour therapy for social anxiety associated with living with a stutter? Or perhaps a model for delivering specialised SLT through a remote telecommunications system should be investigated? (This has been trialled successfully in other countries (Beijer, et al., 2010; Carey, et al., 2010; O'Brian, Packman, & Onslow, 2008)). These differences between specialist and generalist practice should be made known to strategic health authorities so that they are able to make informed commissioning decisions about the best way to fund NHS services for AWS. A recent resource manual on commissioning services to people with speech, language and communication needs has used this research to highlight the need for access to specialists for people who are dysfluent (Enderby, et al., 2009).

9.11 Description of Specialist Practice

The analysis of the responses to the survey resulted in a description of specialist practice. The process of describing and defining a clinical protocol is

the first stage in designing and evaluating a complex intervention (Campbell, et al., 2000; Campbell, et al., 2007; Craig, et al., 2008). Chapter eight described and defined the practice of specialists using descriptive statistics. The practice of specialists was chosen because many of the decisions and choices made by this group of therapists are consistent with good or recommended practice reported in the literature. This outline, which includes the assessment of cognitive and emotional issues, the targeting of avoidance, acceptance, cognitive and emotional goals and the use of cognitive, behavioural and reality testing techniques, can potentially be used as a framework for intervention and as the basis for a protocol for a clinical trial. For the information that has been described and defined to be turned into a protocol further work is needed. The information would need to be assessed further with knowledgeable clinicians, and the aspects of treatment which are considered essential to achieve change would need to be established. The information would need to be written in the form of a manual (Carroll & Nuro, 2002) so the precise methods of therapeutic intervention being assessed through a clinical trial would be consistent and repeatable.

9.12 Summary

The methods, results and implications of this study have been discussed in this chapter. It summarised the aims of the study and the methods chosen to achieve those aims. It critiqued the study, including an examination of the study design and methods and discussed the advantages and limitations of the study. It presented the summarised results of the study and linked the results to practice. It discussed the practical implications of the study and its value in clinical practice. The next chapter will discuss the conclusions of this study and highlight future research needs that this study has found

CHAPTER 10: CONCLUSIONS AND RECOMMENDATIONS

The literature has shown that living with a stutter has adverse effects and can result in PWS living limited and restricted lives (Corcoran & Stewart, 1998; Craig, et al., 2009; Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004; Plexico, et al., 2009b) and that social anxiety in particular can have a negative impact in chronic stuttering (Craig, 2003; Craig, et al., 2009; Craig & Tran, 2006; Iverach, et al., 2009c; Kraaimaat, et al., 1991; Kraaimaat, et al., 2002; Mahr & Torosian, 1999; Menzies, et al., 2008; Menzies, et al., 2009; Messenger, et al., 2004; St Clare, et al., 2009; Stein, et al., 1996). AWS have reported that therapy has exerted a positive effect on their quality of life and ability to cope with their stuttering, improved their confidence and self-esteem, and helped them to understand their stutter better and identify with others who have a stutter (Crichton Smith, 2002; Hayhow, et al., 2002; Klompas & Ross, 2004; Stewart & Richardson, 2004). AWS have said that therapy was the only real opportunity to talk about stuttering. (Crichton Smith, 2002). They have suggested that therapy could be improved by addressing emotional issues since speech modification is not maintained over the long term (Bricker-Katz, et al., 2009) and by addressing the psychosocial factors and the reality of experience of PWS (Kathard, et al., 2004). They have also said that a more holistic approach in therapy is needed (Hayhow, et al., 2002).

A survey was developed and distributed to 349 SLTs in the United Kingdom who work with AWS to address the research questions **“What is current practice for addressing psychosocial issues with adults who stutter amongst speech and language therapists? Can the potentially most effective interventions be identified, summarised, defined and described to form a protocol for a clinical trial?”** A 77% response rate was received and 191 completed surveys were analysed. The responses gave valuable information about current SLT practice in the United Kingdom.

The study confirmed that clients report psychosocial issues similar to those recounted in the literature to their SLTs in therapy. It confirmed that SLTs recognise and treat psychosocial issues, particularly social anxiety, through addressing acceptance of stuttering, avoidance, cognitions and emotions. It showed that this group of SLTs used cognitive behavioural techniques such as

cognitive restructuring, exposure and experiments to treat the psychosocial issues associated with living with a stutter. It found that many SLTs evaluate the success of their therapy in a variety of ways including outcome measures, achievement of goals, self report and examining evidence, but that some SLTs do not evaluate their practice. It determined that many SLTs make provision for managing the long term impact of stuttering through review and open re-referral, but that some services had discharge policies that were resource driven rather than those which were evidence based or motivated by client need. Experience, interest in stuttering, post qualification and CBT training and specialism in dysfluency were all statistically shown to significantly affect practice. The practice of specialist SLTs was found to be most in line with recommendations about psychosocial issues from recent research and their practice was described.

Recommendations Resulting From This Study

This study was an exploratory study. It examined many areas which had not been investigated or reported in peer reviewed journals before, but which were issues that were discussed as expert opinion in clinical guidelines, in therapy manuals and course handouts, and were the topics of dysfluency special interest group discussions. By attempting to document and gain a greater understanding of the therapy pathway in this area, a baseline on which to develop further research studies has been established. From the data collected and reported on in this study, specific issues raised can now be investigated further with more robust and trustworthy methods. Now that some effect sizes have been established, power analysis can be used to calculate minimum sample sizes for further studies. Now that a method of establishing a good database of potential participants has been trialled, it may be possible to randomly sample participants in future studies.

This chapter will make recommendations for further investigations which need to take place in this area.

1. Assessment of the Negative Adverse Effects of Stuttering.

Although clients were reporting negative psychological and emotional issues, SLTs were not strongly assessing these areas. Specialists had a better awareness of these issues and investigated them more as part of their therapy. There is a large body of literature highlighting the negative adverse effects of living with a stutter and the negative impact that stuttering can have on mental health and quality of life (Corcoran & Stewart, 1998; Craig, et al., 2009; Crichton Smith, 2002; Hugh-Jones & Smith, 1999; Iverach, et al., 2009c; Kathard, et al., 2004; Klompas & Ross, 2004).

- a. It is important that all SLTs who treat AWS are aware of these issues, know how to assess these issues, and know how to access appropriate treatment for these negative adverse effects in their clients.
- b. This should be part of undergraduate training. If the psychosocial aspects of living with a stutter are not recognised in therapy, clients are at risk of missing educational and employment opportunities, social isolation, depression, and, in the worst case scenario, suicide.

2. Undergraduate training

- a. Undergraduate training needs to improve. Although the RCSLT curriculum guidelines dictate that SLT courses cover all the appropriate theoretical areas necessary to treat this client group, most SLTs have found their undergraduate training inadequate. This needs to be investigated further.
- b. An audit of the course contents of courses could be carried out to check that curriculum guidelines are being followed and enough attention is being given to teaching evidenced based treatment for AWS.
- c. It is probable that the greatest failing in undergraduate training is a lack of clinical placements. This could be changed by universities considering running stuttering treatment clinics as part of their clinical training. This is done at other institutions around the world with great success (Block, et al., 2005; Eckardt, Breitenfeld, Krieger, & Gurrister, 2000). With practical experience of working with AWS, student

clinicians are likely to develop an interest in the disorder and gain skills and confidence in treating this client group.

3. Lack of service provision

Discharging or only offering advice to AWS due to lack of service provision is a major cause for concern. The impact of living with a stutter has been explored throughout this study, and for help to not be available for AWS who need intervention is unacceptable.

- a. SLTs need to be able to argue the safety, efficacy and cost effectiveness of their services. Currently the lack of collection of sound outcome measure data and the lack of providing evidence based practice for speech restructuring weakens the arguments for SLT services to AWS to be well resourced.
- b. Where possible the British Stammering Association and the Royal College of Speech and Language Therapists campaign for services to their clients not to be cut, but often the lack of services to this client group are hidden. Currently, clients who are unable to access services can contact their members of parliament who can in turn approach commissioning bodies to enquire why services have not been commissioned. This can be problematic because AWS who suffer from social anxiety are unlikely to place themselves in socially challenging situations like contacting a member of parliament. AWS are often not going to be campaigning for their rights. SLTs need to be advocates of this process.
- c. The RCSLT commissioned a synthesis of the literature so that managers could have a resource manual use when explaining to commissioners what services need to be provided for fluency disorders (Enderby, et al., 2009). Although this is a step towards addressing the problem, it is insufficient and this synthesis did not give any indication of the quantity of therapy that may be necessary to address the needs of AWS, and this study points to a serious lack of therapy time allocation in many services. Enderby and John (1999) compared the performance of different providers including outcomes in treating adults who stuttered. A similar study of the performance of different providers would be very useful to find out the situation for treatment of AWS

currently, 11 years later. This could be compared to therapy outcomes of high standards across the world and potentially this would motivate for the provision of better services.

- d. AWS also need to be empowered so they can know what their health rights are, and what possible treatment options could and should be available to them. This could be done by informing AWS about the issues that have been highlighted in this survey through meetings of PWS like the BSA conference.

4. Speech Restructuring Treatment Programs:

This study has shown that few evidence based speech restructuring treatment programs for AWS are being carried out within Britain, and it has established that there is a need for these programs as clients are paying for non evidence based programs such as the McGuire program to fulfil this need.

- a. A debate about why this is not happening in Britain needs to be started.
- b. Institutions which train SLT student clinicians and specialist dysfluency centres need to be encouraged to set up these courses.
- c. NHS services need to investigate whether there are ways in which they could restructure their services to provide these treatment programs. For example, services within a region could join together in a central location, combining resources and client numbers to arrange intensive speech restructuring treatment.

5. Specialist Practice

Treatment by a SLT with an interest in dysfluency, experience of this client group and training in this disorder would be the most appropriate therapy option for most AWS.

- a. If undergraduate training and placements can be improved, a greater number of SLTs may be able to manage this client group more effectively.
- b. Currently though, it appears than the practising clinicians who currently have these skills are specialists. It is unlikely that due to the relatively

small number of clients compared to other disorders that all generalist SLTs will be able to accrue and maintain sufficient skills and experience to treat AWS competently and to keep their training up to date. This implies that NHS funding for this client group should be spent on training selected SLTs to manage this group and on funding specialist sessions to treat AWS.

- c. As resources appear to dictate what services are offered to AWS, it may not be possible for many services to fund specialist dysfluency sessions. Possible solutions to these issues might be either the provision of regional specialist centres or therapeutic intervention via the internet or telecommunications (Beijer, et al., 2010; Carey, et al., 2010; O'Brian, et al., 2008).
- d. If it is impossible to fund specialist sessions, clinicians within each service who have an interest in the disorder should be identified so that particular generalists can gain sufficient experience to develop their skills and confidence in working with this client group. The need for specialist provision has been documented in the Resource Manual for Commissioning and Planning Services for Speech Language and Communication Needs (Fluency) (Enderby, et al., 2009) as a result of this research study.

6. Training

This study has highlighted the need for post-qualification training, experience and an interest in stuttering when working with this client group. It has shown that cognitive behaviour therapy training has significantly affected the practice of this sample of SLTs.

- a. SLTs that treat AWS should be encouraged to attend CBT training.
- b. Proper evidence based CBT courses need to be developed or accessed to train SLTs working with this client group to improve treatment and outcomes. CBT training courses designed specifically around models of social anxiety and applied to working with AWS would be preferable to other more generic alternatives. Specialist dysfluency treatment centres and university departments with access to clinical psychology colleagues would be the best candidates to develop these courses within Britain.

- c. It has also shown that some of the post graduate training that is available to clinicians is not evidence based or based on current research, and there are no good practice guidelines or curriculum guidelines or monitoring of post graduate training from the RCSLT or the HPC. Universities which deliver undergraduate SLT training should be encouraged to offer post graduate training as they are more likely offer evidence based training based on relevant research. This is preferential to training based on the unsubstantiated current interests or inclinations of self promoted training gurus whose practice has not been peer reviewed.
- d. Clinicians also need to be encouraged to critically evaluate the training institutions they attend and the content of the training they receive. Many SLTs seem not to understand the principles of critical appraisal and how to interpret the evidence base. Many of those who have good ideas for therapy do not assess their effectiveness through carefully designed outcome measures and research studies, and the profession strongly needs to encourage research in addition to evidence based practice. Within the United Kingdom many SLT approaches are well marketed and popular, but do not have a strong evidence base to support their use. This puts the profession and our clients at risk. If we cannot prove the safety, efficacy and effectiveness of our treatments we run the risk of losing both funding for services and the profession's reputation.

7. Fear of Negative Evaluation or Actual Negative Evaluation?

Many articles in the literature on social anxiety with regard to stuttering refer to the fear of negative evaluation associated with social anxiety, implying that this fear is unreasonable or excessive (Mahr & Torosian, 1999; Messenger, et al., 2004; Stein, et al., 1996). Although it is possible that the fear of negative evaluation may be irrational or unhelpful and disabling, the author is unaware of any studies which have examined whether the fear of negative evaluation is legitimate due to the negative evaluation the AWS has or does experience over their lifetime (Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004; Langevin, et al., 2009). This is an area that needs further investigation.

8. Description of Specialist Practice

The analysis of the surveys resulted in a detailed description of specialist therapy practice about psychosocial issues through the therapy pathway. There are a number of possible uses for this description of specialist practice. The practice of these specialists conforms to many recent recommendations in the published research literature, and it is important to know whether this practice is effective and efficacious. Ideally this description of specialist practice could be developed into the basis of a protocol for a clinical trial to evaluate the impact of this type of SLT therapy with AWS.

9. Motivation for Working on Psychosocial Issues

The survey asked “If you do work on other issues apart from speech modification, why do you do so?” but the question design did not allow for a reliable analysis of the data collected or for any conclusions to be drawn from the data. If this area was to be properly investigated with better methods, it may be possible to understand why these SLTs choose to work on psychosocial issues over speech restructuring which has a stronger evidence base. The information gained from such a study would potentially offer alternative outcomes that may be appropriate for AWS. It may help to either expose poor clinical motivation or allow for the exploration of differing perspectives on the treatment of AWS which may be valid and helpful.

Conclusion

This study has found that SLTs are treating the consequences of speech-related social anxiety by using cognitive behavioural techniques in therapy with AWS. Postgraduate training, experience and a special interest in stuttering affect the therapy choices when working with this client group. There are some aspects of stuttering treatment where there may be cause for concern. These include insufficient student academic and clinical experience with recognised best practice treatments, lack of delivering best evidence based practice for speech restructuring and insufficient up-to-date professional development in stuttering.

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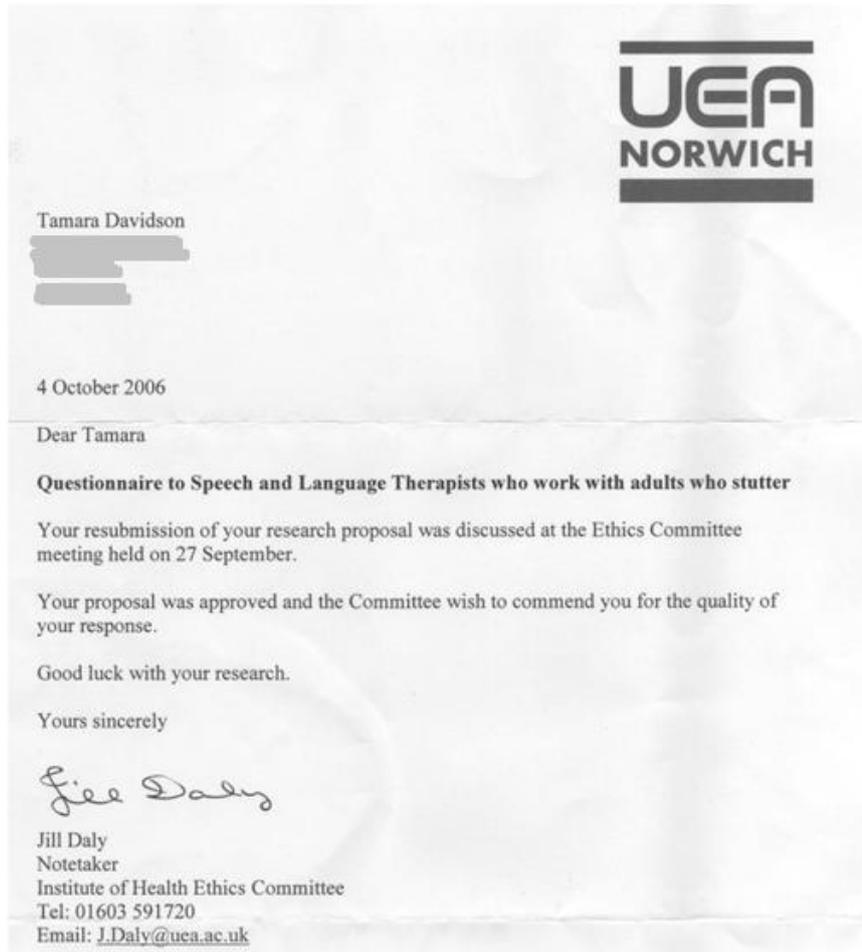
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APPENDICES

APPENDIX 1

Initial Ethics Approval



Ethics Approval Extended



APPENDIX 2

Survey

I am trying to establish what Speech and Language Therapists do in therapy with adults who stutter in addition to working directly on their speech. There seems to be very little research into what therapists do to work on anxiety, avoidance and confidence in therapy with adults who stutter (AWS). I wonder if you would mind answering a few questions about your experience?

Please be honest, I would like to know what you **really** do in therapy rather than what you think you should do in therapy!

This survey is only about **working with adults who stutter** (over 16 years).

When answering this survey please think about **all the adults who stutter** that you have worked with in the **last two years**.

The words stammering and stuttering are often used interchangeably but refer to the same thing. I will use the word **stutter** in this survey.

In this study we are interested in those adults who have **persistent developmental stuttering**.

THE CONTENTS OF THIS FORM ARE **ABSOLUTELY CONFIDENTIAL**.
INFORMATION IDENTIFYING THE RESPONDENT WILL NOT BE DISCLOSED IN ANY CIRCUMSTANCES.

There are six sections (Sections A- F)

Please fill in every question:

Section A: You and your experience of being a SLT

The following questions are trying to establish the experience and training of speech and language therapists who work with adults who stutter.

Please mark the boxes which apply to you clearly:

- A1.** Have you worked with any adults who stutter (AWS) in the last two years? (In this study, adults are defined as all those clients who stutter who are 16 years old and older)

Yes No

If the answer to this question is *NO*, please mark the box and send the questionnaire back to me without filling in the rest of the questionnaire. Thank you!

- A2.** How many years have you been qualified as a speech and language therapist?

years

- A3.** At what institution did you qualify as a speech and language therapist?

A4. Are you:
Female or Male?

A5. Have you had any post qualification training in stuttering therapy for adults?
(E.g. training in personal construct therapy, block modification therapy,
cognitive behaviour therapy etc)

Yes No

If yes, please give details:

A6. For how many years have you worked with adults who stutter (AWS)?

years

A7. Mark which applies to you:

I am highly specialist in working with AWS
I am a generalist and work with AWS

A8. Mark which applies to you:

I have a special interest in stuttering
I have some interest in stuttering
I have no particular interest in stuttering

A9. Approximately, how many AWS have you worked with during the last two years?

A10. Approximately what proportion of your caseload are AWS?

%

A11. Would you usually refer your AWS clientele onwards to other specialists?
 Yes No

A12. What type of therapy do you offer your AWS? (Mark all that apply)
 Individual
 Group
 Intensive

A11. In what therapeutic environment do you see AWS? (Mark all that apply)
 NHS Generalist Clinic
 NHS Specialist Dysfluency Clinic
 Private Practice
 Specialist Dysfluency Centre (E.g. Michael Palin Centre)
 Education (E.g. City Lit)
 Other (Give details):

Section B: What and how do you assess your adults who stutter?

This section asks more generally about how you assess your AWS. Assessment in this case refers to the **initial evaluation and to any ongoing evaluation** that may take place throughout the therapy process.

Mark the option that describes best what you would normally do in therapy. If you have not heard of a strategy mentioned please mark N/A, Don't know.

B1. What **areas do you assess** (within the therapy room) with AWS?
 (Mark the option that best describes what you would normally do)

B. Stuttering severity

Usually Often Sometimes Rarely Never N/A
 Don't know

C. Stuttering frequency

Usually Often Sometimes Rarely Never N/A
 Don't know

D. Type of stuttering (e.g. covert, overt)

Usually Often Sometimes Rarely Never N/A
 Don't know

E. Variability of stuttering (e.g. in different settings, different times)

Usually Often Sometimes Rarely Never N/A
 Don't know

B1. What areas do you assess with AWS?
(cont) *(Mark the option that best describes what you would normally do.)*

F. Speech behaviours (Repetition, prolongations, blocks)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

G. Avoidance behaviours (such as avoidance of words, of situations, etc)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

H. Communication abilities in a range of contexts (via self report)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

I. Language (linguistic) skills

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

J. Family history

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

K. Social skills

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

L. Client's emotional response to their speech

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

M. Life choices as a result of stuttering

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

N. Previous therapy

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

O. Thought processes about stuttering

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know <input type="checkbox"/>				

B1. What areas do you assess with AWS?
(cont) *(Mark the option that best describes what you would normally do.)*

P. Coping strategies

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				

Q. Client's readiness to change

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

R. Client's desired outcomes of therapy

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

R. Other: Please comment:

B2. How do you assess AWS?
(Mark the option that best describes what you would normally do.)

A. Through case history

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

B. Through spontaneous discussion

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

C. Through structured questions

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

D. By labelling the stutter into categories such as mild / moderate / severe

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

E. Through quantifiable measures (e.g. % syllables stuttered)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

B2. How do you assess the AWS?
(cont) (Mark the option that best describes what you would normally do.)

F. Through tools (such as the iceberg, repertory grids, etc)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
<hr/>					<input type="checkbox"/>

G. Through informal self rating methods (e.g. on a scale of 1-10 how is your speech today)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
<hr/>					<input type="checkbox"/>

H. Through formal / published tests (e.g. WASSP)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
<hr/>					<input type="checkbox"/>

If you use formal/ published tests in assessment, which tests do you use?

I. Other: Please comment:

B3. Do you use other prescribed approaches to assess your AWS? (E.g., grid repertories from Personal Construct Therapy, or other programmes such as the Starfish programme, McGuire Programme, The Camperdown Programme, The Successful Stuttering Management Programme, etc?)

Yes No

If so could you please describe what programmes you use most frequently?

B4. If the previous options do not adequately describe how you would assess an adult who stutters, please add whatever other information you feel is important.

Section C: What do your adult clients who stutter report to you in therapy situations? The following questions are trying to establish whether AWS report difficulties with issues like anxiety and avoidance as a result of their stuttering.

These statements are about any AWS you may see in therapy. On your caseload some clients may report problems in a particular area while other clients may not. When you mark the choices in these statements mark them based on approximately the proportion of your caseload who reports these issues. Here is a sample statement:

Example 1. My clients who stutter report struggling to speak on the telephone

Most	Many	Some	Few	None	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Don't Know
					<input type="checkbox"/>

This would indicate that many of my clients who stutter report struggling to speak on the telephone.

Please mark the choice that most closely matches your experience:

C1. My adult clients who stutter (AWS) report:

- A. Avoiding words** because of a fear of stuttering

Most	Many	Some	Few	None	N/A
<input type="checkbox"/>	Don't Know				
					<input type="checkbox"/>
- B. Avoiding situations** because of a fear of stuttering.

