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Cognitive behavior therapy for adults who stutter: A tutorial for speech-language pathologists

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Abstract

This paper explores the relationships between anxiety and stuttering and provides an overview of cognitive-behavior therapy (CBT) strategies that can be applied by speech-language pathologists. There is much support for the idea that adults who stutter (AWS) may need CBT. First, approximately 50% of AWS may be suffering from social anxiety disorder. A difficult developmental history marked by problematic peer relationships and bullying may contribute to this. Stereotypes in the general community lead AWS to have occasional experiences that confirm their fears of negative evaluation. This can leave AWS with significant social and occupational avoidance and can impact on their quality of life. Second, in a recent large study of behavioral treatment for AWS, participants who had a mental health disorder, including social anxiety, failed to maintain the benefits of treatment. Available evidence supports the contention that CBT can effectively decrease anxiety and social avoidance, and increase engagement in everyday speaking situations for AWS. The components of CBT presented here are drawn from a model widely used in clinical psychology, and existing supportive data reviewed. Worksheets for speech-language pathologists undertaking CBT in this population are provided. CBT procedures, in their essentials, are straightforward to implement. Hence, the present authors suggest that speech-language pathologists who have had training in conducting CBT should be able to apply the techniques described in this paper.

Educational objectives: The reader will be able to explain: (1) the relation between stuttering and anxiety; (2) the nature of Social Anxiety Disorder; (3) why those who stutter are often diagnosed with Social Anxiety Disorder; (4) the four components of cognitive behavior therapy; (5) how cognitive behavior therapy is adapted for the management of speech-related anxiety in those who stutter.

Keywords: Stuttering; Anxiety; Cognitive-behavior therapy; Treatment

1. Introduction

Evidence shows that efficacious speech pathology treatment for stuttering is available in early childhood (see Jones et al., 2005) however, stuttering in adults is much less responsive to speech therapy (Craig & Hancock, 1995). The strongest evidence-base for stuttering treatments in adulthood is for behavioral speech programs involving speech restructuring (for overviews, see Ingham, 1984; Onslow, 1996; Onslow, Jones, O'Brian, Menzies, & Packman, 2008;

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Packman, Onslow, & Menzies, 2000). Currently, in these treatments, clients learn one of a number of novel speech patterns generically referred to as *prolonged speech*. The changes to speech production that occur with this speech restructuring enable the speaker to suppress stuttering to varying degrees. It has been suggested that these ameliorative effects may be due to reduction in the variability of speech motor activity inherent in the new speech pattern (Packman et al., 2000). Historically, speech-restructuring treatments have included shaping the new speech pattern to sound as natural as possible, with subsequent graded exposure using it in everyday speaking situations (see Ingham, 1984).

Systematic reviews have shown that while these treatments can produce medium to large effects in the medium to long term (Andrews, Guitar, & Howie, 1980), failure to maintain treatment effects remains a common problem (Craig & Hancock, 1995). AWS typically report that restructured speech sounds or feels different from typical speech and that they can be reticent to use it in some communicative contexts. Furthermore, even after gaining control over their stuttering with treatment, participants continue to regard themselves as people who stutter (Cream, Onslow, Packman, & Llewellyn, 2003).

1.1. Stuttering and the development of social anxiety

One explanation for the difficulty involved in maintaining the effects of behavioral treatments is that AWS can frequently have disabling levels of social anxiety (Craig, Blumgart, & Tran, 2009; Kraaimaat, Vanryckeghem, & Van Dam-Baggen, 2002; Menzies et al., 2008; Messenger, Onslow, Packman, & Menzies, 2004; Schneier, Wexler, & Liebowitz, 1997; Stein, Baird, & Walker, 1996). Stein et al. (1996) found that 44% of adults seeking treatment for stuttering warranted the co-morbid diagnosis of social phobia; they experienced anxiety and avoidance of social situations that were not in keeping with a realistic appraisal of threat. Subsequently, Schneier et al. (1997) confirmed Stein et al.'s (1996) finding that AWS have similar levels of social anxiety to non-stuttering adults presenting with social phobia. More recently, Kraaimaat et al. (2002) reported that approximately 50% of a large sample of AWS ($n = 89$) had social discomfort scale scores within the range of a group of "highly socially anxious psychiatric patients" (p. 319). Messenger et al. (2004) found that 34 AWS scored significantly higher on the fear of negative evaluation (FNE) scale than non-stuttering controls. Menzies et al. (2008) reported that 60% of their sample of 30 adults who stuttered and sought treatment, met the DSM-IV diagnostic criteria for Social Anxiety Disorder. Most recently, in a large study of 200 AWS, Craig et al. (2009) found that stuttering impacts negatively on quality of life, in particular on social functioning and mental health.