Most	Many	Some	Few	None	N/A
<input type="checkbox"/>	Don't Know				
					<input type="checkbox"/>
- C. Being anxious** about speaking to people because of their stuttering.

Most	Many	Some	Few	None	N/A
<input type="checkbox"/>	Don't Know				
					<input type="checkbox"/>
- D. They have more difficulty speaking to some people than to others.**

Most	Many	Some	Few	None	N/A
<input type="checkbox"/>	Don't Know				
					<input type="checkbox"/>
- E. People have reacted negatively** to their stuttering.

Most	Many	Some	Few	None	N/A
<input type="checkbox"/>	Don't Know				
					<input type="checkbox"/>
- F. Restriction** in their lives as a result of their stuttering.

Most	Many	Some	Few	None	N/A
<input type="checkbox"/>	Don't Know				
					<input type="checkbox"/>

C1. (cont) My AWS report:

G. Feelings of **helplessness** about their stuttering.

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

H. Their **stuttering varies** according to the levels of stress in their lives.

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

I. **Psychological problems** are linked with stuttering.

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

J. Stuttering **affects** their **personal relationships**.

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

K. Stuttering **affects** their **working life**.

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

L. **Experiences** involving their speech which **upset** them. (E.g. people laughing at them)

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

C2. My AWS **evaluate** their **speech negatively**.

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

C3. My AWS **evaluate** their **speech more negatively than I, as their therapist would**.

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

C4. Through their descriptions, my AWS indicate **low self-esteem** as a result of their stuttering

Most	Many	Some	Few	None	N/A Don't Know
<input type="checkbox"/>					

C5. My AWS **blame themselves** for their stuttering.

					N/A
Most	Many	Some	Few	None	Don't Know
<input type="checkbox"/>					

C6. My AWS **cite nervousness** as a factor in **causing** their stuttering.

					N/A
Most	Many	Some	Few	None	Don't Know
<input type="checkbox"/>					

C7. My AWS **focus on only some of the information available to them.** (E.g. they ignore their successes but highlight their difficulties)

					N/A
Most	Many	Some	Few	None	Don't Know
<input type="checkbox"/>					

C8. My AWS **anticipate negatively what other people might think of them?** (E.g. when I talk on the phone, people think I am stupid)

					N/A
Most	Many	Some	Few	None	Don't Know
<input type="checkbox"/>					

C9. My AWS **interpret events in a negative way.** (E.g. if someone makes an ambiguous statement to them, they interpret it in the worst way?)

					N/A
Most	Many	Some	Few	None	Don't Know
<input type="checkbox"/>					

C10. Through client report, do you observe some of your clients holding **beliefs or assumptions that are negative, unhelpful and possibly untrue?** (E.g. "I'm inferior because of my stuttering".)

					N/A
Most	Many	Some	Few	None	Don't Know
<input type="checkbox"/>					

C11. If your AWS report **any other** issues not referred to above, resulting from their speech difficulties please can you comment on them here?

Section D: What areas would you work on in therapy and what would your rationale be?

There are many different approaches to working with AWS. Some of these approaches directly target working on attitudes, avoidance and identity issues related to stuttering. Other approaches say that if the speech is addressed (for example through prolonged speech techniques), anxiety related to stuttering will naturally go away. I'm interested in what choices you make in therapy.

Mark the option that describes best what you would most frequently do in therapy. If you have not heard of a strategy mentioned please mark N/A, Don't know.

As a therapist working with AWS, I work on:

D1. Psychosocial issues related to stuttering.

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

D2. Avoidance issues.

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

A. Direct work on avoidance of words

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

B. Direct work on avoidance of situations (e.g. making phone calls)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

C. Direct work on feelings that result in avoidance

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

D. Direct work on avoidance of relationships as a result of stuttering

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

D3. Anxiety related to stuttering.

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

D4. Identity issues related to stuttering.

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

As a therapist working with AWS, I work on: (cont)

D5. Negative thoughts related to speaking.

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

D6. Feelings and attitudes related to speaking.

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

D7. Acceptance of stuttering.

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

D8. Practical problem solving of issues around speaking.

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

D9. Openness/ disclosure about stuttering

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

D10. Communication skills training

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

D11. In therapy with AWS, how do you find out the attitudes, feelings, thoughts, beliefs and assumptions of your clients?

A. Via spontaneous discussion?

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

B. Via structured questions?

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

C. Via questionnaires?

Usually Often Sometimes Rarely Never
 _____ _____ _____ _____

N/A
 Don't know

D11. In therapy with AWS, **how do you find out the attitudes, feelings, (cont.) thoughts, beliefs and assumptions** of your clients?

D. Via diagrams/ structured flowcharts (e.g. laddering/ scaffolding)?

Usually	Often	Sometimes	Rarely	Never	N/A Don't know
<input type="checkbox"/>					

E. Reports from others (from friends, partners, employers, etc)

Usually	Often	Sometimes	Rarely	Never	N/A Don't know
<input type="checkbox"/>					

F. Other: Please Comment:

D12. What kind of therapy approach do you use with your AWS?

(Mark all that apply)

- Speak more fluently approach (fluency shaping)
- Stutter more fluently approach (Stuttering Modification)
- Personal Construct Therapy
- Cognitive Behaviour Therapy
- Avoidance Reduction Therapy

- Combination of Approaches

- Other: (Example: Other psychological therapies, Hypnotherapy, Neuro-linguistic Programming, Relaxation).

Please comment:

Motivation and rationale for working on issues in therapy

D13. If you do work on other issues apart from speech modification, why do you do so?

Section E: The principles and techniques you use in therapy

This section aims to look at what principles you use to target issues with adults who stutter. Different programmes use different ways of describing what is done in therapy, although the principles of therapy may be similar.

What techniques and principles do you work on in therapy with AWS in addition to or instead of working directly on speech modification?

Please can you mark down the principles you use regardless of the programme you use.

Mark the option that describes best what you would normally do in therapy. If you have not heard of a strategy mentioned please mark N/A, Don't know.

E1. In therapy with AWS do you:

A. Use relaxation techniques?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

B. Do assertiveness training?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

C. Encourage AWS to imagine and work through in their imagination their feared situations? (E.g making telephone calls)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

D. Role-play difficult situations?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

E. Carry out surveys?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

F. Set up experiments in using speech (E.g. asking them to make a phone call or speak to someone new) and discuss the issues/ situations afterwards?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

G. Discuss their thoughts about their speech?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

E1 (cont). In therapy with AWS do you:

H. Try to **explore their interpretations** of their experiences?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

I. Look at the **evidence for their beliefs** about their speech?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

J. Give **new information or understanding** about their speech difficulties and communication skills? (I.e. **educate**)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

K. Try to help them **view things** about their speech in a **different way?** (I.e. **Challenge their perspectives**)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

L. Examine **worst case scenarios?**

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

M. Use **questioning, summarising and reflection** in helping your clients who stutter to talk about their speech?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

N. Set **specific goals** about issues other than directly modifying their speech? (I.e. goals around trying to speak up in difficult situations, or not avoiding)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

O. Ask your clients who stutter to **disclose** their speech difficulties to others?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

P. Ask them to find out what **other people think** of stuttering?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
_____					<input type="checkbox"/>

E1 (cont). In therapy with AWS do you:

Q. Expose clients who stutter gradually to difficult situations to try to challenge their beliefs about their speech?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

R. Use audio or video work within therapy?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

S. Talk through difficult experiences and deal with the feelings and emotions?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

T. Ask your clients who stutter to deliberately stutter?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

U. Problem-solve any arising issues which are related to speech?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

V. Discuss what the listeners' perspective may be? (I.e. what the listener might be thinking?)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

E3. Do you create or work through hierarchies in therapy with your clients who stutter. (E.g. hierarchies of difficult situations?)

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

E4. Do you set homework for your clients who stutter in-between therapy sessions?

Usually	Often	Sometimes	Rarely	Never	N/A
<input type="checkbox"/>	Don't know				
					<input type="checkbox"/>

E5. Do you use any other techniques not mentioned here?
Please comment:

Section F: How you evaluate success in therapy and concluding remarks.

This section is about how you evaluate change in areas related to stuttering other than speech modification, and your opinion on doing therapy with AWS.

F1. How do you **evaluate change** with your AWS in areas other than direct speech modification?

F2. What **tools** do you use to evaluate change?

F3. At what point would you **discharge** a client from therapy?

F4. Do you feel **confident** in dealing with **issues other than direct speech modification** with AWS in therapy?

Never	Rarely	Sometimes	Often	Always
<input type="checkbox"/>				

F5. Do you feel you had **sufficient undergraduate training** to deal with issues other than direct speech modification adequately in therapy with AWS?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

If you answered NO, do you think that this should be covered in more depth in undergraduate training?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

F6. Have you had any training in **Cognitive Behaviour Therapy**?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

- F7.** What else, which has not already been mentioned in this survey, do you work on in therapy with adults who stutter, (apart from speech techniques)?

- F8.** Are there any other comments you would like to make?

You do not have to return this page if you would prefer not to have any more contact with the researcher.

Finally, Can I contact you to be interviewed further about your experiences in this area? If so, your responses would remain completely confidential.

Yes No

I would like feedback on the study results:

Yes No

I would like more information about the planned study day in April 2007.

Yes No

Name: «Prefix» «FirstName» «LastName»

Address: «Title»
«OrganizationName»
«Address»
«Address1»
«Address2»
«City»
«PostalCode»
«County»
«Country»

Telephone: «WorkPhone»

Email address: «EmailAddress»

My preferred method of contact is via:

The above postal address
The above telephone number
The above email address
No contact please

Thank you for your time and effort!

APPENDIX 3

Survey Pack to Participants

Letter to Participants



School of Allied Health Professions

University of East Anglia Norwich NR4 7TJ

Ref No: «MailingListID»



«Prefix» «FirstName» «LastName»
«Title»
«OrganizationName»
«Address»
«Address1»
«Address2»
«City»
«County»
«PostalCode»

12th January 2007

«GreetingLine»

I am a speech and language therapist and a PhD researcher undertaking research about speech therapy with adults who stutter (stammer). I originally obtained the name of your department from the British Stammering Association database as being a department who works with adults who stutter.

I wonder if you would consider filling in the enclosed questionnaire about your experiences, and returning it to me in the addressed envelope included.

The enclosed information sheet has more information about the project. I would appreciate your response if you have had any therapy experience with working with adults who stutter in the past two years. I would like to get responses and opinions from as broad a range of therapists as possible.

The questionnaire should take **20-30 minutes** to fill in. Perhaps you could enjoy filling it in with a cup of tea? Please could you return it to me within **two weeks** of receiving it.

Thank you for your time and energy!

Yours sincerely

Tammy Davidson

SLT and PhD Researcher (Funded by the **Dominic Barker Trust**)

Tel: +44 (0)1603 593094

t.davidson@uea.ac.uk

Information Sheet for Participants



School of Allied Health Professions

University of East Anglia Norwich NR4 7TJ



PARTICIPANT INFORMATION SHEET
A questionnaire to speech and language therapists who work with adults who stutter (AWS) about therapy with AWS

Researchers: Tammy Davidson (Principal Investigator, PhD Student) + Dr Jan McAllister and Dr Simon Horton (Supervisors)

You are being invited to take part in this project. Before you decide if you want to take part it is important that you understand the purpose of the project and what it will involve.

Please take time to read the following information carefully. If anything is not clear discuss it with others, or if you need more information ask the researchers. Take time to decide whether or not you wish to take part.

Thank you for reading this.

1. What is the purpose of the project?

I am trying to establish what Speech and Language Therapists do in therapy with adults who stutter in addition to working directly on their speech. There seems to be very little research into what therapists do to work on anxiety, avoidance and confidence in therapy with adults who stutter (AWS). The project is a questionnaire trying to find out what speech and language therapists (SLTs) do in therapy with AWS.

The study has a number of objectives:

- a) To find out whether AWS are reporting negative adverse affects of living with a stutter to SLTs
- b) To find out whether anxiety and other issues like avoidance are targeted in therapy with adults who stutter.
- c) To find out if anxiety and other issues like avoidance are targeted in therapy with AWS, how this is done.
- d) If SLTs target these areas in therapy, to find out how they choose to do so and how they evaluate success in therapy.
- e) To find out the levels of training and experience of SLTs who work with AWS.

You are being invited as a SLT who has worked with adults who stutter (those 16 years and over), in the past two years, to take place in this project.

2. Why have I been chosen?

You have been invited to take part in this study as your name is on the British Stammering Association database as a speech and language therapist who works with AWS.

3. Do I have to take part?

It is up to you to decide whether or not you take part.

If you do take part you will be given this information sheet to keep and will be asked to return the completed questionnaire. If you do decide to take part you are still free to withdraw at any time and without giving a reason. If you do not wish to participate, an uncompleted returned form implies a wish not to participate and no further reminders will be sent out.

4. What will happen to me if I take part?

You will need to complete the enclosed questionnaire and send it back to me. I have included some incentives to filling in the questionnaire:

1. A teabag so that you can sit and relax with a cuppa while you fill this in!
2. A voucher which entitles you to come to one of the study days run by the Dominic Barker Trust at a much reduced cost. These study days will be about recent discoveries in this area, for example presentations about recent theories of the causes of stammering, experience of working with the SpeechEasy device and what new brain imaging techniques are discovering about how the brains of adults who stutter work differently to those who don't stutter.

Taking part in this study is completely voluntary, but I hope by collecting this information it will contribute to improving therapy for this group of clients in the longer term.

5. What will I have to do?

- a) If you chose to be part of this study it would involve you filling in a questionnaire. The questionnaire should take you about **20- 30 minutes** to fill in.
- b) Please can you return the questionnaire in the stamped envelope provided?
- c) If you would like feedback on the results of the analysed data of the entire study, please send back the feedback request form.
- d) You may like to be considered to be interviewed in more depth about your experiences as a therapist working with adults who stutter at a later date. There is space on the questionnaire to let me know if this is the case.

6. What are the possible disadvantages of taking part?

It will take up to 30 minutes of your time to fill in the questionnaire.

7. What are the possible benefits of taking part?

I am hoping that the information gained through this study will enable me, or others, to establish a baseline of what happens in therapy with AWS. Once we know what happens in therapy, we can evaluate therapy and perhaps develop a sound evidence base for bringing about change through SLT.

8. Will my taking part in this project be kept confidential?

All of the information collected during the study will be made anonymous. Your name will not be used in any of the records made in connection with the project.

In addition, all of the information will be kept securely and will not be looked at by anyone other than the researchers. Any information will be kept in a secure place for five years after the end of the project. Pseudonyms (false names) or codes will be used in any written reports. Care will also be taken to remove any other identifying information.

9. What will happen to the results of the project?

The results of this project will be written up by the Principal Investigator into a report. The report will be part of a doctoral thesis. It may also be published in professional journals.

10. Who is organising the project?

The project has been organised by the Principal Investigator in collaboration with her supervisors at the University of East Anglia. It is funded by the Dominic Barker Trust for Research into stammering.

11. Who has reviewed the project?

The project has been reviewed by the Institute of Health Ethics Committee at the University of East Anglia.

You are under no obligation to agree to take part in this research and if you do agree you can withdraw at any time.

Thank you for reading this information sheet, if you have any further questions please contact:

Tammy Davidson,

School of Allied Health Professions,
University of East Anglia.

Tel: 01603 593094 email: t.davidson@uea.ac.uk

Incentive to Participate: Study Day Voucher



Study Day Voucher

School of Allied Health Professions

University of East Anglia Norwich NR4 7TJ



Thank you for filling in this questionnaire.

«Prefix» «FirstName» «LastName»
«Title»
«OrganizationName»
«Address»
«Address1»
«City»
«County»
«PostalCode»

**A study day will be held at the University of East Anglia, in Norwich, England in April 2007.
The study day will present some of the latest research about speech and language therapy and stuttering.**

This voucher entitles you to attend the study day for the nominal fee of £10.

If you would like to attend the study day, please indicate this on the form on the last page of the questionnaire. Details about the study day will then be sent to you in the post. Please keep this voucher and bring it with you to the study day.

Thank you for your help!

Follow up (Second) Letter to Participants



School of Allied Health Professions

University of East Anglia Norwich NR4 7TJ



Ref No: «MailingListID»

«Prefix» «FirstName» «LastName»
«Title»
«OrganizationName»
«Address»
«Address1»
«Address2»
«**City**»
«County»
«PostalCode»

17th February 2007

I wrote to you in early January asking whether you would consider taking part in a research project, which involved filling in a questionnaire. I haven't received a reply from you and so I thought I might send another copy of the questionnaire hoping that now would be a more convenient time for you to fill it in.

You may remember that I am a speech and language therapist and a PhD researcher undertaking research about speech therapy with adults who stutter (stammer). I originally obtained the name of your department from the British Stammering Association database as being a department who works with adults who stutter. I then made phone calls to many departments asking who was currently working with adults who stutter. I may have obtained your name either directly from the BSA or from the phone calls I made.

I wonder if you would consider filling in the enclosed questionnaire about your experiences, and returning it to me in the addressed envelope included. *If you haven't worked with adults who stutter in the past two years please could you return the unfilled questionnaire to me in the envelope provided?*

The enclosed information sheet has more information about the project. I would appreciate your response if you have had **any** therapy experience with working with adults who stutter in the past two years. I would like to get responses and opinions from SLTs who have just a little experience as well as those who have a lot of experience.

The questionnaire should take **20-30 minutes** to fill in. Please could you return it to me as soon as it is convenient?

Thank you for your time and energy!
Yours sincerely

Tammy Davidson

SLT and PhD Researcher (Funded by the **Dominic Barker Trust**)

Tel: +44 (0)1603 593094

t.davidson@uea.ac.uk

APPENDIX 4
Additional Results Tables

Open Ended Responses: Question D13

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Tracking number	Specialist or Generalist	D13. If you do work on other issues apart from speech modification, why do you do so?
1000	Specialist	Because they are closely linked. Fluency will not improve if there is negative self attitude.
1004	Specialist	To explore attitude to stammering behaviour, and self esteem.
1008	Specialist	Because most AWS believe there is a strong psychological component to their stammering. Evidence base in the literature. Approaches advocated by specialists in dysfluency. Experience has shown treating speech alone is not as successful as working on attitude to self and own communication skills.
1009	Generalist	I personally think that stammering is a complex issue which requires a combination of approaches including discussions about stammering and becoming more open about it.
1012	Generalist	Acceptance of stammering is a prerequisite for long term change. Greater self knowledge and self awareness helps the patient to be his or her own therapist 24 hours a day.
1014	Generalist	I work on covert issues as I have found that most AWS have to accept their stammer and tackle feelings beliefs and attitudes before they can move forward in therapy Changing attitudes/beliefs can in itself move therapy forward and enable the client to achieve better and longer lasting results.
1016	Generalist	Speech modification alone won't elicit change in behaviour if the client's underpinning negative beliefs about themselves are not changed.

1019	Specialist	As a young therapist I used speak more fluently as this is what I was taught at college however I found it didn't work as the psychosocial aspects were not addressed. Thanks to lots of experience and extra training I tried to personalise my therapy to what I think will suit my client best.
1021	Generalist	I have little experience in speech modification with this client group. I feel more comfortable as a therapist in the role of facilitator in identification and desensitization process.
1023	Generalist	0
1025	Generalist	0
1029	Generalist	Because speech is only part of the communication problem.
1031	Generalist	To ensure maximum confidence, acceptance and compliance with therapy and increased self perception/fluency
1032	Generalist	working on speech modification alone does not address the underlying issues (i.e. thought processing/ attitudes) that contribute to and maintain the stutter
1034	Generalist	Client and therapist decide on goals early in therapy and the best way to achieve these is outlined.
1035	Generalist	0
1037	Generalist	The covert aspects of the stammer make up the majority of the stammer for most of my clients. These issues are often their main concerns and need addressing for their quality of life.
1042	Generalist	0
1044	Generalist	Directly related as anxiety caused by the stuttering.
1047	Specialist	I do not feel that purely working on speech modification has long lasting results unless you also address the other issues around stammering.
1052	Generalist	Using CBT model, behaviour more likely to reoccur if thoughts and feelings, attitudes assumptions and predictions are ignored.
1057	Specialist	0

1058	Generalist	Helps client with acceptance of their stutter. Other issues (avoidance/ anxiety etc) have built up over a number of years and have to be recognised and acknowledged.
1060	Generalist	Working with the end result of speech can help to show that the patient has more control over their speech, and allowing time for the patient to discuss their issues around speech may open up ways to help them change the way they think about it themselves, even if they never achieve fluency.
1071	Generalist	It is often more productive to change attitudes of the stammerer and the family than temporarily provide fluency techniques.
1073	Generalist	I feel strongly that you cannot develop true potential of a client without working on psychosocial aspects alongside working directly on stammer. Stammering is such a complex disorder and overt and covert features both affect each other. I feel working on psychosocial factors will have longer term success.
1078	Generalist	Often where clients have tried a number of therapy approaches before, I find a greater need for working on other issues.
1079	Generalist	Because they have a good outcome measure.
1081	Generalist	0
1087	Generalist	Training from City Lit.
693	Generalist	Session is client led, they set goals following discussion to be realistic.
702	Generalist	Because I feel these issues often impact greatly on the stammer and no positive lasting change can be made if these fundamental driving issues are not addressed. Working on such issues may make positive steps in leading to greater confidence, self esteem and acceptance.
703	Generalist	Literature (e.g. dysfluency resource book, Stewart and Turnbull) states that it is necessary to work on desensitisation, avoidance reduction etc before doing fluency techniques otherwise the techniques don't work/ client relapses
704	Specialist	I believe they impact on the person's view of themselves and consequently affect their fluency and therefore need to be addressed.
706	Specialist	When other issues are "blocking" therapy progress. When client wants to explore an issue impacting on communication.

707	Generalist	It is essential to work on the cause as well as the symptoms.
708	Generalist	0
709	Generalist	Because of the overall benefits to the client and to their speech.
710	Generalist	Bigger barrier to successful communication. Unsure of best approach to take.
711	Generalist	0
713	Specialist	Because the ultimate outcomes for the clients are better in the long run.
714	Generalist	0
719	Generalist	Associated issues e.g. anxiety.
720	Generalist	Most clients seem to also have difficulties in areas other than speech, as above, working on these does seem to improve clients attitude to self/ fluency and the disfluent speech itself.
721	Specialist	Find clients need a combination of approaches to tackle their issues. Have found solution focused approach very useful and avoidance reduction + VS.
722	Generalist	So as to limit avoidance and produce positive construct for communication.
727	Generalist	Holistic approach, important to address psychosocial / emotional aspects of dysfluency.
728	Generalist	My own belief is that speech modification will only be effective if some of the psycho-social and avoidance issues are addressed first, particularly within the level of service I am able to offer, I believe that work on psychosocial issues is likely to bring the greatest benefits to the client.
729	Generalist	It depends on what the client brings to the therapy session. If appropriate, often these issues are required to be explored.
730	Generalist	To increase confidence in strengths as a communicator, to encourage hypothesis testing re other approaches to communication.
731	Generalist	0
735	Generalist	0

737	Specialist	Because attitudes to stutter can affect the success of the speech modification techniques used.
738	Generalist	0
739	Specialist	Experience of direct speech work only is less effective than encompassing thoughts, feelings and attitudes about stammering.
740	Specialist	More and more new clients present with covert stammering and therefore there is little dysfluency to address. The greatest impact relates to non-speech issues which are therefore addressed. Even for those clients with more obvious stammering, speech modification techniques are usually (though not always) too challenging to implement from day one. Addressing non-speech issues first provides a more supportive/positive/accepting foundation on which speech modification can later be built.
742	Generalist	Emotions often the route of the problem.
743	Generalist	Build Rapport, Gain Trust, create a relaxed environment But obviously depends on the client
744	Generalist	To promote the concept of communication as being a shared act as opposed to just the physical aspect of speech production.
745	Generalist	0
746	Generalist	Desensitisation and feelings about stammering make most difference, but in conjunction with Block Modification clients seem to feel everything's being dealt with.
747	Specialist	0
748	Generalist	Anxiety increases stuttering therefore decrease sources of anxiety reduces stuttering and increases ability to cope.
750	Generalist	It is known that identification and desensitisation are important aspects OF therapy and they are effective. CBT is well proven in many fields outside of dysfluency and I have had very positive responses from clients when adopting a cognitive approach.