The development of social anxiety can relate to negative conditioning experiences in early childhood (for example Ost, 1976). Bullying has been shown to increase the risk of later anxiety disorders. Gega, Kenwright, Mataix-Cols, Cameron, and Marks (2005) compared the rate of bullying in retrospective reports of individuals in a South London dental clinic waiting room and a South London anxiety disorders clinic waiting room. Those adults waiting for treatment for anxiety disorder were six times more likely to have experienced bullying in early childhood than those waiting for dental treatment. Though this study relied on retrospective reports and the accuracy of patient memories, which of course are subject to bias and error, it points to the potentially important link between early bullying and anxiety in later life.

The finding is relevant to stuttering because of reports of negative peer responses to stuttering in children and higher than normal rates of bullying among children who stutter. This can start early in life. In an in-depth field study, Langevin, Packman, and Onslow (2009) observed instances where preschool children in the playground suffered social penalty as a result of their stuttering.

This becomes more apparent in the school-age years, including adolescence (for reviews and recent reports see Blood & Blood, 2004, 2007; Davis, Howell, & Cooke, 2002; Hearne, Packman, Onslow, & Quine, 2008; Hugh-Jones & Smith, 1999; Langevin & Hagler, 2004; Langevin, Kully, & Ross-Harold, 2007; Mulcahy, Hennessey, Beilby, & Byrnes, 2008; Murphy, Yaruss, & Quesal, 2007a; Murphy, Yaruss, & Quesal, 2007b). Hugh-Jones and Smith explored the nature and frequency of bullying among 276 respondents from the British Stammering Association. They found that the majority of participants had experienced bullying at school. Most reported immediate negative emotional effects from this bullying and 46% reported some long-term effects in functioning. The rate of bullying among children who stutter was thought to be so high that the authors developed a school-resource pack to create a more empathic school climate for the child with a stutter. Langevin and Hagler reported that primary school children who stutter are perceived negatively by their non-stuttering peers and Davis et al. showed that children who stutter have more difficulty establishing peer relationships than those who do not stutter. This finding is noteworthy, since Hugh-Jones

and Smith found that difficulty in establishing peer relationships is also associated with increases in bullying among those who stutter. Clearly, the critical period of early social development for those who stutter is often distressing and dysfunctional, and this may contribute to fear of negative evaluation in social situations later in life.

Given the above, it is not surprising that many individuals who stutter may come to fear the evaluations of others in social and/or occupational situations (Messenger et al., 2004). Messenger et al. found that the higher anxiety scores of AWS were restricted to social anxiety. Many AWS argue that other individuals expect them to be shy, anxious and withdrawn. Such predictions, while anxiogenic, are not without some basis in reality (Craig, Tran, & Craig, 2003). Craig et al. reported that pervasive negative stereotypes about stuttering exist in the general population. They conducted telephone interviews with 502 people from households in the state of New South Wales, Australia. Results indicated that a large proportion of the community believe that AWS are self-conscious, anxious and lacking in confidence. Of course, given the inflated FNE scores of AWS, this can become a vicious circle (for example, Packman & Kuhn, 2009).

The high rate of social anxiety among AWS is even more concerning in light of data suggesting that increases in anxiety may actually increase the frequency of stuttering. Stuttering has been shown to vary under speaking conditions related to anxiety, such as audience size, significance of conversational partner, and repeated oral readings (for example Gray & Karmen, 1967; Porter, 1939; Siegel & Haugen, 1964).