751	Generalist	Many clients report feeling the most relaxed they have ever been when under hypnosis. Teaching self-hypnosis is an excellent tool to reduce anxiety, increase positive self image, increase self acceptance.
752	Generalist	Because I believe that stammering is one third a speech difficulty and two thirds a problem with negative thoughts/feelings.
754	Generalist	Work on psychological issues because of impact on fluency and maintenance.
755	Generalist	Attitudes and situation effect speech behaviour and feelings.
756	Generalist	Helping client understand his stammer why it happens how Frequent it is and trying to help him realise he is not alone, problem is not unique to him, why and how it happens. Reduce avoidance, demystify and increase understanding.
757	Generalist	Unless beliefs about it being ok to stutter change I think it is impossible to generalise any speech modification.
759	Generalist	Better outcomes for clients when beliefs / feeling are explored re dysfluency.
760	Generalist	0
761	Generalist	We work on identification or covert/overt features in order that clients understand their stutter and themselves better. Then we work on desensitisation of avoidance reduction in an attempt to reduce anxiety around speaking and certain situations.
762	Generalist	In order to reduce avoidance and anxiety that directly impacts upon the stammer.
763	Generalist	I never work on speech modification.
765	Generalist	Well known that looking at client's perception through e.g. scale questions will bring up many issues with AWS. Changes in perception leads to changes in speech leads to how handle difficulties when arise.
767	Generalist	Improve client's sense of well being and accepting who they are often has positive impact on speech behaviours. Client feedback from City lit clients at national SIG.
768	Generalist	Always work on what the patient views as important even if I do not necessarily agree it is the best option.
769	Generalist	For adults, as opposed to children who stammer, I feel that working on covert dysfluency is more meaningful, motivating and successful for the client in the short and long term (if they are ready to work in this way).
770	Specialist	Often to encourage clients to recognise what they are already doing well, what they are good at.

771	Generalist	0
772	Generalist	Someone's thought processes can have a profound effect on their behaviour and result in a negative speech cycle.
773	Generalist	To touch on/ tackle some of the wider issues raised
777	Generalist	Because clients frequently need to talk to someone about how they feel and I think it helps them to feel understood and more willing to carry out therapy advice.
778	Generalist	To fully involve and empower clients. To encourage problem-solving approaches. To demystify speech process and put in context. To improve generalisation skills.
779	Generalist	Psychological component is such a major factor in dysfluency. In majority of cases pt has not discussed their speech and how it affects them with anybody else. Therefore become very much a counselling service to them.
780		To address whole issue of stuttering and impact for the AWS (iceberg theory- below waterline).
781	Specialist	Sometimes a person can be fluent in speech but not "fluent" in his perception of himself, lacks confidence/ ability/ assertiveness to use his fluency.
783	Generalist	0
784	Generalist	No evidence that changing speech changes avoidance, thoughts or feelings long term, so if those still exist changes in speech won't last.
785	Specialist	Because work on speech issues is prone to relapse and to decrease impact of stutter on AWS life.
790	Generalist	Holistic approach seems to have best outcomes.
791	Generalist	0
792	Generalist	1. Help client have understanding of factors involved. 2. Acceptance 3. Self esteem of client
794	Generalist	To facilitate discussion of the emotions and physical feelings being experienced and to help rationalise these.
795	Generalist	0

796	Generalist	*In my experience the manifestation of stammer in speech is only the surface of the problem. In fact I rarely work on speech directly instead I prefer it to try to establish and work on the root causes which I find are (initially) invariably psychological and related frequently to self-image or self-perception.
799	Generalist	0
801	Generalist	Working on psycho-social issues anxiety and avoidance is equally as important to address I have often found that overcoming these issues have more impact on a change in the clients life than speech modification.
804	Generalist	0
811	Generalist	0
812	Generalist	The clients have told me their main issues and goals have been set around those.
815	Generalist	1) Increase confidence. 2) The other issues are often maintaining factors. 3) Experience has found this is helpful.
816	Specialist	0
817	Generalist	The thought processes underlying stammering and the life changes as a result of stammering may be the things causing the client most difficulty. Would usually allow client to decide which area to take forward.
818	Generalist	Client motivation and wants of client.
820	Generalist	Seen as underpinning speech modification/ understanding/ acceptance of stammer.
821	Generalist	Often the psychosocial issues associated with the stutter are more limiting for the client than the stutter itself. Making changes here can make large positive lifestyle/emotional changes quickly.
824	Specialist	Because of the strong link between cognitive and emotional responses and severity or perception of severity of the stammer.
825	Specialist	If the person can be helped to develop a more robust and accepting identity as a person and as PWS, the stammering can become less intense.
827	Specialist	0

828	Generalist	To increase self-acceptance / confidence / self-knowledge
829	Generalist	To insure an overall approach to the stammerer in their overt and covert behaviours and feelings
831	Specialist	To boost confidence (ego boosting). To achieve relaxation in situations.
833	Specialist	If the stammer is covert, speech modification is not appropriate or at least not in the early stages of therapy
836	Specialist	A client's attitude and beliefs can either enable him or her to function well with the stammer or lead to increased avoidance, misunderstanding and social isolation. As more positive attitudes develop the stammering usually reduces.
837	Specialist	The vast majority of stutterers can speak fluently in some situations. They do not need to be taught how to do this. Addressing psychological issues also provides better long term prognosis. I often find that as clients accept their stutter the fluency also improves.
839	Specialist	To increase awareness, acceptance and openness to change which I believe empowers people to have hope, take risks, experiment, take appropriate responsibility and build lasting change for themselves.
840	Generalist	Because I believe like John Harrison that stammering is often not a problem with speaking this is merely the symptom. Stammering and emotional state are often very closely linked.
842	Generalist	Holistic approach
843	Specialist	To enable acceptance, to support the change process, to develop self- esteem/ confidence/ to facilitate change of emotions/ thoughts which all help to support any changes with fluency levels.
845	Generalist	0
847	Specialist	Essential
848	Specialist	Because these issues are an integral part of stuttering in adults and in some stuttering is the decoy
850		Stuttering is about so much more than dysfluent speech and I always discuss in a much wider context.

853	Specialist	Stammering is more than just a speech problem. I believe feelings, thoughts, avoidances play an important role in maintaining stammering. Hard/impractical to just work on one aspect. I believe increased acceptance/openness is fundamental.
856	Specialist	Because speech behaviour is only part of the problem
858	Specialist	To concentrate solely on speech confirms the view that they are stutterers and nothing but stutterers. They need to explore what else they are.
860	Specialist	Because speech is only the tip of the iceberg. Long term change requires attitude change.
861	Specialist	PWS come to therapy wanting more than speech modification work. They want often, greater insight into what and why and when and where and to be listened to and to have their perspectives broadened.
863	Generalist	Because speech symptom is only part of the problem. I believe there is a psychological component which needs addressed as it could maintain the symptoms.
867	Generalist	0
868	Generalist	By identifying and working on covert stammering symptoms these will indirectly have an effect on the more overt symptoms including speech.
870	Specialist	When dealing with a stammer so much is embedded in all areas of their life especially if they are still stammering in adulthood. It would be in-effective to work on speech modification without also working on psychological and emotional factors and in some cases working with their family too.
875	Specialist	Dealing with the issues that underlay the stammer usually results in increased fluency, and reduced avoidance. Once this achieved, work on speech modification, but often AWS don't feel need to modify once "I'm OK even if I stammer" achieved.
877	Specialist	Because I believe very strongly that stammering, particularly in AWS, is more than simply a motoric difficulty and that in order for changes to be lasting significant attention needs to be paid to the person's thoughts, attitudes and beliefs.

878	Specialist	Because shifts in attitude/ avoidance reduction can often make more permanent changes and can reduce the need for direct work on speech modification. A more holistic approach.
879	Generalist	0
885	Generalist	As a therapist I don't agree with the idea that working on speech alone will mean that anxiety related to stammering will naturally go away even if a person can use a technique to improve fluency stammering symptoms with still remain and fluctuate. Attitudes, beliefs, reactions etc also tend to remain. Reactions, negative beliefs etc are much more disabling than the stammering itself.
887	Specialist	To gain better understanding of client's experience of problem.
890	Specialist	Because the hidden aspects of stammering (feelings and attitudes) often serve to maintain the behaviours. The use of techniques alone is usually unsuccessful without a shift in perception of stuttering and self. As the adult is likely to continue stuttering in some way for the rest of their life, this shift is vital to living with stammering effectively.
892	Specialist	Client request/need as part of process of change sometimes need to work on area for the client then to see the need to work on another area.
895	Generalist	Fear of stammering perpetuates the condition, and can undermine the client's confidence in their ability to maintain fluency.
899	Generalist	I am more confident in doing so. I have observed greater success reported by clients. Clients' aims include emotional and psycho-social issues.
903	Generalist	0
906	Specialist	0
908	Generalist	Speech modification requires huge ongoing effort from the client and, if used in isolation, could reinforce negative feelings about stammering.
910	Specialist	Because the other issues (psychological/social) are more of a barrier to fulfilling communication than direct speech problems, also I would expect more relapse if I only worked on speech modification.

912	Specialist	Because speech modification on its own is hard for the client if they 'panic' while speaking i.e. because of their anxieties. Because in adults stuttering has become so much part of the way they make sense of their lives they need to make changes in the way they are as people if fluency is to become part of their identity.
913	Specialist	Always relates to priorities and needs of individual clients.
918	Generalist	Identified as issues relating to stammer and associated feelings, attitudes etc. Also take lead from AWS and their priorities / expectations.
921	Generalist	0
923	Specialist	Because people who stammer are not a series of speech hesitations they are human and research indicates better and longer lasting gains if speech changes are accompanied by changes in thoughts feelings and behaviour.
924	Generalist	Because attitudes and self-image have a huge impact on how clients feel about stammering and its impact in their lives - I aim to use a holistic approach to take account of these complexities.
925	Specialist	Psychological issues feed stammer and many people carry issues of reduced self worth, confidence, distorted thoughts, negative beliefs which severely impact on stammer and person's life and well being. The person is more than their stammer!
929	Specialist	To address covert features, sometimes there are minimal overt features.
930	Generalist	0
932	Specialist	I believe that thoughts and feelings associated with stammering in adults are unlikely to change simply by changing surface speech behaviours, so any fluent speech resulting from speech modification may feel "unnatural" or "like acting" and difficult to maintain, unless attention has been paid to changing underlying thoughts and feelings.
933	Generalist	Adults who stammer refer themselves for therapy for various reasons, some of which maybe more important to them than the speech issue e.g. wanting to change a job, so sometimes a stammer is looked at in relation to all the other issues.

934	Generalist	Need to look at "whole" person, as with most their stammer impinges on so many aspects of their life, beliefs, attitudes etc. - speech mod therefore unlikely to be effective.
938	Specialist	Because I see acceptance, attitude, change, anxiety independent problem solving as fundamental to lasting change.
940	Specialist	0
941	Specialist	Back to PCP thinking and feeling are related to behaviour. Some people change their thinking, emotional responses and their behaviour others work the other way round. Whatever happens I believe change must be meaningful to person to last so I use PCT to help change construing and view of self in line with changes in speech. Not what you do but the way you construe it etc.
942	Specialist	Many clients find speech modification very difficult to maintain. This failure can be an additional factor influencing their view of themselves as worthless. I work with the client on understanding their construction system and the role played by stammering in this system. We have to work at the deep or core level if they are to change their view of themselves. This work involves experiments with communication situations and interpersonal relationships.
945	Generalist	0
947	Generalist	Often it's the reaction to the stammer that is having the most profound effect, not the stammer itself. To only tackle the speech would feel like doing half a job. The stammer is unlikely to disappear completely, but it is possible to have control over other things. Working on speech whilst anxiety is still a big issue, could well be counter-productive, most speech techniques require calmness and control.
949	Specialist	Attitude change is needed to ensure long term progress.
950	Specialist	Because it affects their speech, i.e. the 'cause' of the problem is how they feel about themselves or what happens in their relationships.
952	Specialist	Because working on speech modification alone is insufficient in effectiveness in the short and long term.

954	Specialist	Often when clients learn to modify speech they choose not to use a technique for various reasons e.g. it doesn't sound natural. Changes in feelings, beliefs and attitudes lead to changes in behaviour including reduced avoidance behaviour and stammering.
955	Specialist	Because stuttering is a complex disorder requiring an eclectic approach.
956	Generalist	0
958	Specialist	I prefer a broad approach not everyone needs a techniques and some respond extremely well to cog-neuro NLP
960	Generalist	I firmly believed that stammering is based on a complex interaction of thoughts, feeling, behaviour, situation, people and communicative context. As a result I work on all areas- often simultaneously.
966	Specialist	Because I work holistically every stammer is different and so is every person who stammers.
970	Specialist	The results are better, clients make progress quicker and are happy with the results
973	Specialist	0
974	Specialist	I consider that for most AWS it is necessary to work on both speech itself and attitudes/ feelings and avoidance behaviour
975	Generalist	work on person as a whole, need to address psychological aspect of speech
978	Specialist	To treat the person as a whole
980	Specialist	I adopt an integrated approach. Stammering is complex and therapy needs to address the whole person.
981	Specialist	To address where relevant any cognitive aspects of stammering
982	Specialist	Assessment has identified need. Lack of progress with speech modification- need to work on other issues. Clients request.
986	Specialist	The concept that speech is effected by the level of anxiety, tension and negative thoughts etc.
987	Specialist	I believe strongly that work on the cognitive and emotional aspects of stammering is essential for an adult who stammers to make long-lasting changes.
988	Specialist	1. May work on social skills if this is appropriate. 2 may support therapy with counselling. 3. Confidence building/self-esteem
990	Generalist	0

991	Specialist	0
994	Specialist	Because in AWS speech is only one part of the picture. The problem is often a lack of perspective or - better - an unhelpful perspective where stammer can dominate the person's view of themselves and the world they inhabit. Focussing solely upon speech misses the point. It can seem client led but is really therapist or received opinion led.
995	Generalist	0
996	Generalist	0

Table 91

Open Ended Responses: Question D13

Open Ended Responses: Question F8

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Tracking number	Specialist or Generalist	F8 Are there any other comments you would like to make?
1000	Specialist	My number of referrals for AWS has significantly decreased over the past 20 years
1004	Specialist	No direct training in CBT but experience of CBT.
1008	Specialist	Work closely with BSA Scotland and give clients information about BSA, open days, self help groups, telephone groups, e-groups, conferences, etc.
1009	Generalist	I love the teabag idea
1012	Generalist	I think there are relatively few posts where it is possible to be considered or, think of yourself as highly specialist in stammering- often stammering is tagged onto voice as a specialism but this is historic rather than a true reflection of the nature of stammering assessment and therapy. Because an adult stammering caseload is fairly small it takes time to build a body of clinical experience. It also makes it difficult to get funding to attend courses and study days. Adults with learning disability may fall through the net as many adult therapists lack experience or do not wish to work with this caseload and many of the ALD therapists provide a more consultative/ key worker type input rather than regular one to one group therapy.
1014	Generalist	0
1016	Generalist	Do not need more in-depth undergraduate training because the lack of time to cover this and good external training which can be accessed.
1019	Specialist	Very interesting questionnaire. It will be interesting to know your results. Good luck. Not working full time, only small part of caseload the rest is voice work.

1021	Generalist	As a generalist its very difficult to give these patients what they need. Financial constraints and a lack of specialist posts mean these patients receive a limited service. Definitely a post code lottery. I often suggest they attend private intensive courses if i feel they will benefit. Patients that eventually DNA have been young males who could not articulate their expectations of therapy. I ask my patients to agree to a contract before commencing therapy, and encourage them to do their own research while reading the material i provide. This tests their commitment to therapy early on and highlights the commitment I am prepared to make for them. (Training should be postgraduate not undergraduate).
1023	Generalist	I did the post graduate training and my first degree is in psychology. So I am more aware of the emotional/ psychological issues involved with AWS, however it is a policy in our department to refer onto psychology services as we are not trained to deal with these issues
1025	Generalist	0
1029	Generalist	Participant said they would refer AWS to other specialist if necessary
1031	Generalist	0
1032	Generalist	I am aware that I need more training and this is one of my CPD objectives
1034	Generalist	0
1035	Generalist	Percentage of patients very few and therefore therapy is very exploratory looking into different areas, probably taking longer than need be in order to feel I've covered enough issues with patients. Due to lacked confidence as not a specialist area and access to specialists is limited.
1037	Generalist	0
1042	Generalist	0
1044	Generalist	Thanks for the tea! Great Idea!
1047	Specialist	0
1052	Generalist	CBT should be part of undergraduate training

1057	Specialist	Apologies for filling in quickly
1058	Generalist	0
1060	Generalist	Participant noted that "I am a team leader for Adult Acquired Neurological Difficulties. No one here is really interested in stammering so we all take them on" "if possible" re referring AWS clients to other specialists (A11). Participant noted "I would offer this info to patients but not do it myself" re using other prescribed approaches (B3). Participant noted "But I couldn't have done with the course being any longer" re covering issues other than direct speech modification in undergraduate training (F5).
1071	Generalist	Comment F6 - no formal training of CBT
1073	Generalist	0
1078	Generalist	I find goal setting and therefore evaluation of change, particularly difficult with adults with stammers goals are often unrealistic or difficult to measure.
1079	Generalist	0
1081	Generalist	0
1087	Generalist	0
693	Generalist	0
702	Generalist	F5 Also said undergrad training was insufficient although it was the main training at City University. I feel it is impossible to fully address stammering if all issues are not taken into account. Ultimately the physical act of stammering will effect how the person acts, feels, believes etc which will in turn impact on the stammer.
703	Generalist	I don't feel I had sufficient undergraduate training in speech modification techniques either. I actually feel more confident with the non speech mod stuff. I'm receiving client supervision from a guru of the stammering world but not everyone is that lucky.
704	Specialist	Very comprehensive survey best wishes with the research! P.s thanks for the tea
706	Specialist	0
707	Generalist	0

708	Generalist	0
709	Generalist	0
710	Generalist	0
711	Generalist	0
713	Specialist	A10 I manage the whole of the SLT service so no other case load. B1P find clients readiness for change hard to assess. F5 my training was a long time ago therefore I cannot really answer the question. Maybe adults with stammers are covered more thoroughly in current undergraduate degrees.
714	Generalist	0
719	Generalist	0
720	Generalist	0
721	Specialist	0
722	Generalist	0
727	Generalist	CBT introduction course only
728	Generalist	I'm in the process of readjusting the style of therapy I adopt and feel as if I'm still finding my feet rather in the transition from old way to new way therefore I hope I haven't contradicted myself in my responses. Best wishes with research
729	Generalist	Have heard of CBT but briefly as part of Block Modification Therapy. As a stammerer myself, I really enjoy working in this area. I can see how the course of therapy can benefit clients, and sometimes not. PS I apologise for the delay in replying and good luck in the study.
730	Generalist	A12: tried group therapy but numbers were too small.
731	Generalist	We were a successful intensive block modification course but due to the recent cuts these have been frozen and we are tending to advise patients to travel to London instead
735	Generalist	0

737	Specialist	Good questionnaire!
738	Generalist	Insufficient undergraduate training on direct speech modification. Also insufficient training in dysfluency
739	Specialist	I have a certificate in Psychodynamic Counselling (approved by COSCA).
740	Specialist	This is a very interesting study and I look forward to hearing about the results. You have covered the many, many aspects of adult stammering well, but the highly individualised nature of stammering means it is difficult to answer some questions. I would respond to individual needs as/when they arise and every treatment plan is different. There are common themes in terms of avoidance reduction/block modification etc but the length of time spent on any one aspect/order of different approaches varies from person to person. OTHER COMMENTS: Participant noted that more AWS are referred to the service but decline to attend (A9). Participant also noted that most of her outpatient caseload is AWS. She also works on inpatients for half the week (A10).
742	Generalist	Bach flower remedies are very effective, harmless and can have profound positive effects on anxiety, fear and confidence. Speeds up therapy.
743	Generalist	Definite lack of undergraduate training in therapy specifically, then a lot of generalist therapists muddling through
744	Generalist	I would value an update/ feedback
745	Generalist	0
746	Generalist	Participant noted that although she has worked with AWS for 15 years, there have been "long periods with no AWS"
747	Specialist	Participant noted "but still with a lot to learn" (A7). Participant noted "But intend to start" re using formal/published tests (B2H). Participant noted "where relevant" re doing direct work on avoidance of words (D2A).
748	Generalist	No mention has been made of other helpful counselling strategies or hypnotherapy which has had reasonable success in helping clients who stutter.
750	Generalist	I am really please you are doing a PhD on the topic, Good luck and would love to read the outcome of your research

751	Generalist	I am by no means a specialist with AWS but agreed to take on a caseload once I had qualified as a hypnotherapist. My specialist area is voice. I have enjoyed used in hypnotherapy with this client group due to the positive feedback I have received. Many who have received speech modification input previously with no success. Self hypnosis gives them an inner resource which is valuable in decreasing anxiety and increasing self esteem.
752	Generalist	I would like to thank you for researching in the fascinating field disfluency and especially for involving so much about covert issues, which are so important. Thank you also for the teabag-a lovely touch i wish you all the very best for your study.
754	Generalist	0
755	Generalist	I'd like some structured training in specific techniques and reassurance that in and assessments/ outcome measures actually doing the right kind of thing to reduce my feelings of anxiety around this client group
756	Generalist	0
757	Generalist	Recently I asked about drug and surgical options for AWS. I would like more information about research progress in these areas. About training: not sure if training is sufficient- until working with lots of AWS I don't think therapist start learning.
759	Generalist	A11- no specialists in her team
760	Generalist	Direct speech modification wasn't taught directly at undergraduate level either
761	Generalist	0
762	Generalist	Wish I had time to write more sorry! Just look at date- sorry its late
763	Generalist	Using solution focussed brief therapy we concentrate on finding solutions through success. We do not focus on problems only on what is working and future aspirations.

765	Generalist	I hope that this not a plug for unis to do more CBT while i think this approach is very useful I think it has dominated therapy recently and is seen as the answer to training eg students. I do feel however very strongly that students in stammering and other communication difficulties (eg aphasia) are woefully ill-equipped when they leave uni. I have spoken with city about this. The tutors preference is for PCT so she does that and she says there is no time to cover much else. So we all seem to be pushing our own agendas. F6: Why just CBT??! SFBT uses cognitive and behavioural questions.B3 where is solution focused brief therapy? A10: AWS 10% total caseload inpt/outpt: 90% of outpatients AWS.
767	Generalist	0
768	Generalist	0
769	Generalist	Despite using a lot of structures assessments at the outset, I feel that client led psychological exploration during their therapy block gives longer lasting results than being rigid in an approach focused on overt dysfluency. D10- communication skills training is done if required. EC- work through feared situations in their imagination- she put she has never done this but will try it! F^- CBT training: briefly at city university- I did a psychology degree before post-graduate SLT training.
770	Specialist	0
771	Generalist	My skills as a dysfluency therapist are fairly basic. I have had some post graduate training in treating adults with stammers but still feel new to the field.
772	Generalist	We seem to get relatively few SLT refs for adult non-fluency. OTHER COMMENTS: Participant is a specialist in neuro (A7).
773	Generalist	Good luck with research
777	Generalist	I feel that dysfluency is an area that needs intensive treatment, which is impossible to do in community clinics and therapy is therefore limited in its success.
778	Generalist	0
779	Generalist	C1E Comment - my clients who stutter report people have reacted negatively to their stuttering - this is the patient's own perception. Comment on E1O will only ask clients to disclose speech difficulties to others later on in group therapy.

780		0
781	Specialist	I find the brief focused solution therapy extremely useful with this client group. It keeps both of us focused and stops the client treating the therapy as an end in itself. Loved the teabag. Thank you. Questionnaire very user friendly and well set out
783	Generalist	0
784	Generalist	0
785	Specialist	0
790	Generalist	I feel techniques come and go but there is little advice and overview on this from the profession/ RCSLT eg CBT is now being modified and in some ways discontinued in psychology but we go on short training or read up/ hear of techniques and just go on using it regardless of the new views or developments. Or we discontinue interventions eg Edinburgh Masker but replace them with nothing widely approved/ evidence based. It seems ad hoc? And all this cannot be best practise for clients. I feel individual therapy CAN be dangerous unless National links are formed (for liaison, advice, best treatment guidance, and for the running of intensive courses.) (We see so few in community clinics our competencies can be questionable).
791	Generalist	0
792	Generalist	So rarely work with AWS that skills and confidence are low! But generalist caseload = they must be seen. There is no specialist input in the locations I work. I tend to work through a programme from relevant resource book!!
794	Generalist	0
795	Generalist	I have only seen ONE patient recently since taking on a wider range of patients. A6: worked with adults for 1st 5 years and then last year only. A11: we have no specialist to refer on to.
796	Generalist	Just an observation, I rarely if ever work on speech itself because 1 I feel it is only a service manifestation of a deeper problem, 2 I think speech techniques encourage people to think more consciously about speech and if anything they were already by definition thinking too much about it.

799	Generalist	A11: Refer on: I would refer on if I felt the need for further support. Support might be via phone call, discussion or joint assessment. F6: CBT was explored briefly while at university. I am familiar with the theory and principles but would not feel confident in applying it.
801	Generalist	0
804	Generalist	The tea bag was an excellent idea. Definitely encouraged me to do the questionnaire!! F6: not formal training in CBT. E1T: AWS don't like being asked to deliberately stutter. A6: on and off for 14 years. A11: Refer for 2nd opinion for advise but not for treatment.
811	Generalist	AWS make up a very small part of the adult caseload: currently 2% but it can be less than this. There are no specialists in the department to go to for further advice so much of my learning is done from text books recommended from when I was at uni. So I feel my work with AWS is limited by 2 or more main factors - 1) limited opportunity to gain experience with the client group because of demands of the rest of the caseload, 2) lack of opportunity to access further post-grad training. OTHER COMMENTS: Participant noted "Although would like to have that option" re referring AWS to other specialists (A11).
812	Generalist	I have filled in this form but please note that I only have experience in the last two years working with 2 AWS. Undergrad training was sufficient at a basic level
815	Generalist	0
816	Specialist	0
817	Generalist	A10: However my outpatient caseload about 85% AWS. I also do in-patient neuro and have a large caseload.
818	Generalist	Tammy, I have only recently started working with adults who stammer therefore my experience is limited. I hope the information I have given helps with your research!
820	Generalist	0
821	Generalist	0

824	Specialist	I work more with children who stammer rather than adults. This is mainly because we have a very low referral rate for adults in this relatively rural area. Staffing levels preclude us being more proactive in making our service known to potential clients . Stuttering is only one of several aspects of a specialist post. F5- re training - it was too long ago to remember her undergraduate training.
825	Specialist	I think mutual support, meeting others who stammer, is probably the most significant change promoting factor for PWS. Lots of the problems are about isolation and difference and concealment. When PWS find their 'tribe', realise what a diverse, creative, rich community they can be, that stammering need not be a barrier, they begin to relax and change and grow. In the process their speech may, though not always does, get easier, as they take on a fuller, more active role in all aspects of life and society. Sorry to go on! I do still love the 1:1 stuff when I get the chance but find I 'normally' recommend people work with me for a short time before moving on to a group. OTHER COMMENTS: Participant noted that she does not measure stuttering severity, frequency or type (B1A, B1B, B1C). Participant relies on "client report" for variability of stuttering (B1D). Participant noted "only one or two sessions at SIG" re training in Cognitive Behaviour Therapy (F6). Participant made final comment a
827	Specialist	F5ii Student training - requires hands on experiences over time. Difficult to teach many aspects
828	Generalist	How can we access your results? This looks like a brilliant piece of research, - Good Luck!
829	Generalist	Would like to do group therapy but not possible, No direct CBT training
831	Specialist	I am the only therapist in ***** who works with adults who stammer. More therapy time is needed. I originally took this on as no one else was willing to. I am now very involved in this area.
833	Specialist	0
836	Specialist	This looks a really interesting piece of work! (B2 B and C as well as via fluency case history) (D11 AB and C- usually a mixture of these) (CBT training: a little training not a full course)
837	Specialist	0

839	Specialist	I am exploring a little the usefulness of meditation/mindfulness and body work ie they way the body holds on to trauma or feelings associated with hurt anger, shame and fear. I do think solution focused brief therapy and CBT have a lot to offer AWS but I think different clients definitely respond to different mixes of approaches: individualised therapy. Re training: I had a placement at the City lit which made a lot of difference and took myself off to a counselling training course after I had been working a few years. I think that these skills could be taught with wider application than just AWS.
840	Generalist	An interesting project look forward to reading the results
842	Generalist	0
843	Specialist	0
845	Generalist	0
847	Specialist	0
848	Specialist	Although I have been slow to return this I have found it easy to fill in and user friendly. I think that's because I felt it strongly identified with my practise. Comment F6 - have not had any formal training in CBT
850		A7- I am highly specialist in ABI and work with AWS. A9 and supervised colleagues working with AWS.
853	Specialist	0
856	Specialist	Interesting questionnaire. Covered all areas
858	Specialist	AWS often find it useful to 'report back' after discharge. It is often necessary to address the issue of children and their possibly 'inheriting' the stuttering. Participant noted that she offers individual therapy now (A12). The participant also noted that she formerly saw AWS in the 'education' setting (A13). Participant emphasized use of 'laddering' in therapy with AWS (D11D).
860	Specialist	Excellent Survey. Thanks for the tea! Good time estimate for completion. I shall ask my clients some of the questions to see if I'm doing what I think I'm doing. Thank you.
861	Specialist	0

863	Generalist	Re non-speech modification therapy: as don't often see stammerers as undergraduate, Cognitive Behaviour Therapy etc more useful in post-grad phase when can relate to practise more. Participant thought that other issues should be covered in undergraduate training, but would be "better after trying to treat stutter in clinic" (F5).
867	Generalist	0
868	Generalist	0
870	Specialist	Working with AWS is a challenging area- which if you have not had sufficient training can be very difficult and often not satisfactory for clients. Many adults will have had negative therapy experiences in teenage years so many have not been to therapy for years so when they finally do there is usually a significant life issue leading them there such as difficulty getting jobs, relationship breakdown. So if this research can help ensure that when they have the will/courage to seek help the help they get the best is the best therapy available. I wish you lots of luck.
875	Specialist	Re question about undergraduate training covering issues other than direct speech modification, participant wrote "think this should be tackled post-grad in depth if working with this client group" (F5).
877	Specialist	Participant noted that 5% was a "very rough guess" (A10). Participant noted that referral of AWS to other specialists is "very much dependent on need" so didn't tick either box (A11). Re covering other issues in undergraduate training: Participant noted "Impractical due to volume of specialist clinical areas. Feel it needs to be identified within early stages of practice". Participant also noted "However, I do feel there should be greater standardisation of the amount and content of dysfluency teaching at an undergraduate level" (F5). Participant has only had introduction sessions in Cognitive Behaviour Therapy (F6).
878	Specialist	The national SIG is a useful point for training. (Use attitude scales for clients own perception: B1 A and B)
879	Generalist	0
885	Generalist	I only work with adults one day a week but I do have an interest in stammering (adults and paediatrics)it has been hard to develop skills with AWS as they are such a small part of the caseload. I feel I didn't have enough training as an undergraduate. Funding for postgraduate courses is also a problem, especially for adult courses.

887	Specialist	A10: small private practise
890	Specialist	Impossible to fit in more u/g training. In most specialist areas you expect to do further training.
892	Specialist	0
895	Generalist	0
899	Generalist	My experiences and training were mostly in areas other than working directly on the speech of people who stammer. I therefore feel much less confident in doing this direct speech work.
903	Generalist	0
906	Specialist	I do not use any speech techniques.
908	Generalist	I would like to see more postgraduate training eg in CBT, PCT, NLP, counselling specifically targeted at SLTs working with AWS and a mentoring scheme to provide clinical support.
910	Specialist	0
912	Specialist	good questionnaire, tea bag a masterly idea! very comprehensive
913	Specialist	Not sure about further undergrad training - time constrictions and also need to see clients to gain experience of other needs. May be best as postgraduate training.
918	Generalist	F6: Only introduction to cognitive behaviour therapy
921	Generalist	1) Making sure the client is truly aware of the therapy process is important so they don't feel we as therapists have ultimate control. 2) Referring to a Self Help Group and highlighting BSA is imperative Re question on covering issues other than direct speech modification in undergraduate training "I have found that most people who work with adults with a stammer begin once they have confidence as a clinician so they begin to broaden their experience" (F5). Re referring to other specialists - participant has contacted the Michael Palin Centre twice (A11).
923	Specialist	0
924	Generalist	Participant noted that she would like other issues to be covered in undergraduate training "If possible!" (F5).

925	Specialist	I would be interested to develop skills in speaking circles, narrative therapy. A10: Only private work - I don't work in NHS with stammerers. C5-C11: very CBT approach E1Q: But this is controversial about gradual or immediate exposure depending on CBT approach.
929	Specialist	Little CBT training
930	Generalist	Difficulty in small services regarding maintaining any specialist skills with AWS. Travel issues make it difficult for clients to access regional specialists. Training: Training in 1970s so much has changed. Can't comment of undergraduate training.
932	Specialist	1) I'm glad to see someone researching the work SLTs do on the "covert" aspects of stammering. I hope this will add to the evidence base for what I do. 2) In your objectives for the study, objective d) seems to cover objective c) - are both needed? Participant noted that although she hadn't received undergraduate training dealing with issues other than direct speech modification, "I had unusually good support on site when I first started working with AWS".
933	Generalist	My case load is very small, and has been over the past 10 years - approx 1 referral per year plus children who stammer growing into the 16+ category. I have answered thinking about only three clients over the past two years, so my sample is very small. I hope this is useful. Participant also noted that she believes undergraduate courses will have changed since she qualified in 1976, (ref F5 re sufficient undergraduate training)
934	Generalist	F5b - better accessibility to post qualification training. I've had no training in CBT other than a study day and read round this myself.
938	Specialist	A12 The first intensive therapy group is planned for this year. B1 a and b with regards to stuttering she always addressed but would rarely rate amount and severity of syllables stammered per sentence for example E1B I would only do assertiveness training indirectly F6 I have only had brief introductory course in CBT

940	Specialist	Stuttering therapy for AWS is complex and difficult and frequently long. Discharge can be far too early - mostly PWS require a long period of reducing amounts of therapy and support. One approach doesn't fit all. Participant noted that he 'sometimes' uses other prescribed approaches to assess AWS (B3). Participant noted "Don't understand this. I don't view it negatively at all." (C3). On page 10 participant noted "I match the therapy to the client. I don't use one approach." (Section D). Participant noted "hierarchies" in relation to E1Q. Re feeling confident dealing with issues other than Direct Speech Modification; participant noted "confident is not the right word - but happy" (F4). Participant commented that he had had "a little" training in Cognitive Behaviour Therapy (F6).
941	Specialist	My therapy with adults sort of unfolds every session leads to some work and the results this work leads to the content of the next session and so it goes on. we may be more focussed on speech and other physical aspects at some point and some insight and new way of seeing things might lead to a more cognitive phase of therapy that might then become more physical again as new ways of thinking are tested out. I try not to impose my view of therapy on clients but rather encourage them to use me as a resource to work on whatever seems to help them the most.
942	Specialist	I sometimes feel that speech modification techniques reinforce the clients self centredness and detract from the message content and the needs of the communication partner. However if there are techniques that work well for the client I encourage wider use and generalisation. Do clients really like to be called "AWS" or "PWS". This is surely worse than being a stammerer, why not just client? E!C: when encouraging AWS to work through in their imaginations I use PCP methods. E1F: use experiments in using communication (rather than speech) and reconstrue the situation. E1J reconstruction instead of educate. E4 Re Homework: the client usually decides what to focus on. F5: Counselling skills should be taught in undergraduate training.
945	Generalist	Just filling the form has been helpful in drawing my attention to what I do and don't do in therapy
947	Generalist	A10- she works 2 sessions a week- the rest of the time is mainly management. F5- training too long ago to recall if she had sufficient undergraduate training.

949	Specialist	Participant was not sure whether there is enough time to cover issues other than direct speech modification in undergraduate training (F5).
950	Specialist	1) I have worked with clients who have technique therapy but no discussion of their feelings around stammering who have gone on to feel guilty because they cannot use the technique all the time and it therefore becomes 'their fault'. 2) If therapists are working with clients who stammer, they should be in clinical supervision - it is a very complex area and clinical supervision helps safeguard therapists and is necessary for reflective practice. This point should be made to undergraduates. Counsellors who work with similar types of problems would have to be in clinical supervision in order to practise. Participant noted "not sure what this means" (D4). Participant noted "I would work towards this" (D9). Participant noted "most of the time" (D11A). Participant noted "in the first instance" (D11C). Participant noted "I discuss this but do not do training" (E1B). Participant noted "usually later in therapy" (E1O). Participant noted they had had some "informal" t
952	Specialist	0
954	Specialist	Good luck with your research. I'll be really interested to hear about your findings.
955	Specialist	0
956	Generalist	0
958	Specialist	0
960	Generalist	As a manager of the SLT service I do limited clinical work but run a bimonthly stammering group of 6 adults.
966	Specialist	Doesn't think enough undergrad training but she trained nearly 40 years ago.
970	Specialist	A well presented questionnaire
973	Specialist	0

974	Specialist	Although I am recognised as a specialist in stammering my caseload of AWS is very small. Amid a general adult caseload (mainly stroke patients) or patients with progressive neurological disorders, this means that I can rarely run groups (as I would like to). I work in a very rural location, (large geographical catchment area) and this restricts the service I can offer. A7 - Not exclusively
975	Generalist	Just a suggestion, if this is British research shouldn't the British term stammering be used rather than the American stuttering
978	Specialist	0
980	Specialist	"Sorry it's late. Very busy at present!" Participant refers AWS to other specialists for group therapy but not for individual (A11). Participant does not use tools for initial assessment (B2F).
981	Specialist	F5: Re more undergraduate training: needs to be covered although not possible given time constraints in lecturing. Re E1O&P
982	Specialist	0
986	Specialist	0
987	Specialist	I think it is essential for Speech and Language Therapists working with adults who stammer to be trained in a wide range of approaches, as stammering is so complex and behavioural change cannot be sustained unless work in other areas has been completed.
988	Specialist	F6: some CBT training. B2F: Use tools such as Iceberg. A11: refer AWS on - occasionally.
990	Generalist	Comment A7 - Specialist in another area but work in a small team, need to see some patients. Used to run a group and have interest but have developed in another area. Comment A12 - Does offer group therapy when the need arises.
991	Specialist	Participant noted "I only work clinically 1 day per week and manager 4 days per week" in relation to proportion of caseload AWS (A10).

994	Specialist	It takes time to be able to look at the client as a person not as a speech problem on legs. This is not easy and not all SLTs would rush to do this. Somehow I was drawn into it and maybe a 1 week experience in the pre City University course in London during my training in the 70s was particularly formative. We did "technique" work there but even then I realised I believed there was more to the person than the speech produced.
995	Generalist	0
996	Generalist	0

Table 92

Open Ended Responses: Question F8

APPENDIX 5

Modified Delphi Technique

Correspondence to Experts

Email Message 1

Dear <Expert>

My name is Tammy Davidson Thompson. In January of this year I sent out a questionnaire to therapists who work with adults who stutter, and you were very kind as to complete the questionnaire.

I was fortunate to have a fantastic response rate of 77%, and I have spent a lot of time analysing the results. I am now at the stage where I am trying to interpret what the results mean. I have made some initial interpretations but have been advised that it would be a good idea and increase the rigour of the study to have some experts in the field give their interpretation of what the data means. I hope you don't mind me approaching you again but I would value your opinion in examining the data and looking at alternative explanations/ interpretations making my research more robust.

Please would you consider being involved in the interpretation of my data?

It will probably take about 20-30 minutes of your time.

I hope that you will look at the accompanying attachments and give your suggestions on how the data might be interpreted. I am sending this to a few experts in the field.

Once everyone has expressed their views, all the views will be fed back to you via email, with the hope that you could all give your opinion again on the collected information, so that we may reach a consensus in the interpretation of the data.

Please find attached an explanation of what I would like you to do, and a copy of the questionnaire that was distributed.

I really do appreciate your time and energy.

If you could send me a response by the 1st of November 2007 I would be most grateful!

Thank you very much!

Tammy

Attachment to Email 1

As you know I sent out a questionnaire to speech and language therapists who work with adults who stutter. This questionnaire asked them about what they did in therapy with adults who stutter. It especially asked about what they did to work on the psycho-social issues associated with stuttering.

190 questionnaires were returned to me. This was response rate of 77%. Each questionnaire had 6 sections, Section A- Section F. Each Section looked at a different area involved in the therapy process. Section B asked questions about *Assessment*, Section E asked questions about *Therapeutic Principles and Techniques*. I entered all the data into SPSS (a statistical software package), and did principal component analysis on each of the Sections B- E (Sections A and F were different types of data).

Principal component analysis is a statistical technique that allows for large amounts of data to be summarised into the main (or principal) components (or factors). It tries to define the underlying structure of the relationships between the variables. It groups variables that correlate together into different components or factors. It helps identify patterns or relationships in the data and tries to summarise the data into the major factors that describe the data.

When I did the principal component analysis on each of the sections, it resulted in a number of components (factors) which statistically correlated or summarised the data in that section. I have attempted to interpret what the theme of each component is and give it a label to describe it.

I would be very grateful if you could help provide me with an alternative perspective on the interpretation of the components. You have been chosen because you are expert in the area of stuttering. Your opinion will help make the interpretation of the data more robust.

An example:

If the variables that fell together to form a principal component were the following:

Desk, chair, lamp, filing cabinet, clock and bed

I may say that **the theme** of the data is: objects that you may find in an office or a house, fittings or fixtures in a place of work.

The label I may choose to give this may be a description of the whole group, or a description of the most defining characteristics of the group: *Furniture or Office Equipment*.

The theme describes the characteristics of the group of variables as best is possible. The label gives the group a title to describe the group.

What I would like you to do:

I would like you to examine the different principal components (the groups of variables) from each section and try to give each component a theme and label.

Some of the variables in the group may not fit perfectly, but if you can come up with a theme and label that describes most of the variables in the component that would be ideal.

I am asking a few people who are experts in this area to do this. Once I have received everyone's suggestions, I will feed them back to you to see whether we can reach a consensus on what themes and labels best describes the

principal components. I have also sent you a copy of the original questionnaire so that you can see how the questions were originally asked.

The components that are at the beginning of each section are the strongest components (those where the relationships between the variables were strongest.)

Section B: Assessment

<u>Section B</u>	<i>Component 1</i>	<i>Component 2</i>	<i>Component 3</i>	<i>Component 4</i>
	Type of stuttering	Stuttering severity	Client's emotional response to their speech	?Variability of stuttering
	Speech behaviours	Stuttering frequency	Thought processes about stuttering	Through tools (such as the iceberg, repertory grids, etc)
	Avoidance behaviours	Assess through quantifiable measures	Coping strategies	Through informal self rating methods
	Family history	Assess through labelling the stutter into categories	Client's readiness to change	Through formal / published tests
	Life choices as a result of stuttering		Client's desired outcomes of therapy	
	Previous therapy			
	Assess through case history			
Theme:				
Label:				

Section C: What do your adult clients who stutter report to you in therapy situations? The following questions are trying to establish the issues with which AWS report difficulties.

Section C	Component 1	Component 2	Component 3
	Evaluate their speech negatively	Affects their working life	Feelings of helplessness
	Evaluate their speech more negatively than I, as their therapist would	Avoiding words	Stuttering varies according to the levels of stress
	Low self-esteem	Avoiding situations	Psychological problems are linked with stuttering
	Focus on only some of the information available to them	Being anxious about speaking	Stuttering affects their personal relationships
	Anticipate negatively what other people might think of them?	More difficulty speaking to some people than to others	Experiences involving their speech which upset them
	Interpret events in a negative way	People have reacted negatively to their stuttering	Blame themselves for their stuttering
	Beliefs or assumptions that are negative, unhelpful and possibly untrue	Restriction in their lives	
Theme:			
Label:			

Section D: What areas would you work on in therapy and what would your rationale be?

<u>Section D</u>	<i>Component 1</i>	<i>Component 2</i>	<i>Component 3</i>
	Avoidance issues	Feelings and attitudes related to speaking	Find out the attitudes, feelings, thoughts, beliefs and assumptions via structured questions
	Avoidance of words	Anxiety related to stuttering	Find out the attitudes, feelings, thoughts, beliefs and assumptions via questionnaires
	Avoidance of situations	Identity issues related to stuttering	Find out the attitudes, feelings, thoughts, beliefs and assumptions via reports from others
	Feelings that result in avoidance	Negative thoughts related to speaking	
	Avoidance of relationships		
	Acceptance of stuttering		
	Practical problem solving		
	Openness/disclosure about stuttering		
Theme:			
Label:			

Section E: The principles and techniques you use in therapy

<u>Section E</u>	<i>Component 1</i>	<i>Component 2</i>	<i>Component 3</i>	<i>Component 4</i>
	Discuss their thoughts	Set up experiments	Carry out surveys	Assertiveness training
	Explore their interpretations	Set specific goals	Find out what other people think of stuttering	Imagine and work through in their imagination their feared situations
	Evidence for their beliefs	Disclose their speech difficulties	Audio or video work	Role-play difficult situations
	Challenge their perspectives	Expose gradually to difficult situations	Deliberately stutter	
	Use questioning, summarising and reflection	Work through hierarchies		
	Talk through difficult experiences and deal with the feelings and emotions?	Set homework		
	Problem-solve			
	Discuss t the listeners' perspective			
Theme:				
Label:				

If you could come up with a **Theme** and a **Label** for each of the components for each section I would be very grateful!

Thank you once again for all your help in my project!

Tammy Davidson



Email Message 2

Dear <Expert>

Thank you very much for sending me your interpretation of my data- I really value your expert opinion! The research is coming along well and I am hoping I will be able to present this at the Oxford Dysfluency Conference.