There is now evidence that for AWS the presence of anxiety predicts poor response to standard speech-restructuring treatments (for example Kraaimaat, Janssen, & Brutten, 1988). Guitar and Bass (1978) found that clients whose attitudes to communication did not normalize during speech treatment were more likely to have poor outcomes. A recent study of the outcomes of speech-restructuring treatment based on prolonged speech indicated that two thirds of the participants had some sort of mental health disorder, including anxiety disorders (Iverach et al., 2009). Importantly, in contrast to those without any mental health problem, these participants did not maintain the benefits of treatment in the long term. This study provided the first explanation of the long-recognised fact that around 66% of AWS fail to maintain acceptable levels of fluency after behavioral treatment (Martin, 1981).

2. Managing stuttering-related social anxiety

Clearly then, there is a range of reasons to suggest that procedures for the management of social anxiety may need to be incorporated into behavioral treatments for stuttering. First, failure to maintain the benefits of speech-restructuring treatment has been linked to the presence of anxiety disorders. Second, approximately 50% of AWS may be suffering from social anxiety disorder following a difficult developmental history marked by problematic peer relationships and bullying. Third, stereotyping in the general community means that AWS will have occasional experiences that confirm their fears of negative evaluation. Almost all AWS report intermittent negative encounters in everyday life in which they are either laughed at, or dealt with in a negative way. Fourth, this history of social difficulty often leaves AWS with significant social and occupational avoidance, impacting their quality of life and occupational advancement. Fifth, the presence of anxiety when speaking may actually worsen stuttering. Finally, the failure to normalize attitudes to speaking may be associated with poor outcomes in speech treatments.

It has long been recognised that treatment is needed when anxiety is impacting negatively on stuttering (see Ingham, 1984). As early as the 1970s there was evidence that traditional anxiety treatments such as desensitization and meditation may reduce stuttering (for example Boudreau & Jeffrey, 1973; Mc Intyre, Silverman, & Trotter, 1974). More recently, the need for managing associated psychological aspects of the disorder of stuttering, such as negative attitudes and avoidance, has also been widely recognized (for examples see Blomgren, Roy, Callister, & Merrill, 2005; Davidson Thompson, McAllister, Adams, & Horton, 2009; Guitar, 2006; Lincoln, Onslow, & Menzies, 1996; Plexico, Manning, & DiLollo, 2005; Quesal, 1989). A major theme that emerged in the recent phenomenological study (Plexico et al., 2005) of adults who reported that they were successfully managing their stuttering was, “Transitioning from a life dominated by the theme of stuttering to one in which stuttering was successfully managed required both cognitive and behavioural change” (p. 14).

Most recently, Craig and Tran (2006) called specifically for the use of cognitive behavior therapy (CBT) for all AWS, regardless of whether they meet the DSM criteria for Social Phobia. CBT is a widely recognized and well-developed intervention that has developed in the fields of clinical psychology and psychiatry. Common components include cognitive restructuring, behavioural experiments and attentional training (these are described in more detail below).

A variety of researchers have indeed included various CBT procedures in their treatment packages for more than 30 years. However, little has changed since they were first incorporated (see Ingham, 1984), in that in the vast majority of studies, the efficacy of the CBT component itself cannot be established. An overview follows.

Maxwell (1982) combined speech treatment elements with psychological treatment components including (1) targeting negative cognitive appraisals, (2) thought stopping and (3) vicarious observation to encourage optimistic attitudes, such as "others have made significant gains in this program and I can too." Maxwell reported that a group of 23 adults who stuttered (19 men and four women) showed significant reductions on Riley's Stuttering Severity Instrument (1972). However, Maxwell's design does not allow the reader to tease apart the relative contributions of the speech and CBT components.

Craig, Feyer, and Andrews (1987) reported the incorporation of cognitive change procedures in their speech treatment for AWS. In an overview of the outcomes of their program, involving 191 participants, they concluded, "All components of the programme have not been shown to contribute uniquely to successful outcome" (p. 60), and called for further research.

Blood (1995) combined a commercially available computer-assisted biofeedback program for reducing stuttering with a relapse management program based on Bandura's self-efficacy model (Cameron & Meichenbaum, 1980), cognitive-behavior therapy and Donovan and Marlatt's (1980) relapse prevention model. Blood's relapse package contained the following components: (1) problem solving, (2) cognitive restructuring/reframing, and (3) non-directive supportive counselling. Four men participated in the study, with a multiple baseline across subjects design. All four showed large and consistent reductions in stuttering across the study, and these gains were maintained at 1 year follow-up. Unfortunately, the design of the study does not allow determination of the relative contribution of the CBT components.

Nielson (1999) described the beneficial effects of using CBT procedures in combination with speech-restructuring treatment. However, neither study completely separated the CBT components from speech components used, making the interpretation of findings difficult.

In their report of the ISTAR Comprehensive Stuttering Program, Langevin et al. (2006) describe the use of a number of CBT components. The aim of these is primarily to improve social skills, develop positive attitudes towards communication, reduce avoidance, develop the ability to manage fear and anxiety and deal with negative listener reactions. Again, however, the contribution of these components to outcomes cannot be identified.

Stein et al. (1996) reported anecdotal support for using CBT with AWS. Three individuals reportedly experienced reductions in social anxiety, avoidance and overall disability across a 12-week CBT program.

Four studies, however, have investigated the effects of CBT in isolation on social phobia in AWS (Ezrati-Vinacour, Gilboa-Schechtman, Anholt, Weizman, & Hermesh, 2007; McColl, Onslow, Packman, & Menzies, 2001; Menzies et al., 2008; St Clare et al., 2009). McColl et al. used a CBT package, based on the cognitive restructuring program for social phobia of Mattick, Peters, & Clarke (1989), for 11 adults who stuttered, following referral for anxiety-related problems. All 11 had reportedly failed to successfully apply speech-restructuring skills in everyday situations, despite being fluent in the clinic. After 12 weekly 1-h sessions of CBT, the participants showed significant reductions in (1) FNE scores, (2) STAI Form Y-1 scores and (3) Global Self-Rating of Stuttering Severity Scores (GSS). The STAI Form Y-1 measures state anxiety levels, and the GSS is a 9-point self-report measure of stuttering severity over the previous week. Though encouraging, this preliminary study lacked a no-CBT comparison group and did not include follow-up measurement points. Importantly, however, it did not combine speech and psychological procedures.

Using the same CBT package, St Clare et al. (2009) reported outcomes following five days of intensive CBT. Twenty-six participants completed the Unhelpful Thoughts and Beliefs about Stuttering (UTBAS) checklist (see St Clare et al., 2009) before and after the intensive CBT treatment. The UTBAS identifies negative intrusive thoughts experienced by AWS, and the development of the checklist is described below. Mean UTBAS scores decreased significantly from pre-treatment to post-treatment, with every one of the 26 stuttering participants showing a reduction in scores following treatment. On average, UTBAS scores reduced by more than 40% and the effect size was extremely large at 2.5, suggesting clinical significance. Again however, no comparison group is reported and the study lacked long-term follow-up.

Ezrati-Vinacour et al. (2007) reported on a group CBT package for 13 adults who stuttered and also had a diagnosis of social phobia. Participants received 18 weekly group cognitive-behavioral sessions (GCBT) of 1.5 h duration per session. The treatment program included psycho-education about the nature of social anxiety, cognitive restructuring, and behavioural experiments, and attempted to eliminate safety behaviours and avoidance. Assessment at pre- and

post-treatment included recordings of the percentage of syllables stuttered in speaking tasks (%SS), and a range of measures of anxiety, depression and emotional reactivity to stuttering. Post-treatment scores were significantly lower on the psychological and emotional measures, but not on %SS. The author's concluded that CBT represents an important treatment component for individuals who stutter. Though it did not improve stuttering per se, it did lead to dramatic improvements in everyday functioning, anxiety and emotional reactivity to dysfluency. Unfortunately, like others before them, Ezrati-Vinacour et al. (2007) did not follow-up participants and did not include a control group.