I have finally received 10 responses to my Delphi exercise on interpretation, and hoped I could ask for your help once again. I am hoping that you will be able to take a look at what all the experts said, and choose an option from what people have said that best describes the components. I am hoping to obtain an expert consensus! I know that you said that it was a difficult task last time, so I really appreciated the time you took to help me. I found what you contributed to be very relevant and helpful. This should hopefully be easier than last time because it is choosing from a selection of answers rather than trying to generate an answer. I hope it should only take 10-15 minutes.

I wonder if you could send me a response in the next two or so weeks?

Thank you so much for your help, especially all the time you have spent looking at this. I really do appreciate you being involved in this research and I really do value your opinion!

Thanks again!

Tammy

Thank you very much for looking through the initial results of my questionnaire and giving your interpretation. We had 10 experts who responded. Some people reported that they found the process quite difficult- thank you for persevering!

I really appreciate all the time and effort you have taken to help me. I do think the results will be greatly worthwhile, and will add to our knowledge and understanding of therapy. I have found statistically significant results, so the hope is that this will definitely be publishable research.

I am hoping to **reach a consensus** from everybody of what the components might mean. The answers that we received from everyone had quite a few similarities.

This stage should hopefully be a **lot easier!** Last time I asked you to generate a theme or label to describe the group of variables which fell together as a component. This time I will ask you to look at the themes/ labels that everyone came up with and choose the best one to describe the group. (As a task as therapists we know that selection from a choice is an easier option than generating an answer!) I hope that this will only take about **10-15 minutes**.

You might remember that I did principal component analysis on the information from my original questionnaire. This resulted in the data being summarised or reduced into groups (components). These groups were made up of all the variables that correlated (the variables which showed a relationship). I asked you to look at the variables within a group and come up with a theme and label for each group which described the group. What I would like you to do now is choose the best theme and label from each component (group) from all the experts. I am hoping to get an expert consensus.

Instructions:

Please could you

1. Read through the original variables that were grouped together (*the ones in italics*),
2. Then read through the themes and labels that everybody submitted
3. Choose one that you feel describes the group the best. You can also put in a second choice.
4. Place your choices in the space marked 1. and 2.

I have set out the pages with the original variables in the component at the top (*in italics*).

Under that is a box with the themes that the experts suggested. Below it is a place for you to put your first and second choice of answer.

The labels given by the experts are below that and also have 2 spaces for you to rank your choice of the best labels.

Where two or more people have responded with the same words I have put the choices together and put in brackets how many people gave that response.

Example:

If the variables that fell together to form a principal component were the following:

Original component group:

What objects do you have in your house?

- *Desk*
- *Chair*
- *Lamp*
- *Filing cabinet*
- *Clock*
- *Bed*

Themes from experts:

- Objects found in an office
- Fittings or furniture
- Things from an office
- Household fittings
- Household furniture

Example 1: Theme: Your ranked selection

1. **Things from an office**_____
2. **Objects found in an office**_____

Labels from experts:

- Furniture (x3)
- Office equipment
- Household Objects

Example 1: Label: Your ranked selection

1. **Furniture**_____
2. **Office Equipment**_____

Thank you very much for your time energy and effort. I hope just to send you one more email after this to tell you what the consensus was!

Thank you again!

Tammy

Section B: This section asked SLTs how they ASSESS

Section B: Component 1

Original component group:

What areas do you assess with AWS? and How do you assess AWS?

- *Type of stuttering*
- *Speech behaviours*
- *Avoidance behaviours*
- *Family history*
- *Life choices as a result of stuttering*
- *Previous therapy*
- *Assess through case history*

Themes from experts:

- Therapist identifying key factors in stammering profile
- Key factors assessed with AWS
- Factors for stuttering assessment
- Things to consider when carrying out an assessment
- Aspects describing a case of stuttering
- Aspects of measurement which are qualitative in nature
- Overview of all different aspects of stuttering
- Experience & impact of stutter for individual
- Total physical and emotional impact of the stammer on life
- Behaviours and history
- Types of problem and background to problems

Section B Component 1: Theme: Your ranked selection

1. _____

2. _____

Labels from experts:

- Key assessment factors
- Assessment factors
- Assessment criteria
- Assessment of qualitative aspects of stammering
- Stuttering characteristics
- Characteristics or features of stammering
- Problems
- Case history
- Stammer on life
- Holistic picture

Section B Component 1: Label: Your ranked selection

1. _____

2. _____

Section B: Component 2:

Original component group:

What areas do you assess with AWS? and How do you assess AWS?

- *Stuttering severity*
- *Stuttering frequency*
- *Assess through quantifiable measures*
- *Assess through labelling the stutter into categories*

Themes from experts:

- Aspects of stuttering and how these are assessed
- Description of stuttering severity and type of stuttering incidents
- Characterisation and characteristics of stuttering
- Exhibited behaviours
- Observable aspect of stuttering
- Overt speech aspects
- Therapist identifying overt behaviours
- Objective stuttering measures
- Quantifiable measure of the physical stammering behaviour
- Aspects of measurement which are quantitative in nature
- Measurable things to consider when assessing the stammerer itself

Section B Component 2: Theme: Your ranked selection

1. _____

2. _____

Labels from experts:

- Quantitative assessment
- Quantitative stuttering measures
- Assessment of quantitative aspects of stammering
- Aspects of stuttering
- Stuttering behaviours
- Stuttering severity
- Exploring primary behaviours
- Physical stammering behaviour
- Overt characteristics
- Observable characteristics

Section B Component 2: Label: Your ranked selection

1. _____

2. _____

Section B: Component 3:

Original component group:

What areas do you assess with AWS? And How do you assess AWS?

- *Client's emotional response to their speech*
- *Thought processes about stuttering*
- *Coping strategies*
- *Client's readiness to change*
- *Clients desired outcomes of therapy*

Themes from experts:

- Psychological aspects of stuttering
- Psychological response in response to stammering behaviour
- Cognitive and emotional issues
- Emotions and cognitions related to stuttering
- Impact of stutter on emotion & motivation
- Covert aspects
- Therapist identifying covert behaviours
- Insider views of stuttering and change
- Aspects of the client
- Ways in which people respond to their stammering
- Private knowledge about stuttering

Section B Component 3: Theme: Your ranked selection

1. _____
2. _____

Labels from experts:

- Psychological factors
- Psychological aspects
- Psychological impact
- Cognitive and emotional issues
- Exploring feelings & attitudes
- Client perspectives
- Assessment of client factors
- Individual responses
- Private view of stuttering
- Covert characteristics

Section B Component 3: Label: Your ranked selection

1. _____
2. _____

Section C: This section asked SLTs what their CLIENT’S REPORTED TO THEM IN THERAPY

Section C: Component 1:

Original component group:

My adult clients who stutter:

- Evaluate their speech negatively
- Evaluate their speech more negatively than I, as their therapist would
- Low self-esteem
- Focus on only some of the information available to them
- Anticipate negatively what other people might think of them?
- Interpret events in a negative way
- Beliefs or assumptions that are negative, unhelpful and possibly untrue

Themes from experts:

- Negative beliefs and biases
- Negative beliefs and cognitions related to stuttering
- Negative attributions / biases in attribution
- Negative thinking
- Negative automatic thoughts
- Negative impact of stuttering on thinking and view of self
- Negative thoughts and attentional bias
- Cognitive (thinking) biases about their stammer
- Thoughts and feeling connected with stammering
- Factors which influence the individual’s attitude to their speech
- Client partial and negative self-evaluation

Section C Component 1: Theme: Your ranked selection

1. _____

2. _____

Labels from experts:

- Negative beliefs and biases (x2)
- Negative cognitions
- Negative self-evaluation
- Negative evaluations of stammering
- Cognitive bias
- Cognitive aspects of stammering
- Cognitions / thoughts
- Problem focus
- Speech attitude

Section C Component 1: Label: Your ranked selection

1. _____

2. _____

Section C: Component 2:

Original component group:

My adult clients who stutter report?

- *Stuttering affects their working life*
- *Avoiding words*
- *Avoiding situations*
- *Being anxious about speaking*
- *More difficulty speaking to some people than to others*
- *People have reacted negatively to their stuttering*
- *Restriction in their lives*

Themes from experts:

- The effect of stuttering in the social life
- Factors which influence work & social life
- Anxiety and impact on life
- Negative impact on social and work life
- Negative impact on activity and participation
- Negative impact of stammering on carrying out their everyday life
- Ways in which people react to stammering
- Things that people experience or do as a result of stammering
- Impact of thinking on behaviour and interpretations
- Avoidance and restrictions
- Levels of avoidance

Section C Component 2: Theme: Your ranked selection

1. _____

2. _____

Labels from experts:

- Social anxiety
- Social handicap
- Social phobia/ anxiety (Negative impact on social interactions)
- Negative impacts on activity and participation
- Negative impact on life
- Affects of stammering
- Impact of stammering on daily life
- Avoidance
- Avoidance behaviours
- Cognitive/behavioural implications

Section C Component 2: Label: Your ranked selection

1. _____

2. _____

Section C: Component 3:

Original component group:

My adult clients who stutter report?

- *Feelings of helplessness*
- *Stuttering varies according to the levels of stress*
- *Psychological problems are linked with stuttering*
- *Stuttering affects their personal relationships*
- *Experiences involving their speech which upset them*
- *Blame themselves for their stuttering*

Themes from experts:

- Psychological and interpersonal responses to stuttering
- The psychological effects of stuttering
- Negative impact on the person
- Negative emotional responses
- Negative emotional effects
- Factors which influence sense of identity, negative impact on the person
- Factors which influence stammering
- Emotional impact of stammer on life
- Emotional Impact
- Emotional and quality of life issues
- Ways in which stammering can affect emotions

Section C Component 3: Theme: Your ranked selection

1. _____

2. _____

Labels from experts:

- Psychological responses
- Psychological effects
- Feelings & attitudes
- Feelings
- Negative impact on the person
- Negative emotional impact
- Emotional impact
- Emotional aspects of stammering
- Emotional aspects of stammering
- Quality of life

Section C Component 3: Label: Your ranked selection

1. _____

2. _____

Section D: What areas would you work on in therapy and what would your rationale be?

This section asked SLTs what AREAS OR GOALS THEY WOULD WORK ON IN THERAPY

Section D: Component 1:

Original component group:

As a therapist working with AWS, I work on:

- *Avoidance issues*
- *Avoidance of words*
- *Avoidance of situations*
- *Feelings that result in avoidance*
- *Avoidance of relationships*
- *Acceptance of stuttering*
- *Practical problem solving*
- *Openness/ disclosure about stuttering*

Themes from experts:

- **Avoidance and acceptance (x2)**
- Avoidance of feared speech situations
- Avoidance of things due to stammering
- Avoidance related issues
- Avoidance
- Dealing with avoidance
- Ways of reducing avoidance
- Ways that avoidance change speech and interpersonal behaviour.
- Ways in which people avoid aspects of stammering
- Behaviours to target in therapy

Section D Component 1: Theme: Your ranked selection

1. _____

2. _____

Labels from experts:

- **Avoidance (x5)**
- Avoidance / acceptance
- Avoidance issues due to stammering
- Avoidance reduction
- Issues of avoidance
- Mechanism for change (behaviours)

Section D Component 1: Label: Your ranked selection

1. _____

2. _____

Section D: Component 2:

Original component group:

As a therapist working with AWS, I work on:

- *Feelings and attitudes related to speaking*
- *Anxiety related to stuttering*
- *Identity issues related to stuttering*
- *Negative thoughts related to speaking*

Themes from experts:

- Feelings and attitudes related to stammering (x3)
- Attitudes, cognitions, and emotions related to stuttering
- Thoughts and feelings about stammering
- Underlying feelings/thoughts
- Ways stammering impacts on thoughts and feelings
- Cognitive thoughts and emotions
- Cognitive / emotional
- Emotion and identity in relation to self as speaker

Section D Component 2: Theme: Your ranked selection

1. _____
2. _____

Labels from experts:

- Psychological aspects of stuttering (x3)
- Feelings and attitudes
- Thoughts and feelings
- Cognitive thoughts and emotions
- Cognitive cycle?
- Emotional and cognitive effects of stammering
- Mechanism for change (attitudes)
- Experiences as speaker

Section D Component 2: Label: Your ranked selection

1. _____
2. _____

Section E: The principles and techniques you use in therapy

Section E: This section asked SLTs what PRINCIPLES OR TECHNIQUES they would use in therapy. *Original component group:*

Section E: Component 1:

In therapy with AWS do you:

- *Discuss their thoughts*
- *Explore their interpretations*
- *Evidence for their beliefs*
- *Challenge their perspectives*
- *Use questioning, summarising and reflection*
- *Talk through difficult experiences and deal with the feelings and emotions?*
- *Problem-solve*
- *Discuss the listeners' perspective*

Themes from experts:

- Cognitive behavioural approach
- CBT thought- related activities
- Cognitive aspects
- Cognitive Techniques
- Ways to change cognitions related to stuttering
- Methods of exploring & challenging feelings, beliefs & attitudes
- Approaches to exploring client perspectives
- Therapy techniques which encourage cognitive reframing
- Therapeutic ways of approaching covert aspects of stammering
- View of self as a person who stutters (PWS)
- Increase awareness of problem management and consequences through discussion

Section E Component 1: Theme: Your ranked selection

1. _____

2. _____

Labels from experts:

- Cognitive Therapy (x2)
- Cognitive behavioural approach
- Verbal Cognitive Therapy techniques
- Thought challenging
- Targeting feelings, beliefs & attitudes
- Exploring client perspectives
- Understanding self
- Psychological approaches to stammering
- Client centred counselling

Section E Component 1: Label: Your ranked selection

1. _____

2. _____

Section E: Component 2:

Original component group:

In therapy with AWS do you:

- *Set up experiments*
- *Set specific goals*
- *Disclose their speech difficulties*
- *Expose gradually to difficult situations*
- *Work through hierarchies*
- *Set homework*

Themes from experts:

- Behavioural approaches to anxiety management
- Behavioural approach – ‘doing/acting’
- Behavioural Techniques
- Work on behaviour change through structured tasks
- Working on activity and participation
- Ways to reduce the fear for speech situations
- Ways of helping clients approach cognitive and emotional aspects of stammering
- Strategies to bring about change
- Therapy techniques which involve specific, gradual targets.
- Confronting and working on difficulties
- Challenging or changing view of self as PWS

Section E Component 2: Theme: Your ranked selection

1. _____
2. _____

Labels from experts:

- Behavioural Approach (x2)
- Behaviour change
- Bringing about change (behaviours)
- Challenging or changing self
- Anxiety management
- Desensitization
- Approaches to working on avoidance
- Graduated progress to specific goal.
- Therapy techniques

Section E Component 2: Label: Your ranked selection

1. _____
2. _____

Section E: Component 3:

Original component group:

In therapy with AWS do you:

- Carry out surveys
- Find out what other people think of stuttering
- Audio or video work
- Deliberately stutter

Themes from experts:

- Normalising and reality testing
- Correcting faulty beliefs
- Changing perspective to more realistic one
- Ways to get a more objective and balanced view of stuttering
- Objective methods of exploring others' attitudes to stutter
- Understand more about what the stammer feels, sounds looks like through gathering objective information
- Therapy techniques which help clients obtain more information or feedback about stuttering
- Gaining evidence about view of self as PWS
- Work on bringing stuttering out into the open
- Ways to help clients examine own and others' reactions to stammering
- Practical outside work

Section E Component 3: Theme: Your ranked selection

1. _____

2. _____

Labels from experts:

- Reality testing
- Reality/ objective orientation
- Reality orientation
- Objective view
- Gathering objective information
- Information getting techniques.
- Others view of self
- Bringing about change (perceived attitudes of others)
- Identification of reactions to stammering
- Coming out

Section E Component 3: Label: Your ranked selection

1. _____

2. _____

Email Message 3

Dear <Expert>

I hope you are well?

Thank you again so much for giving of your time and expertise to help me interpret the data I received from my questionnaire.

There was good consensus on most of the themes and labels for the components, although sometimes, all the experts chose slightly different ways of wording the choices.

I have combined all the answers and chosen (and sometimes reworded) a theme and label that corresponded with the most frequent choices from the experts.

Please find attached the final labels and themes. Please could you look at them and if you disagree strongly with any of the labels and themes, please could you let me know?

If I don't hear from you I will assume that you are happy with the final choices.

I have also attached an appendix giving you a summary of all the choices selected- that is just for your interest so that you can see which choices were selected most frequently.

I am hoping to present this research at the Oxford Dysfluency Conference in July, and when I have completed the entire research project I will send you a summary of all the results.

Thanks again so much for your help!

Best wishes

Tammy (Davidson) Thompson

Attachment 1 to Email Message 3

Section B: This section asked SLTs how they ASSESS

Section B: Component 1

Original component group:

What areas do you assess with AWS? and How do you assess AWS?

- *Type of stuttering*
- *Speech behaviours*
- *Avoidance behaviours*
- *Family history*
- *Life choices as a result of stuttering*
- *Previous therapy*
- *Assess through case history*

Final Theme: Key factors to consider for stuttering assessment

Final Label: Key assessment factors

Section B: Component 2:

Original component group:

What areas do you assess with AWS? and How do you assess AWS?

- *Stuttering severity*
- *Stuttering frequency*
- *Assess through quantifiable measures*
- *Assess through labelling the stutter into categories*

Final Theme: Quantifiable, objective, observable measures of the overt physical stammering behaviour

Final Label: Quantitative stuttering measures

Section B: Component 3:

Original component group:

What areas do you assess with AWS? And How do you assess AWS?

- *Client's emotional response to their speech*
- *Thought processes about stuttering*
- *Coping strategies*
- *Client's readiness to change*
- *Clients desired outcomes of therapy*

Final Theme: Psychological impact of stuttering on cognitions, emotions and attitudes

Final Label: Assessment of cognitive and emotional issues related to stuttering

Section C: This section asked SLTs what their CLIENT'S REPORTED TO THEM IN THERAPY

Section C: Component 1:

Original component group:

My adult clients who stutter:

- *Evaluate their speech negatively*
- *Evaluate their speech more negatively than I, as their therapist would*
- *Low self-esteem*
- *Focus on only some of the information available to them*
- *Anticipate negatively what other people might think of them?*
- *Interpret events in a negative way*
- *Beliefs or assumptions that are negative, unhelpful and possibly untrue*

Final Theme: **Client's report of negative impact of stuttering on cognitions/ thinking/ view of self**

Final Label: **Client's report of negative cognitive beliefs and biases related to stuttering**

Section C: Component 2:

Original component group:

My adult clients who stutter report?

- *Stuttering affects their working life*
- *Avoiding words*
- *Avoiding situations*
- *Being anxious about speaking*
- *More difficulty speaking to some people than to others*
- *People have reacted negatively to their stuttering*
- *Restriction in their lives*

Final Theme: **Client's report of restrictions on social and work life as a result of stuttering**

Final Label: **Client's report of negative social impact of stuttering on daily life**

Section C: Component 3:

Original component group:

My adult clients who stutter report?

- *Feelings of helplessness*
- *Stuttering varies according to the levels of stress*
- *Psychological problems are linked with stuttering*
- *Stuttering affects their personal relationships*
- *Experiences involving their speech which upset them*
- *Blame themselves for their stuttering*
-

Final Theme: **Negative psychological impact and interpersonal responses to stuttering**

Final Label: **Negative emotional psychological response to stuttering**

Section D: What areas would you work on in therapy and what would your rationale be?

This section asked SLTs what AREAS OR GOALS THEY WOULD WORK ON IN THERAPY

Section D: Component 1:

Original component group:

As a therapist working with AWS, I work on:

- *Avoidance issues*
- *Avoidance of words*
- *Avoidance of situations*
- *Feelings that result in avoidance*
- *Avoidance of relationships*
- *Acceptance of stuttering*
- *Practical problem solving*
- *Openness/ disclosure about stuttering*

Final Theme: Dealing with avoidance related issues (including acceptance) related to stuttering

Final Label: Therapy goals targeting avoidance and acceptance issues related to stuttering

Section D: Component 2:

Original component group:

As a therapist working with AWS, I work on:

- *Feelings and attitudes related to speaking*
- *Anxiety related to stuttering*
- *Identity issues related to stuttering*
- *Negative thoughts related to speaking*

Final Theme: Dealing with feelings, emotions and attitudes, and thoughts and cognitions related to stuttering

Final Label: Therapy goals targeting cognitions and emotions related to stuttering

Section E: The principles and techniques you use in therapy

Section E: This section asked SLTs what PRINCIPLES OR TECHNIQUES they would use in therapy.

Original component group:

Section E: Component 1:

In therapy with AWS do you:

- *Discuss their thoughts*
- *Explore their interpretations*
- *Evidence for their beliefs*
- *Challenge their perspectives*
- *Use questioning, summarising and reflection*
- *Talk through difficult experiences and deal with the feelings and emotions?*
- *Problem-solve*
- *Discuss the listeners' perspective*

Final Theme: Therapeutic techniques which target negative cognitive beliefs and biases related to stuttering

Final Label: Therapeutic Techniques: Cognitive Approach

Section E: Component 2:

Original component group:

In therapy with AWS do you:

- *Set up experiments*
- *Set specific goals*
- *Disclose their speech difficulties*
- *Expose gradually to difficult situations*
- *Work through hierarchies*
- *Set homework*

Final Theme: Therapeutic techniques and strategies which target behavioural change

Final Label: Therapeutic Techniques: Behavioural Approach

Section E: Component 3:

Original component group:

In therapy with AWS do you:

- *Carry out surveys*
- *Find out what other people think of stuttering*
- *Audio or video work*
- *Deliberately stutter*

Final Theme: Therapeutic techniques and strategies to help clients examine their own and others' reactions to stammering and to get a more balanced and objective perspective to stuttering

Final Label: Therapeutic Techniques: Reality testing with regards to stuttering

Attachment 2 to Email Message 3

How the final themes and labels were chosen

SECTION B:

Section B Component 1:

Section B Component 1: Theme:

Majority responses (Categories)
(Key) Factors (aspects) (things to consider) for stuttering assessment 10⁴
Experience & impact of stutter for individual 6

Summary:
(Key) Factors (aspects) (things to consider) for stuttering assessment

Final Theme: **Key factors to consider for stuttering assessment**

Section B Component 1: Label:

Majority responses (Categories)
(Key) Assessment factors (criteria) 14
Holistic picture 2
Characteristics or features of stammering_(stuttering characteristics) 2
Case history 1

Summary:
Key assessment factors

Final Label: **Key assessment factors**

⁴ Responses were received from 10 “experts”. They were each asked to choose one or two of the presented themes or labels which they felt represented the best interpretation of the groups of variables which resulted from the factor analysis. The numbers in bold represent the number of times those labels were chosen by the group of experts. Potentially a maximum number of 20 choices could be made (two from each of the ten experts), but not all experts chose two options on each occasion. These numbers show the frequency with which these labels (grouped in categories based on their content or meaning) were selected.