In the most tightly controlled and extensive trial of CBT to date, Menzies et al. (2008) reported on a randomized controlled trial of CBT with 30 adults who stuttered. Participants were randomly allocated to one of two conditions: (1) prolonged-speech treatment, or (2) prolonged-speech treatment preceded by twelve 1-h weekly CBT sessions focusing on anxiety. Interestingly, immediately after the CBT, there was no change in stuttering. However, immediately after the speech treatment, and at 12 month follow-up, those who had received CBT, (1) had significantly higher Global Assessment of Functioning (GAF) scores, (2) were able to complete more tasks in individualised Behavioral Avoidance Tasks (BATs) involving social speaking situations, and (3) were less likely to be diagnosed with social phobia. In fact, compared to a pre-treatment social phobia rate of 66%, no client who received CBT was diagnosed with social phobia at follow-up in blinded clinical interviews. Fifty percent of those who had not received CBT were given a diagnosis of social phobia at the same follow-up interview. Again, there was no difference in stuttering between the two groups after treatment.

2.1. Speech-language pathologists and CBT

It is clear from the studies reviewed above, that there is considerable evidence to support the use of the CBT package that was developed especially for AWS, and trialled, by the present authors and colleagues. We suggest that while this package has been developed from clinical psychology (the first author is a clinical psychologist), components of CBT such as exposure have been used for decades by speech-language pathologists (SLPs) in speech programs for AWS, typically as part of transfer activities (for a review of early studies see Ingham, 1984, and for examples of later studies see Blomgren et al., 2005; Langevin et al., 2006). It is considered, then, that certain well-established components of CBT for anxiety could be used by SLPs. In this section, we provide details of four of these components and guidelines for how SLPs might incorporate them into their speech treatments with AWS. These components are *exposure*, *behavioural experiments*, *cognitive restructuring* and *attentional training*.

We stress, however, that these procedures should only be used by SLPs who feel competent to do so, in accordance with their professional body's code of ethics.

2.2. Exposure

Despite advances in cognitive techniques, it is still likely that behavioral treatment procedures are the most commonly employed in treating anxiety around the world. The cornerstone of behavior therapy for any form of anxiety is exposure. In essence, the essentials of the use of exposure have not changed over the past 30 years. The individual is exposed to a situation that would normally induce considerable fear or anxiety. The individual is asked to confront the situation, without using any avoidance or escape strategies, and to remain in the situation until the level of anxiety begins to diminish.

The goal of exposure as used in CBT is different, however, from the procedures used in many SLP programs where clients use their restructured speech in situations graded for difficulty. The aim of such procedures is typically to practice fluency skills in increasingly difficult and feared situations. Exposure is specifically aimed at providing evidence to counter threat-related expectancies (e.g. "everyone will laugh at me"). Early exposure sessions should begin with low-level fear situations while later sessions involve more difficult tasks. Each feared situation or step in an exposure program is repeated until the individual can complete it with relative ease. Typically, an exposure program would consist of between 10 and 15 situations that the person has included in a 'fear hierarchy' and are likely to include (1) use of the telephone, (2) talking to respected people or people in authority, (3) meeting people for the first time, (4) meeting friends or associates whom the individual has not seen in a long time, and (5) group presentations. After entering each situation, the AWS reflects on the validity of their expectancies of harm in that situation; that is, they reflect on whether there was any evidence that the fears they had before entering the situation were justified. Was there any evidence, for example, that everyone laughed when they spoke?

Table 1
Sample fear hierarchy for a 22 year-old male who stutters.