Section B Component 2:

Section B Component 2: Theme:

Majority responses (Categories)

Quantifiable/ objective/ observable/ overt measure of the physical stammering behaviour **15**

Characterisation and characteristics of stuttering **2**

Description of stuttering severity and type of stuttering incidents **1**

Summary:

Quantifiable/ objective/ observable/ overt measure of the physical stammering behaviour

Final Theme: **Quantifiable, objective, observable measures of the overt physical stammering behaviour**

Section B Component 2: Label:

Majority responses (Categories)
Quantitative stuttering measures (assessment) Observable (overt) characteristics 15
Stuttering behaviours/ physical stammering behaviours/ exploring primary behaviour 4
Stuttering severity 1

Summary
Quantitative stuttering measures (assessment) Observable (overt) characteristics

Final Label: **Quantitative stuttering measures**

Section B Component 3:

Section B Component 3: Theme:

Majority responses (Categories)
Emotions and cognitions related to stuttering/ Cognitive and emotional issues 9
Psychological aspects of stuttering / Psychological response to stuttering behaviours 7
Insider views of stuttering and change 1

Summary:
Emotions and cognitions related to stuttering/ Cognitive and emotional issues

Final Theme: **Psychological impact of stuttering on cognitions, emotions and attitudes**

Section B Component 3: Label:

Majority responses (Categories)
Psychological factors/ Psychological aspects/ Psychological impact 9
Cognitive and emotional issues 5
Exploring feelings & attitudes 4

Summary:
Psychological aspects (cognitive, emotional/ attitudes)

Final Label: **Cognitive and emotional issues related to stuttering**

SECTION C:

Section C Component 1:

Section C Component 1: Theme:

<u>Majority responses (Categories)</u>
Negative beliefs and biases, negative impact of stuttering on cognitions/ thinking/ view of self/ attentional bias/ negative attributions, cognitive bias 16
Thoughts and feeling connected with stammering 1
Factors which influence the individuals attitude to their speech 1

<u>Summary</u>
Negative beliefs and biases, negative impact of stuttering on cognitions/ thinking/ view of self/ attentional bias/ negative attributions, cognitive bias

Final Theme: **Negative impact of stuttering on cognitions/ thinking/ view of self**

Section C Component 1: Label:

<u>Majority responses (Categories)</u>
Negative beliefs and biases, Negative evaluations of stammering, Cognitive bias, Cognitive aspects of stammering, Negative cognitions 17
Problem focus 1

<u>Summary</u>
Negative beliefs and biases, Negative evaluations of stammering, Cognitive bias, Cognitive aspects of stammering, Negative cognitions

Final Label: **Negative cognitive beliefs and biases related to stuttering**

Section C Component 2:

Section C Component 2: Theme:

<u>Majority responses (Categories)</u>
Negative impact: on social and work life, of stammering on carrying out their everyday life, on activity and participation, Avoidance and restrictions, Anxiety and impact on life 14
Factors which influence work and social life 1
Things that people experience or do as a result of stammering 1
The effect of stuttering in the social life 1
Ways in which people react to stammering 1

<u>Summary:</u>
Negative impact: on social and work life, of stammering on carrying out their everyday life, on activity and participation, Avoidance and restrictions, Anxiety and impact on life

Final Theme: **Restrictions on social and work life as a result of stuttering**

Section C Component 2: Label:

Majority responses (Categories)
Impact of stammering on daily life (negative, activity and participation) 10
Social anxiety/ handicap 4
Cognitive/behavioural implications 2
Avoidance behaviours 1

Summary:
Impact of stammering on daily life (negative, activity and participation)

Final Label: **Negative social impact of stuttering on daily life**

Section C Component 3:

Section C Component 3: Theme:

Majority responses (Categories)
Psychological (Emotional) and interpersonal responses (effects/ impacts) to stuttering 18

Summary:
Psychological (Emotional) and interpersonal responses (effects/ impacts) to stuttering

Final Theme: **Negative psychological impact and interpersonal responses to stuttering**

Section C Component 3: Label:

Majority responses (Categories)
Psychological/ emotional effect/ impact/ responses 18

Summary:
Psychological/ emotional effect/ impact/ responses

Final Label: **Negative emotional psychological response to stuttering**

SECTION D:

Section D Component 1:

Section D Component 1: Theme:

<u>Majority responses (Categories)</u>

Avoidance and Acceptance/ Dealing with Avoidance/ Avoidance related issues Avoidance of feared speech situations/ Ways that avoidance change speech and interpersonal behaviour / Avoidance 17
--

Final Theme: **Dealing with avoidance related issues (including acceptance) related to stuttering**

Section D Component 1: Label:

<u>Majority responses (Categories)</u>

Avoidance / acceptance 7

Avoidance/ Issues of avoidance/ Avoidance reduction 7
--

Mechanism for change (behaviours) 2
--

<u>Summary:</u>

Avoidance / acceptance Issues of avoidance
--

Final Label: **Avoidance and acceptance issues related to stuttering**

Section D Component 2:

Section D Component 2: Theme:

<u>Majority responses (Categories)</u>

Attitudes, cognitions, and emotions related to stuttering / Feelings and attitudes related to stammering / Thoughts and feelings about stammering / Cognitive thoughts and emotions / Underlying feelings/thoughts/ Ways stammering impacts on thoughts and feelings 15
--

Emotion and identity in relation to self as speaker 3
--

<u>Summary:</u>

Attitudes, cognitions, and emotions related to stuttering / Feelings and attitudes related to stammering / Thoughts and feelings about stammering / Cognitive thoughts and emotions / Underlying feelings/thoughts/ Ways stammering impacts on thoughts and feelings
--

Final Theme: **Dealing with feelings, emotions and attitudes, and thoughts and cognitions related to stuttering**

Section D Component 2: Label:

Majority responses (Categories)
--

Psychological aspects of stuttering /_Emotional and cognitive effects of stuttering / Feelings and attitudes / Thoughts and feelings 16

Experiences as speaker 1

Summary:

Psychological aspects of stuttering /_Emotional and cognitive effects of stuttering / Feelings and attitudes / Thoughts and feelings

Final Label: **Cognitions and emotions related to stuttering**

SECTION E:

Section E Component 1:

Section E Component 1: Theme:

Majority responses (Categories)

Cognitive Techniques/ Cognitive behavioural approach/ Methods of exploring & challenging feelings, beliefs & attitudes/ Therapeutic techniques which encourage cognitive reframing/ Therapeutic ways of approaching covert aspects of stammering/ Ways to change cognitions related to stammering **18**

View of self as a person who stutters (PWS) **1**

Summary:

Cognitive Techniques/ Cognitive behavioural approach/ Methods of exploring & challenging feelings, beliefs & attitudes/ Therapeutic techniques which encourage cognitive reframing/ Therapeutic ways of approaching covert aspects of stammering/ Ways to change cognitions related to stammering

Final Theme: **Therapeutic techniques which target negative cognitive beliefs and biases related to stuttering**

Section E Component 1: Label:

Majority responses (Categories)

Cognitive/ Cognitive Behavioural/ psychological approaches/ exploring client perspectives/ targeting feelings beliefs and attitudes **18**

Summary:

Cognitive/ Cognitive Behavioural/ psychological approaches/ exploring client perspectives/ targeting feelings beliefs and attitudes

Final Label: **Cognitive Techniques Approach**

Section E Component 2:

Section E Component 2: Theme:

Majority responses (Categories)

Behaviour approaches/ techniques/ strategies **18**

Summary:

Behaviour approaches/ techniques/ strategies

Final Theme: **Therapeutic techniques and strategies which target behavioural change**

Section E Component 2: Label:

Majority responses (Categories)

Behavioural approach / change **9**

Therapy techniques/ approaches for anxiety and avoidance **6**

Desensitization **1**

Challenging or changing self **1**

Summary:
Behavioural approach / change

Final Label: **Behavioural Approach**

Section E Component 3:

Section E Component 3: Theme:

Majority responses (Categories)
Ways to help clients examine own and others' reactions to stammering/ Ways to get a more objective and balanced view of stuttering/ Correcting faulty beliefs/ Changing perspective to more realistic one/ therapy techniques which help clients obtain more information or feedback about stuttering/ Normalising and reality testing 15
Gaining evidence about view of self as PWS /_Work on bringing stuttering out into the open 2

Summary:
Ways to help clients examine own and others' reactions to stammering/ Ways to get a more objective and balanced view of stuttering/ Correcting faulty beliefs/ Changing perspective to more realistic one/ therapy techniques which help clients obtain more information or feedback about stuttering/ Normalising and reality testing

Final Theme: **Therapeutic techniques and strategies to help clients examine their own and others' reactions to stammering and to get a more balanced and objective perspective to stuttering**

Section E Component 3: Label:

Majority responses (Categories)
Reality Testing/ Objective information Gathering/ Bringing about change (perceived attitudes of others)/ Identification of reactions to stammering 14
Coming out 2

Summary:
Reality Testing/ Objective information Gathering/ Bringing about change (perceived attitudes of others) Identification of reactions to stammering

Final Label: **Reality testing with regards to stuttering**

Analysis: Frequency Counts and Categorisation of Selected Themes and Labels from
Modified Delphi Technique Round Two

Section B: This section asked SLTs how they ASSESS

Section B: Component 1

Original component group:

What areas do you assess with AWS? and How do you assess AWS?

- Type of stuttering
- Speech behaviours
- Avoidance behaviours
- Family history
- Life choices as a result of stuttering
- Previous therapy
- Assess through case history

Section B Component 1: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Types of problems and background to problems	Factors for stuttering assessment
2	Key factors assessed with AWS	Factors for stuttering assessment
3	Experience and impact of stutter for individual	Factors for stuttering assessment
4	Therapist identifying key factors in stammering profile	Experience & impact of stutter for individual
5	things to consider when carrying out an assessment	key factors assessed with AWS
6	Experience & impact of stutter for individual	Behaviours and history
7	Aspects describing a case of stuttering	Behaviours and history
8	Experience and impact of stutter for individual	
9	Things to consider when carrying out an assessment	experience and impact of stutter for individual
10		
11	Key factors assessed with AWS	

<u>Choice 1</u>	<u>Choice 2</u>	<u>Combined</u>
Experience and impact of stutter for individual 3	Factors for stuttering assessment 3	Experience & impact of stutter for individual (Behaviours and history/ Types of problems and background to problems) 8
Key factors assessed with AWS 2	Experience & impact of stutter for individual 2	(Key) Factors (aspects) (things to consider) for stuttering assessment 10
Things to consider when carrying out an assessment 2	Behaviours and history 2	
Aspects describing a case of stuttering 1	key factors assessed with AWS 1	
Therapist identifying key factors in stammering profile 1		
Types of problems and background to problems 1		

Summary:

(Key) Factors (aspects) (things to consider) for stuttering assessment
10/18 (56%) consensus at round two

Section B Component 1: Label: Your ranked selection

Expert	Choice 1	Choice 2
--------	----------	----------

1	Key assessment factors	Assessment factors
2	Key assessment factors	Assessment factors
3	Key assessment factors	Assessment criteria
4	Case history	Assessment factors
5	key assessment factors	assessment factors
6	Holistic picture	Characteristics or features of stammering
7	Assessment factors	Stuttering characteristics
8	Holistic picture	Assessment criteria
9	key assessment factors	assessment factors
10		
11	Key assessment factors	

Choice 1	Choice 2	Combined
Key assessment factors 6	Assessment factors 5	(Key) Assessment factors (criteria) 14
Holistic picture 2	Assessment criteria 2	Holistic picture 2
Assessment factors 2	Characteristics or features of stammering 1	Characteristics or features of stammering_(stuttering characteristics) 2
Case history 1	Stuttering characteristics 1	Case history 1

Summary:
Key assessment factors 14/19 (74%) consensus at round two

Section B: Component 2:

Original component group:

What areas do you assess with AWS? and How do you assess AWS?

- Stuttering severity
- Stuttering frequency
- Assess through quantifiable measures
- Assess through labelling the stutter into categories

Section B Component 2: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Objective stuttering measures	Quantifiable measure of stammering behaviour
2	Characterisation and characteristics of stuttering	Objective stuttering measures
3	Overt stuttering measures	Overt speech aspects
4	Characterisation and characteristics of stuttering	Aspects of measurement which are quantitative in nature
5	quantifying measure of the physical stammering behaviour	measurable things to consider when assessing the stammerer itself
6	Quantifiable measure of the physical stammering behaviour	Observable aspect of stuttering
7	Observable aspect of stuttering	Description of stuttering severity and type of stuttering incidents
8	Overt speech aspects	
9	quantifiable measure of the physical stammering behaviour	overt speech aspects
10		
11	Quantifiable measure of the physical stammering behaviour	

Choice 1	Choice 2	Combined
Quantifiable measure of the physical stammering behaviour 4	Overt speech aspects 2	Quantifiable/ objective/ observable/ overt measure of the physical stammering behaviour 15
Overt speech aspects 2	Objective stuttering measures 1	Characterisation and characteristics of stuttering 2
Characterisation and	Observable aspect of stuttering 1	Description of stuttering severity

characteristics of stuttering 2		and type of stuttering incidents 1
Observable aspect of stuttering 1	Aspects of measurement which are quantitative in nature measurable things to consider when assessing the stammerer himself Quantifiable measure of stammering behaviour 3	
Objective stuttering measures 1	Description of stuttering severity and type of stuttering incidents 1	

Summary:

Quantifiable/ objective/ observable/ overt measure of the physical stammering behaviour
15/18 (83%) consensus at round two

Section B Component 2: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Quantitative stuttering measures	Assessment of quantitative aspects of stammering
2	Quantitative stuttering measures	Observable characteristics
3	Quantitative assessment	Quantitative stuttering measures
4	Assessment of quantitative aspects of stammering	Quantitative stuttering measures
5	physical stammering behaviour	exploring primary behaviours
6	Observable characteristics	Stuttering behaviours
7	Stuttering severity	Quantitative assessment
8	Overt characteristics	Stuttering behaviours
9	observable characteristics	quantitative stuttering measures
10		
11	Quantitative stuttering measures	Observable characteristics

Choice 1	Choice 2	Combined
Quantitative stuttering measures 3	Quantitative stuttering measures 3	Quantitative stuttering measures (assessment) Observable (overt) characteristics 15
Observable characteristics 2	Observable characteristics 2	Stuttering behaviours/ physical stammering behaviours/ exploring primary behaviour 4
Quantitative assessment 1	Stuttering behaviours 2	Stuttering severity 1
Overt characteristics 1	Assessment of quantitative aspects of stammering 1	
Assessment of quantitative aspects of stammering 1	Quantitative assessment_ 1	
physical stammering behaviour 1	exploring primary behaviours 1	
Stuttering severity 1		

Summary

Quantitative stuttering measures (assessment) Observable (overt) characteristics
15/20 (75%) consensus at round two

Section B: Component 3:

Original component group:

What areas do you assess with AWS? And How do you assess AWS?

- Client's emotional response to their speech
- Thought processes about stuttering
- Coping strategies
- Client's readiness to change
- Clients desired outcomes of therapy

Section B Component 3: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Psychological aspects of stuttering	Cognitive and emotional issues

Appendices

2	Cognitive and emotional issues	Emotions and cognitions related to stuttering
3	Psychological response to stuttering behaviours	Emotions and cognitions related to stuttering
4	Psychological aspects of stuttering	
5	psychological aspects of stuttering	covert aspects
6	Insider views of stuttering and change	Emotions and cognitions related to stuttering
7	Emotions and cognitions related to stuttering	Cognitive and emotional issues
8	Psychological aspects of stuttering	
9	emotions and cognitions related to stuttering	psychological response in response to stammering behaviour
10		
11	Emotions and cognitions related to stuttering	Psychological aspects of stuttering

Choice 1	Choice 2	Combined
Psychological aspects of stuttering 4	Emotions and cognitions related to stuttering 3	Emotions and cognitions related to stuttering/ Cognitive and emotional issues / Psychological aspects of stuttering / Psychological response to stuttering behaviours / covert aspects 17
Emotions and cognitions related to stuttering 3	Cognitive and emotional issues 2	Insider views of stuttering and change 1
Psychological response to stuttering behaviours 1	Psychological aspects of stuttering 1	
Cognitive and emotional issues 1	psychological response in response to stammering behaviour 1	
Insider views of stuttering and change 1	covert aspects 1	

Summary:

Emotions and cognitions related to stuttering/ Cognitive and emotional issues
17/18 (94%) consensus at round two

Section B Component 3: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Psychological factors	Cognitive and emotional issues
2	Cognitive and emotional issues	Exploring feelings & attitudes
3	Psychological impact	Cognitive and emotional issues
4	Psychological aspects	Exploring feelings & attitudes
5	psychological factors	psychological aspects
6	Exploring feelings & attitudes	Cognitive and emotional issues
7	Psychological aspects	Psychological factors
8	Psychological impact	
9	psychological factors	exploring feelings and attitudes
10		
11	Cognitive and emotional issues	

Choice 1	Choice 2	Combined
Psychological factors 3	Cognitive and emotional issues 3	Psychological factors/ Psychological aspects/ Psychological impact/ Cognitive and emotional issues/ Exploring feelings & attitudes 18
Psychological impact 2	Exploring feelings & attitudes 3	
Psychological aspects 2	Psychological factors 1	4
Cognitive and emotional issues 2	Psychological aspects 1	
Exploring feelings & attitudes 1		

Summary:

Psychological aspects (cognitive, emotional/ attitudes)
18/18 (100%) consensus at round two

Section C: This section asked SLTs what their CLIENT’S REPORTED TO THEM IN THERAPY

Section C: Component 1:

Original component group:

My adult clients who stutter:

- Evaluate their speech negatively
- Evaluate their speech more negatively than I, as their therapist would
- Low self-esteem
- Focus on only some of the information available to them
- Anticipate negatively what other people might think of them?
- Interpret events in a negative way
- Beliefs or assumptions that are negative, unhelpful and possibly untrue

Section C Component 1: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Negative beliefs and biases	Negative thoughts and attentional bias
2	Negative attributions / biases in attribution	Negative beliefs and biases
3	Cognitive biases about stammering	cognitive bias
4	Negative impact of stuttering on thinking and view of self	Thoughts and feeling connected with stammering
5	negative beliefs and cognitions related to stuttering	negative beliefs and biases
6	Negative impact of stuttering on thinking and view of self	Negative beliefs and cognitions related to stuttering
7	Negative beliefs and biases	Negative beliefs and cognitions related to stuttering
8	Negative impact of stuttering	
9	cognitive (thinking) biases about their stammer	factors which influence the individuals attitude to their speech
10		
11	Negative beliefs and biases	

<u>Choice 1</u>	<u>Choice 2</u>	<u>Combined</u>
Negative beliefs and biases 3	Negative beliefs and cognitions related to stuttering 2	Negative beliefs and biases, negative impact of stuttering on cognitions/ thinking/ view of self/ attentional bias/ negative attributions, cognitive bias/ Thoughts and feeling connected with stammering 17
Negative impact of stuttering on thinking and view of self 2	Negative beliefs and biases 2	Factors which influence the individuals attitude to their speech 1
Negative attributions / biases in attribution 1	Negative thoughts and attentional bias 1	
Negative impact of stuttering 1	Thoughts and feeling connected with stammering 1	
Cognitive (thinking) biases about their stammer 1	Cognitive bias 1	
Cognitive biases about stammering 1	Factors which influence the individuals attitude to their speech 1	
Negative beliefs and cognitions related to stuttering 1		

Summary

Negative beliefs and biases, negative impact of stuttering on cognitions/ thinking/ view of self/ attentional bias/ negative attributions, cognitive bias
17/18 (94%) consensus at round two

Section C Component 1: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Negative beliefs and biases	Cognitive bias
2	Negative beliefs and biases	Negative evaluations of stammering
3	Cognitive aspects of stammering	Cognitive bias
4	Negative beliefs and biases	Negative evaluations of stammering
5	negative beliefs and biases	negative cognitions
6	Problem focus	Negative beliefs and biases
7	Negative cognitions	Negative beliefs and biases
8	Negative evaluations of stammering	
9	cognitive bias	cognitive aspects of stammering
10		
11	Negative beliefs and biases	

Choice 1	Choice 2	Combined
Negative beliefs and biases 5	Negative beliefs and biases 2	Negative beliefs and biases, Negative evaluations of stammering, Cognitive bias, Cognitive aspects of stammering, Negative cognitions 17
Negative evaluations of stammering 1	Cognitive bias 2	Problem focus 1
Cognitive aspects of stammering 1	Negative evaluations of stammering 2	
Cognitive bias 1	Negative cognitions 1	
Negative cognitions 1	Cognitive aspects of stammering 1	
Problem focus 1		

Summary

Negative beliefs and biases, Negative evaluations of stammering, Cognitive bias, Cognitive aspects of stammering, Negative cognitions
17/18 (94%) consensus at round two

Section C: Component 2:

Original component group:

My adult clients who stutter report?

- Stuttering affects their working life
- Avoiding words
- Avoiding situations
- Being anxious about speaking
- More difficulty speaking to some people than to others
- People have reacted negatively to their stuttering
- Restriction in their lives

Section C Component 2: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Negative impact on social and work life	Anxiety and impact on life
2	Avoidance and restrictions	Negative impact on activity and participation
3	Negative impact on activity and participation	anxiety and impact on life
4	Avoidance and restrictions	Negative impact of stammering on carrying out their everyday life
5	negative impact on activity and participation	things that people experience or do as a result of stammering
6	Negative impact on activity and participation	Negative impact of stammering on carrying out their everyday life
7	Negative impact on social and work life	The effect of stuttering in the social life
8	Negative impact of stammering on carrying out their everyday life	
9	factors which influence work and social life	ways in which people react to stammering

Appendices

10		
11	Negative impact on social and work life	

Choice 1	Choice 2	Combined
Negative impact on social and work life 3	Negative impact of stammering on carrying out their everyday life 2	Negative impact: on social and work life, of stammering on carrying out their everyday life, on activity and participation, Avoidance and restrictions, Anxiety and impact on life/ Factors which influence work and social life/ Things that people experience or do as a result of stammering/ The effect of stuttering in the social life/ Ways in which people react to stammering 18
Negative impact on activity and participation 3	Anxiety and impact on life 2	
Avoidance and restrictions 2	Negative impact on activity and participation 1	
Negative impact of stammering on carrying out their everyday life 1	Things that people experience or do as a result of stammering 1	
Factors which influence work and social life 1	The effect of stuttering in the social life 1	
	Ways in which people react to stammering 1	

Summary:

Negative impact: on social and work life, of stammering on carrying out their everyday life, on activity and participation, Avoidance and restrictions, Anxiety and impact on life
18/18 (100%) consensus at round two

Section C Component 2: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Social anxiety	
2	Avoidance behaviours	Impact of stammering on daily life
3	Impact of stammering on daily life	Social anxiety
4	Impact of stammering on daily life	
5	negative impacts on activity and participation	negative impact on life
6	Negative impacts on activity and participation	Cognitive/behavioural implications
7	Social handicap	Negative impacts on activity and participation
8	Impact of stammering on daily life	Negative impact on life
9	impact of stammering on daily life	cognitive/behavioural implications
10		
11	Social anxiety	

Choice 1	Choice 2	Combined
Impact of stammering on daily life 4	Negative impact on life 2	Impact of stammering on daily life (negative, activity and participation) 10
Social anxiety 2	Cognitive/behavioural implications 2	Social anxiety/ handicap 4
Negative impacts on activity and participation 2	Negative impacts on activity and participation 1	Cognitive/behavioural implications 2
Social handicap 1	Impact of stammering on daily life 1	Avoidance behaviours 1
Avoidance behaviours 1	Social anxiety 1	

Summary:
Impact of stammering on daily life (negative, activity and participation) 10/17 (59%) consensus at round two

Section C: Component 3:

Original component group:

My adult clients who stutter report?

- *Feelings of helplessness*
- *Stuttering varies according to the levels of stress*
- *Psychological problems are linked with stuttering*
- *Stuttering affects their personal relationships*
- *Experiences involving their speech which upset them*
- *Blame themselves for their stuttering*

Section C Component 3: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Psychological effects of stuttering	
2	Emotional Impact	Emotional and quality of life issues
3	Emotional impact	Emotional impact of stammer on life
4	The psychological effects of stuttering	Psychological and interpersonal responses to stuttering
5	psychological and interpersonal responses to stuttering	the psychological effects of stuttering
6	Psychological and interpersonal responses to stuttering	Emotional and quality of life issues
7	Negative emotional effects	The psychological effects of stuttering
8	Psychological and interpersonal responses to stuttering	Negative impact on the person
9	psychological and interpersonal responses to stuttering	emotional impact of stammer on life
10		
11	Negative emotional effects	

Choice 1	Choice 2	Combined
Psychological and interpersonal responses to stuttering 4	Emotional and quality of life issues 2	Psychological (Emotional) and interpersonal responses (effects/ impacts) to stuttering 18
The psychological effects of stuttering 2	Emotional impact of stammer on life 2	
Emotional impact 2	The psychological effects of stuttering 2	
Negative emotional effects 2	Psychological and interpersonal responses to stuttering 1	
	Negative impact on the person 1	

Summary:
Psychological (Emotional) and interpersonal responses (effects/ impacts) to stuttering 18/18 (100%) consensus at round two

Section C Component 3: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Psychological effects	Psychological responses
2	Emotional impact	Negative emotional impact
3	Emotional impact	Emotional impact of stammering
4	Psychological responses	
5	negative impact on the person	psychological effects
6	Psychological effects	Negative emotional impact
7	Negative emotional impact	Psychological effects
8	Negative impact on the person	Psychological responses
9	psychological responses	emotional impact
10		
11	Negative emotional impact	

Choice 1	Choice 2	Combined
Psychological effects 2	Psychological effects 2	Psychological/ emotional effect/ impact/ responses 18
Psychological responses 2	Psychological responses 2	
Emotional impact 2	Negative emotional impact 2	
Negative emotional impact 2	Emotional impact of stammering 1	
Negative impact on the person 2	emotional impact 1	

Summary:

Psychological/ emotional effect/ impact/ responses
18/18 (100%) consensus at round two

Section D: What areas would you work on in therapy and what would your rationale be?

This section asked SLTs what AREAS OR GOALS THEY WOULD WORK ON IN THERAPY

Section D: Component 1:

Original component group:

As a therapist working with AWS, I work on:

- Avoidance issues
- Avoidance of words
- Avoidance of situations
- Feelings that result in avoidance
- Avoidance of relationships
- Acceptance of stuttering
- Practical problem solving
- Openness/ disclosure about stuttering

Section D Component 1: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Avoidance and acceptance	Dealing with avoidance
2	Avoidance and acceptance	Dealing with avoidance
3	Dealing with avoidance	Avoidance
4	Avoidance and acceptance	Dealing with avoidance
5	avoidance and acceptance	avoidance related issues
6	Avoidance and acceptance	Ways that avoidance change speech and interpersonal behaviour
7	Avoidance of feared speech situations	Avoidance and acceptance
8	Avoidance and acceptance	
9	avoidance and acceptance	
10		
11	avoidance and acceptance	

Choice 1	Choice 2	Combined
Avoidance and acceptance 8	Dealing with avoidance 3	Avoidance and Acceptance/ Dealing with Avoidance/ Avoidance related issues Avoidance of feared speech situations/ Ways that avoidance change speech and interpersonal behaviour / Avoidance 17
Dealing with avoidance 1	Avoidance and acceptance 1	
Avoidance of feared speech situations 1	Avoidance 1	
	Ways that avoidance change speech and interpersonal behaviour 1	
	Avoidance related issues 1	

Summary:

Avoidance and Acceptance/ Dealing with Avoidance/ Avoidance related issues Avoidance of feared speech situations/ Ways that avoidance change speech and interpersonal behaviour / Avoidance
17/17 (100%) consensus at round two

Section D Component 1: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Avoidance	Avoidance / acceptance
2	Avoidance / acceptance	Avoidance
3	Avoidance	Avoidance reduction
4	Avoidance / acceptance	Issues of avoidance
5	avoidance/acceptance	avoidance
6	Avoidance / acceptance	Mechanism for change (behaviours)
7	Avoidance	Avoidance / acceptance
8	Avoidance / acceptance	Avoidance / acceptance
9	avoidance/acceptance	mechanism for change behaviours
10		
11	avoidance/acceptance	

Choice 1	Choice 2	Combined
Avoidance / acceptance 7	Avoidance / acceptance 3	Avoidance / acceptance/ Avoidance/ Issues of avoidance/ Avoidance reduction 17
Avoidance 3	Avoidance 2	Mechanism for change (behaviours) 2
	Mechanism for change (behaviours) 2	
	Avoidance reduction 1	
	Issues of avoidance 1	

Summary:

Avoidance / acceptance Issues of avoidance
 Avoidance of feared speech situations/ Ways that avoidance change speech and interpersonal behaviour /
 Avoidance
17/19 (89%) consensus at round two

Section D: Component 2:

Original component group:

As a therapist working with AWS, I work on:

- Feelings and attitudes related to speaking
- Anxiety related to stuttering
- Identity issues related to stuttering
- Negative thoughts related to speaking

Section D Component 2: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Thoughts and feelings about stammering	Feelings and attitudes related to stammering
2	Feelings and attitudes related to stammering	Emotion and identity in relation to self as speaker
3	Thoughts and feelings about stammering	Cognitive thoughts and emotions
4	Underlying feelings/thoughts	Feelings and attitudes related to stammering
5	feelings and attitudes related to stammering	emotion and identity in relation to self as speaker
6	Attitudes, cognitions, and emotions related to stuttering	Emotion and identity in relation to self as speaker
7	Feelings and attitudes related to stammering	Attitudes, cognitions, and emotions related to stuttering
8	Attitudes, cognitions, and emotions related to stuttering	Ways stammering impacts on thoughts and feelings
9	attitudes, cognitions and emotions related to stuttering	
10		
11	attitudes, cognitions and emotions related to stuttering	

Choice 1	Choice 2	Combined
Attitudes, cognitions, and emotions related to stuttering 4	Emotion and identity in relation to self as speaker 3	Attitudes, cognitions, and emotions related to stuttering / Feelings and attitudes related to stammering / Thoughts and feelings about stammering / Cognitive thoughts and emotions / Underlying feelings/thoughts/ Ways stammering impacts on thoughts and feelings/ Emotion and identity in relation to self as speaker 18
Feelings and attitudes related to stammering 3	Feelings and attitudes related to stammering 2	
Thoughts and feelings about stammering 2	Attitudes, cognitions, and emotions related to stuttering 1	
Underlying feelings/thoughts 1	Cognitive thoughts and emotions 1	
	Ways stammering impacts on thoughts and feelings 1	

Summary:

Attitudes, cognitions, and emotions related to stuttering / Feelings and attitudes related to stammering / Thoughts and feelings about stammering / Cognitive thoughts and emotions / Underlying feelings/thoughts/ Ways stammering impacts on thoughts and feelings
18/18 (100%) consensus at round two

Section D Component 2: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Psychological aspects of stuttering	Emotional and cognitive effects of stuttering
2	Psychological aspects of stuttering	Feelings and attitudes
3	Thoughts and feelings	Emotional and cognitive effects of stammering
4	Psychological aspects of stuttering	
5	thoughts and feelings	emotional and cognitive effects of stammering
6	Emotional and cognitive effects of stammering	Experiences as speaker
7	Psychological aspects of stuttering	Feelings and attitudes
8	Psychological aspects of stuttering	
9	psychological aspects of stammering	emotional and cognitive effects of stammering
10		
11	Emotional and cognitive effects of stammering	

Choice 1	Choice 2	Combined
Psychological aspects of stuttering 6	Emotional and cognitive effects of stuttering 4	Psychological aspects of stuttering / Emotional and cognitive effects of stuttering / Feelings and attitudes / Thoughts and feelings 16
Emotional and cognitive effects of stammering 2	Feelings and attitudes 2	Experiences as speaker 1
Thoughts and feelings 2	Experiences as speaker 1	

Summary:

Psychological aspects of stuttering / Emotional and cognitive effects of stuttering / Feelings and attitudes / Thoughts and feelings
16/17 (94%) consensus at round two

Section E: The principles and techniques you use in therapy

Section E: This section asked SLTs what PRINCIPLES OR TECHNIQUES they would use in therapy.

Original component group:

Section E: Component 1:

In therapy with AWS do you:

- Discuss their thoughts

- Explore their interpretations
- Evidence for their beliefs
- Challenge their perspectives
- Use questioning, summarising and reflection
- Talk through difficult experiences and deal with the feelings and emotions?
- Problem-solve
- Discuss the listeners' perspective

Section E Component 1: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Cognitive behavioural approach	Cognitive techniques
2	Cognitive behavioural approach	Cognitive Techniques
3	Ways to change cognitions related to stammering	Therapeutic techniques which encourage cognitive reframing
4	Methods of exploring & challenging feelings, beliefs & attitudes	Therapeutic ways of approaching covert aspects of stammering
5	Therapeutic ways of approaching covert aspects of stammering	Methods of exploring and challenging feelings, beliefs and attitudes
6	Methods of exploring & challenging feelings, beliefs & attitudes	Cognitive behavioural approach
7	Cognitive Techniques	Ways to change cognitions related to stuttering
8	View of self as a person who stutters (PWS)	Cognitive behavioural approach
9	Methods of exploring and challenging feelings, beliefs and attitudes	Cognitive techniques
10		
11	Cognitive Techniques	

Choice 1	Choice 2	Combined
Methods of exploring & challenging feelings, beliefs & attitudes 3	Cognitive Techniques 3	Cognitive Techniques/ Cognitive behavioural approach/ Methods of exploring & challenging feelings, beliefs & attitudes/ Therapeutic techniques which encourage cognitive reframing/ Therapeutic ways of approaching covert aspects of stammering/ Ways to change cognitions related to stammering 18
Cognitive Techniques 2	Cognitive behavioural approach 2	View of self as a person who stutters (PWS) 1
Cognitive behavioural approach 2	Therapeutic techniques which encourage cognitive reframing 1	
Ways to change cognitions related to stammering 1	Therapeutic ways of approaching covert aspects of stammering 1	
Therapeutic ways of approaching covert aspects of stammering 1	Methods of exploring and challenging feelings, beliefs and attitudes 1	
View of self as a person who stutters (PWS) 1	Ways to change cognitions related to stuttering 1	

Summary:

Cognitive Techniques/ Cognitive behavioural approach/ Methods of exploring & challenging feelings, beliefs & attitudes/ Therapeutic techniques which encourage cognitive reframing/ Therapeutic ways of approaching covert aspects of stammering/ Ways to change cognitions related to stammering
18/19 (94%) consensus at round two

Section E Component 1: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Cognitive therapy	Cognitive behavioural approach
2	Cognitive behavioural approach	Cognitive Therapy
3	Cognitive behavioural approach	Verbal cognitive therapy techniques

4	Exploring client perspectives	Targeting feelings, beliefs & attitudes
5	targeting feelings, beliefs and attitudes	psychological approaches to stammering
6	Cognitive behavioural approach	Targeting feelings, beliefs & attitudes
7	Cognitive Therapy	
8	Exploring client perspectives	Psychological approaches to stammering
9	targeting feelings, beliefs and attitudes	psychological approach to stammering
10		
11	Cognitive therapy	

Choice 1	Choice 2	Combined
Cognitive behavioural approach 3	Psychological approaches to stammering 3	Cognitive/ Cognitive Behavioural/ psychological approaches/ exploring client perspectives/ targeting feelings beliefs and attitudes 18
Cognitive Therapy 3	Targeting feelings, beliefs and attitudes 2	
Exploring client perspectives 2	Cognitive behavioural approach 1	
Targeting feelings, beliefs and attitudes 2	Cognitive Therapy 1	
	Verbal cognitive therapy techniques 1	

Summary:

Cognitive/ Cognitive Behavioural/ psychological approaches/ exploring client perspectives/ targeting feelings beliefs and attitudes

18/18 (100%) consensus at round two

Section E: Component 2:

Original component group:

In therapy with AWS do you:

- Set up experiments
- Set specific goals
- Disclose their speech difficulties
- Expose gradually to difficult situations
- Work through hierarchies
- Set homework

Section E Component 2: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Behavioural Techniques	Behavioural approaches to anxiety management
2	Confronting and working on difficulties	Behavioural approaches to anxiety management
3	Work on behaviour change through structured tasks	Behavioural techniques
4	Behavioural approaches to anxiety management	Strategies to bring about change
5	Confronting and working on difficulties	behavioural approach – doing/acting
6	Behavioural approaches to anxiety management	Work on behaviour change through structured tasks
7	Behavioural approaches to anxiety management	Ways to reduce the fear for speech situations
8	Ways of helping clients approach cognitive and emotional aspects of stammering	
9	Ways of helping clients approach cognitive and emotional aspects of stammering	behavioural approach
10		
11	Behavioural Techniques	

Choice 1	Choice 2	Combined
Behavioural approaches to anxiety management 3	Behavioural approaches to anxiety management 2	Behaviour approaches/ techniques/ strategies 18
Behavioural Techniques 2	Behavioural approach –	

	doing/acting 2	
Ways of helping clients approach cognitive and emotional aspects of stammering 2	Behavioural techniques 1	
Confronting and working on difficulties 2	Work on behaviour change through structured tasks 1	
Work on behaviour change through structured tasks 1	Ways to reduce the fear for speech situations 1	
	Strategies to bring about change 1	

Summary:

Behaviour approaches/ techniques/ strategies
18/18 (100%) consensus at round two

Section E Component 2: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Behavioural approach	Anxiety management
2	Behavioural Approach	Approaches to working on avoidance
3	Behaviour change	Behavioural approach
4	Bringing about change (behaviours)	
5	behavioural approach	graduated progress to specific goal
6	Graduated progress to specific goal	Behavioural Approach
7	Desensitization	Anxiety management
8	Challenging or changing self	
9	therapy techniques	behavioural approach
10		
11	Behavioural approach	

Choice 1	Choice 2	Combined
Behavioural Approach 4	Behavioural approach 3	Behavioural approach / change/ Therapy techniques/ approaches for anxiety and avoidance/ Challenging or changing 16
Behaviour change 1	Anxiety management 2	Desensitization 1
Bringing about change (behaviours) 1	Approaches to working on avoidance 1	
Graduated progress to specific goal 1	graduated progress to specific goal 1	self 1
Desensitization 1		
Challenging or changing self 1		
therapy techniques 1		

Summary:

Behavioural approach / change
16/17 (94%) consensus at round two

Section E: Component 3:

Original component group:

In therapy with AWS do you:

- Carry out surveys
- Find out what other people think of stuttering
- Audio or video work
- Deliberately stutter

Section E Component 3: Theme: Your ranked selection

Expert	Choice 1	Choice 2
1	Normalising and reality testing	
2	Correcting faulty beliefs	Ways to get a more objective and balanced view of stuttering
3	Normalising and reality testing	Ways to get a more objective and balance view of stuttering
4	Ways to help clients examine own and	Ways to get a more objective and balanced view of

Appendices

	others' reactions to stammering	stuttering
5	ways to help clients examine own and others' reactions to stammering	therapy techniques which help clients obtain more information or feedback about stuttering
6	Ways to help clients examine own and others' reactions to stammering	Work on bringing stuttering out into the open
7	Ways to help clients examine own and others' reactions to stammering	Changing perspective to more realistic one
8	Ways to get a more objective and balanced view of stuttering	Gaining evidence about view of self as PWS
9	understand more about what the stammer feels, sounds looks like through gathering objective information	therapy techniques which help client obtain more information or feedback about stuttering
10		
11	Normalising and reality testing	

Choice 1	Choice 2	Combined
Ways to help clients examine own and others' reactions to stammering 4	Ways to get a more objective and balanced view of stuttering 3	Ways to help clients examine own and others' reactions to stammering/ Ways to get a more objective and balanced view of stuttering/ Correcting faulty beliefs/ Changing perspective to more realistic one/ therapy techniques which help clients obtain more information or feedback about stuttering/ Normalising and reality testing / Gaining evidence about view of self as PWS 16
Normalising and reality testing 3	therapy techniques which help clients obtain more information or feedback about stuttering 2	Work on bringing stuttering out into the open 1
Ways to get a more objective and balanced view of stuttering 1	Work on bringing stuttering out into the open 1	
Correcting faulty beliefs 1	Changing perspective to more realistic one 1	
	Gaining evidence about view of self as PWS 1	

Summary:

Ways to help clients examine own and others' reactions to stammering/ Ways to get a more objective and balanced view of stuttering/ Correcting faulty beliefs/ Changing perspective to more realistic one/ therapy techniques which help clients obtain more information or feedback about stuttering/ Normalising and reality testing
16/17 (94%) consensus at round two

Section E Component 3: Label: Your ranked selection

Expert	Choice 1	Choice 2
1	Reality testing	
2	Gathering objective information	Information getting techniques
3	Gathering objective information	Reality / objective orientation
4	Identification of reactions to stammering	Bringing about change (perceived attitudes of others)
5	coming out	identification of reactions to stammering
6	Coming out	Identification of reactions to stammering
7	Reality testing	Objective view
8	Reality testing	
9	information gathering techniques	
10		
11	Reality testing	

Choice 1	Choice 2	Combined
Reality testing 4	Identification of reactions to stammering 2	Reality Testing/ Objective information Gathering/ Bringing

Appendices

		about change (perceived attitudes of others)/ Identification of reactions to stammering 14
Gathering objective information 2	Information getting techniques 1	Coming out 2
Coming out 2	Reality / objective orientation 1	
Identification of reactions to stammering 1	Bringing about change (perceived attitudes of others) 1	
information gathering techniques 1	Objective view 1	

Summary:

Reality Testing/ Objective information Gathering/ Bringing about change (perceived attitudes of others)
 Identification of reactions to stammering
14/16 (88%) consensus at round two

APPENDIX 6

Paper Published in Peer Reviewed Journal

Davidson Thompson, T. C., McAllister, J., Adams, M., & Horton, S. (2009). Evaluation and discharge criteria in therapy with adults who stutter: A survey of speech and language therapists. *International Journal of Speech-Language Pathology*, 11(1), 45 - 53.

EVALUATION AND DISCHARGE CRITERIA IN THERAPY WITH ADULTS WHO
STUTTER: A SURVEY OF SPEECH AND LANGUAGE THERAPISTS

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Running head: Evaluation and discharge criteria for stuttering

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Abstract

Professional guidelines recommend that the psycho-social implications of living with a stutter should be assessed, and that therapy should target the emotional and cognitive aspects of living with a stutter (Royal College of Speech & Language Therapists, 2006). Very little evidence exists about how speech and language therapists (SLTs) evaluate success of therapy or determine discharge criteria. The aim of the research reported here, which was part of a larger study of current SLT practice among clinicians working with adults who stutter, was to discover how SLTs (1) evaluate success in therapy and (2) determine whether to discharge a client who stutters. A postal self-administered questionnaire was distributed to SLTs (N=342) who work in Britain with adults who stutter. A response rate of 77.5% was achieved. Content analysis was used to analyse open ended questions about evaluation and discharge criteria. Many therapists adopt practice in line with recommendations from the literature, but some SLTs do not report that they use outcome measures to evaluate their practice, or suggest that they sometimes adopt inappropriate discharge criteria. Other SLTs use novel methods to assist with evaluation.

Recent research has indicated that adults who stutter (AWS) experience many adverse effects of living with the condition. In Crichton Smith's (2002) investigation into the experience of living with a stutter, AWS participants reported that stuttering limited their lives, particularly in areas such as education, self-esteem and employment. The adverse effects of stuttering and the themes of restriction, low self esteem and strong (usually negative) emotional reactions have also been highlighted by other researchers (Crichton Smith, 2002; Kathard, et al., 2004; Klompas & Ross, 2004).

Strong links have emerged between social anxiety and stuttering in adults (Kraaimaat, et al., 2002; Mahr & Torosian, 1999; Messenger, et al., 2004; Stein, Baird, & Walker, 1997). There is recognition that social anxiety is very likely to arise from the adverse effects of living with a stutter, and there have been calls for the development of treatment protocols which target the social anxiety associated with stuttering (Craig & Tran, 2006). Cognitive behaviour therapy is recognised as an effective treatment intervention for social anxiety (Butler, et al., 2006; Gould, et al., 1997; Zaider & Heimberg, 2003), and it is logical that a treatment protocol should be developed along these lines.

Despite the fact that empirical evidence confirming the relationship between social anxiety and stuttering has only recently emerged, speech and language therapists (SLTs) have been working on the anxiety associated with stuttering for many years (Lincoln, et al., 1996). For example, avoidance reduction therapy has been and is still widely used with AWS (Davidson Thompson, McAllister, Adams, & Horton, 2008; Davidson Thompson, McAllister, Adams, & Horton, In Preparation; Taylor-Goh, 2005); some aspects of this approach such as reducing avoidance in a systematic, hierarchical way are very similar to those used in cognitive behaviour therapy for social anxiety disorder.

The ultimate goal of the research project of which one part is described here is to develop a treatment protocol for dealing with the social anxiety found in AWS. Since some SLTs may have had many years of experience of working with AWS and employing techniques that draw on the same principles as cognitive behaviour therapy, a survey of current practice among SLTs who work with AWS was undertaken, with a view to identifying best practice as a foundation for the development of such a protocol. The work reported here focused on two important aspects of the therapy pathway, evaluation and discharge.

Importance of evaluation

Evaluation of the success of therapy is vital. It helps the therapist to establish which therapy techniques are efficacious and cost effective. Evaluation promotes better practice, and ultimately leads to the development of an evidence base (Onslow, 2006).

In recent years, researchers have recognised that methods of evaluation that focus only on the client's speech do not give a complete picture of the experience of stuttering in a person's life. If the effectiveness of therapy is only measured in this way, then for many people who stutter, therapy might be seen to have no long lasting effects, since speech often relapses post-therapy (Craig, 1998; Huinck, et al., 2006). In the past, clinical trial research relating to stuttering tended to adopt an impairment-based focus which led to a preponderance of work whose aim was to ameliorate the speech characteristics of the disorder (Onslow, 2006), but more recently, the complex nature of stuttering has been acknowledged in the literature (Leahy, 2005) with recognition of the need to address non-speech dimensions if stuttering is to be managed successfully (Plexico, Manning & DiLollo, 2005). Evaluation should reflect this complexity. Such an approach is in keeping with the philosophy of the International Classification of Functioning, Disability and Health (ICF), which emphasises that a medical disorder should be considered in its entirety (World Health Organisation, 2002), and would advocate evaluation of the

success of therapy in all the domains associated with the impairment, including the impact of stuttering on activity and participation and on contextual factors.

A number of evaluation tools are available to clinicians. The ICF framework was used in the development of the Overall Assessment of the Speakers Experience of Stuttering (OASES) (Yaruss & Quesal, 2006), which allows the clinician to document multiple outcomes in stuttering treatment. The Wright and Ayre Stuttering Self-rating Profile (WASSP) was developed to assess and measure outcomes in the areas of perceptions of stuttering behaviours, avoidance, feelings and disadvantage (Wright & Ayre, 1998; Wright & Ayre, 1999). Researchers have also called for other aspects of stuttering such as cognition and affect to be measured (Susca, 2006), and self reporting may be considered a valuable way of assessing covert aspects of stuttering that are not easily observable (Guntupalli, et al., 2006).

Despite the availability of published instruments and research findings relating to evaluation, little is known about the methods that SLTs actually use to evaluate the outcome of their therapy with AWS in everyday practice. Since this survey was designed, much more has been written about evaluation, but it is still the case that very little is published about discharge.

Importance of discharge

The Royal College of Speech and Language Therapists (RCSLT) (2006) define discharge from speech and language therapy as a point of closure with the client, when other professionals are informed that the course of assessment, treatment and review is complete. Discharge should be a client-centred decision, preferably at the discretion of the SLT with the agreement of the client, though it may be initiated by the SLT or the client. Acceptable terms for discharge are as follows (RCSLT, 2006): achieving the aims of intervention; transferring to specialist care; failure to attend appointments; individual non-

compliance or intervention not indicated at present; discharge at discretion of the therapist with client agreement; discharge at the request of the client.

There is very little written in the research literature about discharging clients from stuttering therapy. Since AWS are affected by a life-long developmental condition, for which there is no cure specifically for adults, discharge is particularly relevant for this client group. It is widely recognised that many AWS relapse after treatment of the speech features of stuttering (Craig, 1998; Huinck, et al., 2006) with the result that speech and language therapy may be needed at different periods across the life span of the AWS. The RCSLT Clinical Guidelines indicate that therapy programs for dysfluent adults should aim to promote change and manage relapse in the long term, and recommend that follow up should occur at 3, 6, 12 month and 2 years post therapy; discharge due to a lack of resources or based on departmental policy while the client still has a clinical need is not considered an acceptable reason for discharge (Taylor-Goh, 2005).

Research questions and hypotheses

This paper describes the results of questions about evaluation and discharge from a survey of speech and language therapists who work with adults who stutter. It examines the qualitative data gained through open ended questions asking about how SLTs evaluate the success of therapy with their adult clients who stutter, and what discharge criteria they apply. The following research questions were posed, and hypotheses arising from informal discussions with clinicians were formed:

Evaluation:

- How do SLTs evaluate the success of therapy with adults who stutter?
 - Hypothesis: Therapists will use a number of ways to evaluate practice. Some therapists may not be adequately evaluating practice.
- Do therapists use established outcome measures to evaluate therapy?

- Hypothesis: Some therapists will not be using established outcome measures to evaluate therapy.
- Is there a wide variation in practice between clinicians regarding evaluation of therapy?
 - Hypothesis: There is a wide variation in practice regarding evaluation of therapy; therapists who have training and a special interest in therapy will evaluate their therapy differently to those who do not.

Discharge:

- What reasons do SLTs give for discharging clients who stutter?
 - Hypothesis: There will be variation in practice about the criteria used for discharge
- Do SLTs have in place protocols for the long term management of stuttering?
 - Hypothesis: There will be variability between different SLTs on whether there is provision for the long term management of stuttering.
- Do SLTs discharge from therapy based on lack of resources, or department specific service limitations rather than clinical need?
 - Hypothesis: Some clinicians discharge based on departmental policy even though this was not considered by the RCSLT to be acceptable.

Method

Respondents

A postal, self-administered questionnaire was sent to 342 speech and language therapists within Britain working with people who stutter. These therapists were identified through the British Stammering Association (BSA) database. Responses were received from 265 SLTs (77.5%), of whom 191 (55.9%) met the criteria for the study and returned completed surveys (see Figure 1).

Questionnaire

A questionnaire was developed with the aim of collecting data from speech and language therapists (SLTs) working with adults who stutter (AWS). The data discussed below were derived from the part of the questionnaire that related to evaluating success and concluding therapy. For a more complete account, see Davidson Thompson (In preparation). The questionnaire was designed in early 2006, and prepared for distribution at the end of 2006.

Questionnaire design

The questionnaire, which focused on how SLTs targeted the psychosocial issues associated with living with a stutter, grouped topics into sections which roughly corresponded to the therapy pathway. The sections were as follows:

- A Biographical data from respondents
- B Assessment
- C What clients reported to the therapist
- D Therapy goals
- E Therapy techniques
- F Evaluation of the success of therapy and discharge criteria

Since there was a substantial amount of published literature which discussed each of the areas B to E, statements about these areas could be derived from the literature, and Likert type scales developed to measure numerically the participants reporting of these areas. The results from these sections will be published elsewhere (Davidson Thompson, In preparation). However, the next steps of the therapy pathway, evaluation and discharge, which are the focus of this paper, are less well documented in the literature on stuttering, and it was thus inappropriate to use the same approach to develop statements and Likert scales about these stages of therapy. As a result, it was decided that open ended questions were the most appropriate method for collecting information about these two areas.

In the questionnaire, the open-ended question items asking about evaluation and discharge were as follows:

- F1.** How do you **evaluate change** with your AWS in areas other than direct speech modification?
- F2.** What **tools** do you use to evaluate change?
- F3.** At what point would you **discharge** a client from therapy?

Data Analysis

Content analysis, which aims to code qualitative data from open ended questions into categories that can be counted (Fink, 2003b), was selected as the most appropriate analysis method. It reduces the data into a relatively small number of content categories which can then form the basis of frequency counts (Weber, 1990).

In view of the exploratory nature of the research reported here and the methodological constraints of content analysis, some limitations of the data should be recognised. The frequency counts are an indication of what clinicians do, but because this is qualitative data, generalisations cannot be made and inferences cannot be drawn from the categories. As SLTs were not asked to comment on specific categories, it was impossible to tell whether some therapists who did in fact use a category did not think to write it in the response.

Procedure

The principal researcher (the first author) and a data coder initially examined the data together, determining the different categories within which the answers fell. It was agreed that the data would be analysed in thematic units. These thematic units could be made up of words, phrases or sentences, dependent on the meaning of the unit (Weber, 1990). A

key code was developed, showing both the categories of the data and examples of the type of answers expected in each category.

The researcher then drew up the detailed rationale for each decision and, using this, coded the first fifth of the data with the data coder. The data coder then completed coding the data. Once the coding was complete, queries were highlighted and researcher and coder then made a joint categorisation decision.

Two questions were used to gain information about evaluation. As the concepts were repeated interchangeably across both questions by the respondents, the data were merged so that the frequency counts were comprehensive to avoid duplication.

A proportion of the responses (54) had additional comments which could not be accommodated within the categories established during the initial phase of analysis. These responses were assigned to a category "Other". These were examined to see whether any additional categories emerged. Some of these responses (10) were unique, i.e. only given once in the complete data set. In some cases, more than one person gave the same answer, but the number of people mentioning the same category was always less than 9 (< 5%).

Reliability

Reliability was measured via reproducibility, which measures the consistency of shared coding, and therefore shared meanings of the data between two coders (Weber, 1990). A second data coder repeated the procedure outlined above. The two sets of data (one from each data coder) were audited by calculating a kappa co-efficient to examine inter-rater agreement (reliability). A value of 0.61 or above is considered to be substantial agreement, and this would be suitable for an exploratory work such as this (Landis & Koch, 1977). In any instance where the kappa co-efficient was less than 0.61, the researcher and initial

data coder examined differences between coding. They then reached a joint decision about how that item should be coded.

Frequency counts were determined from the categorised data.

Results

Evaluation

The data show that SLTs use a number of different methods to evaluate their therapy (See Table 1). Most SLTs indicated that they used more than one method to evaluate. Many of these methods are recommended in the literature, but some, such as rating scales and evidence, are novel categories.

[Table1]

Construct validity was measured by comparing variables which should correlate. The content category “the use of formal tests to evaluate” was compared with the variable “the use of formal tests to assess” (drawn from the Likert type scales in Section B of the questionnaire), and these two variables were found to correlate significantly (Spearman's $\rho = 0.682$, $p < 0.01$).

On the basis of biographical information that they supplied in Section A of the questionnaire, respondents were classified as specialists and generalists. Specialists were those who indicated they were specialists in working with AWS, had a special interest in this area and had post qualification training. Only 62.2% of SLTs reported using an outcome measure to evaluate the success of their therapy. On further analysis, 80.3% of the specialist therapists reported using outcome measures, while only 51.3% of the generalist therapists reported doing so (Pearson Chi Square = 14.862, $p < 0.001$). The outcome measures that SLTs did report they were using were as follows (Table 2).

[Table 2]

Some therapists (2.1%) indicated that they did not use any outcome measures at all and 8.9% stated that they relied on therapist skills to evaluate the success of therapy. This was illustrated by some of the comments in response to question F2 “What **tools** do you use to evaluate change?”

“None” (1021, 709)

“My ears, eyes, etc.” (1060)

“Therapist’s analytical skills.”(747)

“I don’t but I’d like some” (755)

There did appear to be a wide variation in practice regarding evaluation of therapy with some therapists reporting a number of methods to evaluate and some therapists indicating they did not evaluate at all. For example: “Do not evaluate formally. If client tells me situation has changed then I accept that is how it is” (768). In addition to significant differences in practice between specialists and generalists in their use of outcome measures, they also differed in their use of reporting evidence as a way of evaluating. Specialists indicated that they used evidence 21.1% of the time, while generalists indicated that they used evidence 6.1% of the time (Pearson Chi Square = 9.378, $p < 0.002$).

Discharge

Validity was much weaker in this section than in the section on evaluation as there is even less published literature on discharge. Face validity was achieved for discharge criteria through inter-rater agreement. Construct validity could not be measured via correlation of variables as there were no corresponding variables in the other sections of the questionnaire with which to compare.

[Table 3]

As can be seen from Table 3, there were 10 categories that emerged during content analysis. The category “Open re-referral” refers to when the client leaves the service when they no longer need treatment, but returns to the service if they need input again. “Long term review” is when the client is not discharged, but offered appointments at long intervals. The category “Other” was once again used for any comment that did not fit into the 10 categories, but there were only 24 comments which fell into “Other”. There were no obvious commonalities in those 24 comments. Again there was wide variation in practice in this area, but there were no significant differences between groups.

There was wide variability among clinicians on how they managed to provide a service for the long term management of stuttering. This variation extended from some clinicians never discharging to those who only allowed for a certain number of therapy sessions. Only a few clinicians (2.6%) indicated that they had never discharged. In the majority of these cases this seemed to indicate good practice as clinicians indicated in the reasons they supplied for not discharging that they were making provision for the ongoing nature of stuttering. For example:

“At (*Institution*) we never discharge a client in the sense that a client is always able to access our courses once they have attended an advisory session.” (987)

“I don’t discharge private clients. Generally we space out sessions until we stop but they know they can always call and book a further session, or more, if they want.” (825)

However, more than one clinician indicated a lack of ability as the reason for not discharging. These comments all came from therapists who considered themselves to be generalist therapists.

“Have never discharged. Tend to stop coming or put on long term review.”(1021)

“To be honest patients attend regularly then begin to DNA [do not attend] and are discharged. I probably go on too long as not confident when to discharge” (1035)

A number of therapists (9.9%) indicated that they discharge at the end of a block of therapy. Although some of the therapists indicated that another block of therapy may happen subsequently, some of the other therapists justifications for why they discharge were for service provision reasons. For example:

“Each client is provided 4-6 sessions of general advice and then discharged”
(1023)

“Care pathway allows for only 4-6 sessions.” (1025)

“Max 6 sessions per client we do not have resources to offer more.” (742)

The most ethically challenging comment in this section was the following:

“[I discharge] if I think stammering is a ruse” (1081)

This was problematic as it indicated possible harmful practice. This, with some of the other comments on discharge strongly indicated that there are professional SLTs who are insufficiently informed to be working with this client group.

Discussion

In summary, there is a wide variation in practice in both the way therapists evaluate their practice and their discharge criteria. There is good practice in that many specialist SLTs are using outcome measures, in addition to self report, and other novel methods to evaluate their practice. There are areas though, particularly among generalist clinicians, where therapists are not using outcome measures, or indicate that they are not evaluating their practice. There is great variation in practice around discharge criteria, and evidence emerged that some SLTs are not confident in working with this client group, or due to service provision reasons do not provide an adequate service.

SLTs use a variety of outcome measures to evaluate their practice. The WASSP, which was first published in 1999, was the most popular method used by this group of therapists to evaluate the success of therapy. The OASES had not been formally published for use at

the time that this survey was distributed. Although articles in journals had been written about it, it is perhaps surprising that clinicians were using this measure prior to its formal release. Despite the Locus of Control and S24 being used to evaluate outcomes in clinical trials, few of this sample of clinicians use these measures regularly in therapy. Many therapists seem to do what Guntupalli et al. (2006) recommend and use self report to assess success in therapy.

The study identified examples of practice which was in line with the published literature with regard to evaluation. The questionnaire was designed in early 2006, and prepared for distribution at the end of 2006. Most of the questionnaires were returned by March 2007. The results therefore suggest that many SLTs were carrying out the good practice recommended by Susca (2006) and Guntupalli et al. (2006) prior to these recommendations being published and consequently being adopted by the SLT clinical community. It suggests that perhaps other options used for evaluation by SLTs should be investigated further as there may be alternative ways to measure the success of therapy; for example the use of rating scales or evidence (e.g., clients doing things that they would not do before, such as making phone calls).

Of great concern though were cases where evaluation practice was shown to fall short of the recommended standards. A significant proportion of SLTs do not use recognised outcome measures to evaluate the success of their therapy. This may be as a result of a lack of available outcome measures, but none of the therapists indicated that this was the reason. It appears more likely that there is a lack of training, knowledge and access to resources among some of the therapists, and that some basic competencies should be met before allowing SLTs to work with this client group.

Overall, the findings support the hypotheses outlined in the Introduction. SLTs use a number of ways to evaluate practice. Some therapists are not evaluating their practice.

Some therapists do not use established outcome measures to evaluate therapy. There is a wide variation in practice regarding evaluation of therapy; therapists who have training and a special interest in therapy evaluate their therapy differently to those who do not.

The adoption of discharge criteria also showed a wide variation in practice. Many respondents showed encouraging working practices with regard to discharge, offering a service that meets the long term needs of AWS and adopting the discharge criteria advocated by RCSLT (2006), judging from the data reported in Table 3:

- Achieving the aims of intervention (goals met 51.8%)
- Transferring to specialist care (refer onward 3.7%)
- Failure to attend appointments (DNA (do not arrive) 8.4%)
- Individual non-compliance or intervention not indicated at present (no further change 22%)
- Discharge at discretion of the therapist with client agreement (mutual agreement 22.5%)
- Discharge at the request of the client (client request 37.2%)

The categories “Open re-referral” (when the client leaves the service when they no longer need treatment, but returns to the service if they need input again) and “Long term review” (when the client is not discharged, but offered appointments at long intervals) both provide ways of meeting the RCSLT clinical guidelines of making provision for relapse and management of long term change. Only 17.3% of therapists indicated that they either offer review or open re-referral.

Many therapists are not offering the services that are recommended by the RCSLT guidelines. It seems that this may be due to reduced service provision due to a lack of resources or to lack of training. Discharging due to lack of service provision is concerning

and needs further investigation. This finding was also supported by a number of questionnaires which were not included in the main analysis because they did not meet the criteria for participation; some reported that their service did not offer therapy to adults who stutter, only assessment and advice. In some circumstances SLTs may not have protocols for the long term management of stuttering and some SLTs would discharge clients based on departmental policy even though this was not considered by an acceptable reason in the RCSLT guidelines on best practice and service provision.

The findings confirm the hypotheses about discharge that were articulated in the Introduction. There is variation in practice around the criteria used for discharge. There is variability between different SLTs around provision for the long term management of stuttering. Some clinicians discharge based on departmental policy even though this is not an acceptable reason for discharge according to the RCSLT.

Conclusions

Current practice amongst this group of speech and language therapists is varied. There appear to be excellent elements of practice occurring, particularly among specialist SLTs. However, this research has also shown that some clinicians do not appear to be adequately equipped to work with this client group successfully. Service provision and resources also affect the type of therapy that clients receive. This was exploratory research which has established a framework which will allow fuller investigation of evaluation and discharge criteria in future research.

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Table 1. Frequency count results regarding evaluation of therapy (from F1 and F2)

Content Analysis Categories	Examples of statements from the surveys.	Yes	No
Outcome Measures	1) WASSP 2) Locus of control. (875) Repeat WASSP and Erikson (703)	117 (62.2%)	71 (37.8%)
Scales	Rating scales (1042) Self rating scales (1078)	95 (50.8%)	92 (49.2%)
Self Report	Self report from client as to own confidence, avoidance of situations (1023) Client reports (1042)	104 (55.6%)	83 (44.4%)
Discussion	Spontaneous discussions (1042) Informal discussion (1057)	50 (26.7%)	137 (73.3%)
Questionnaires	Self rating questionnaire (1057) Questionnaires e.g., WASSP; own outcome measure questionnaire tapping into attitude change (1008)	40 (21.4%)	147 (78.6%)
Therapist skills	Therapist's analytical skills (747) My ears, eyes, etc. (1060)	17 (8.9%)	174 (91.1)
Goal setting	Progress towards client generated goals (875) Make a hierarchy of goals-small steps to achieve (702)	33 (17.6%)	154 (82.4%)
Audio/ Video	Video (1057) Video recordings (710)	27 (14.4%)	160 (85.6%)
Evidence	The client is doing/saying things/ entering into situations they would have not considered previously (1004) When they tell me how they are changing their lives e.g., going for job interviews going out with friends, using the phone (1019)	22 (11.8%)	165 (88.2%)
None	I don't (768) None (709)	4 (2.1%)	187 (97.9)

Table 2. Outcome measures used by speech and language therapists to evaluate therapy

Outcome measure used	Yes	No
Wright and Ayre Stuttering Self Rating Profile (WASSP)	101 (53.4%)	88 (46.6%)
Overall Assessment of Speakers Experience of Stuttering (OASES)	7 (3.7%)	184 (96.3%)
Erikson S24 Scale	15 (7.9%)	176 (92.1%)
Stuttering Severity Instrument (SSI)	3 (1.6%)	188 (98.4)
Perception of Stuttering Inventory (PSI)	7 (3.7%)	184(96.3%)
East Kent Outcome System (EKOS)	2 (1%)	189 (99%)
Locus of Control (LOC)	3 (1.6%)	188 (98.4)

Table 3. Frequency count results regarding discharge criteria (from F3)

Content Analysis Categories		Yes	No
Goals met	When established goals achieved (722) When set goals have been met / re-evaluated (1016)	99 (51.8%)	92 (48.2%)
Mutual Agreement	Through discussion and agreement with client (877) mutually decided between AWS and SLT (738)	43 (22.5%)	148 (77.5%)
Client requests discharge	When goals are achieved or client wished to see SLT less. Discharge usually comes from client. (1034) When client is satisfied with progress (can be before I feel that client is at discharge stage) (1047)	71 (37.2 %)	120 (62.8%)
End of a block of therapy	Each client is provided 4-6 sessions of general advice and then discharged (1023) Care pathway allows for only 4-6 sessions (1025)	19 (9.9%)	172 (90.1%)
Long term review	After a 1-3 month maintenance review phase following a block of therapy (769) Probably after a period of open review (747)	9 (4.7%)	182 (95.3%)
Open re-referral	Operate on an open referral system - client can re-refer self if further problems / goals arise (845) When they feel they can go it alone, but always say they can contact me in future if required (743)	24 (12.6%)	167 (87.4%)
No further change	Plateaued and client appears unmotivated to continue (754)	42 (22%)	149 (78%)

Appendices

	When therapy is not working. Non-compliance (878)		
Have never discharged	Have never discharged. Tend to stop coming or put on long term review (1021) At (<i>Institution</i>) clients can choose whether they want to enrol on another course - we don't really discharge clients (988)	5 (2.6%)	186 (97.4%)
DNA (Do Not Arrive)	Varying reasons, including DNAs (1037) For non-attendance (1087)	16 (8.4%)	175 (91.6%)
Refer onward	If therapy is inappropriate / ineffective patient requires psych. input / group therapy (745) I would transfer to specialist if limited progress and/or more than normal dysfluency (1031)	7 (3.7%)	184 (96.3%)

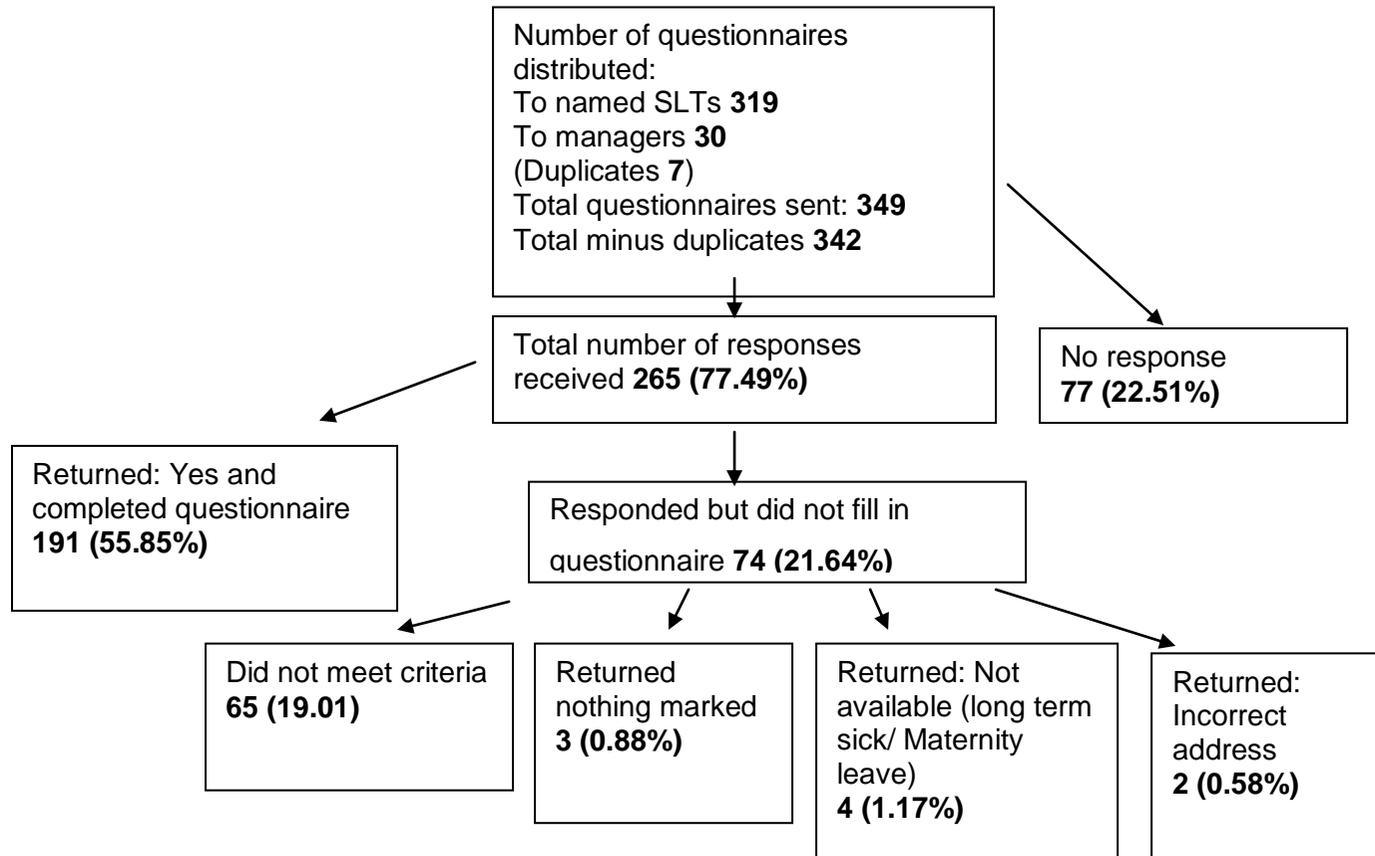


Figure 1. Flowchart showing responses to the questionnaire