1. Giving a 5 min talk on a book or movie to a supportive friend
2. Asking a male aged-pensioner on the street for directions
3. Calling a travel agent from home (alone) to get airline quotes, covering several dates and airlines, for a possible holiday
4. Asking a young female on the street for directions
5. Calling a travel agent from an open-office at work (with 1–2 colleagues present) to get airline quotes, covering several dates and airlines, for a possible holiday
6. Calling a travel agent from an open-office at work (with 5–6 colleagues present) to get airline quotes, covering several dates and airlines, for a possible holiday
7. Asking a group of three young females on the street for directions
8. Giving a 5 min talk on a book or movie to two strangers
9. Giving a 5 min talk on a book or movie to five strangers, two of whom seem to ignore the presentation and periodically whisper to each other while giggling
10. Giving a 5-min talk on a book or movie to two senior colleagues at work
11. Making a call to a talk-back radio station to discuss a current affairs issue live on-air

The following examples illustrate the negative thoughts that AWS typically associate with various speaking situations. The telephone presents unique challenges. AWS may fear that blocks or gaps in speech will lead the listener to believe that they are making a prank call. It is not uncommon for AWS to have had the telephone hung up on them, or for them to be abused on the telephone for not speaking. The number of people who can hear the person making a telephone call can be an important element in planning a fear hierarchy. Open office situations can be particularly difficult. Typically clients fear that they will be perceived as incompetent, neurotic, or anxious if their performance on the phone is worse than their performance in general speaking. In open office situations, changing recorded telephone messages due to changes in availability, days off work, and the like, is also challenging for those who stutter. If the person stutters on the first recording of a message, should it be changed? Many who stutter fear that repeated attempts to get a phone message 'just right' will again be perceived as a sign of caring too much or being anxious about speech. Obviously, the number of people present when the person is speaking is also relevant in situations that do not involve the telephone. Speaking in front of groups is also challenging, and having one's voice broadcast is particularly difficult.

Meeting other people for the first time can also cause high levels of anxiety for those who stutter. Familiar figures can be safe. If a person is well known to the individual, negative evaluation or ignorance and confusion about stuttering are less likely. However, meetings with strangers are often perceived as producing evaluations such as "s/he is retarded".

Finally, catching up with old friends can be difficult. AWS often fear that if they stutter considerably on such occasions they will be perceived as 'having failed' in that their stuttering has not improved. Such meetings may be associated with feared perceptions of a 'general unworthiness'.

A sample fear hierarchy is provided in Table 1.

2.3. Behavioral experiments

The predominant fears reported by those who stutter in CBT exposure tasks are that first, they will stutter and, second, that this will lead to negative evaluation by others. Behavioral experiments can be critical in reducing probability estimates associated with the second of these fears; that is, that the person will be evaluated negatively because of stuttering. These experiments frequently involve social situations in which the client is asked to produce stuttering voluntarily, ideally in a more severe form than most typically experienced. This technique, known as voluntary stuttering, has been a popular treatment component in several SLP programs for stuttering (see Ingham, 1984). As with exposure, these behavioral experiments should be presented in a hierarchical fashion, moving from relatively non-feared situations through to more feared ones. The participant is asked to record predicted outcomes of the voluntary stuttering (e.g. "the shop assistant will laugh at me") prior to engaging in the experiment (e.g. "stuttering for 10 s when enquiring about a book"). The outcomes of the experiments are reviewed and new predictions formed for future experiments. A worksheet for the recording of observations made during behavioral experiments is provided in Appendix A.

Other behavioural experiments can be conducted without the need for voluntary stuttering. In CBT, the participant is encouraged to create experiments to test any of their negative predictions of the world, such as in the following: "Mary won't return my phone message," "Steve will say he's too busy to organise a dinner out over the next three weeks," and "my boss will refuse my offer to give a presentation at the next company executive meeting." The worksheet in Appendix A can be used for any behavioral experiment, providing the participant can make clear and observable predictions for the experiment.

2.4. Cognitive restructuring

Challenging negative beliefs and judgements, predominantly about the evaluations of others, is a critical component of CBT for AWS. Most of the available data on the efficacy of cognitive procedures with AWS come from programs where participants are trained to identify and systematically modify any irrational thoughts related to anxiety, and to use these 'reframes' in everyday situations.

Table 2 presents the items from the UTBAS, a recently developed checklist for the identification of negative intrusive thoughts experienced by AWS (St Clare et al., 2009). The items were developed by a file audit of the unhelpful thoughts and beliefs reported by stuttering clients in a major anxiety clinic over a 10-year period. Seventy-nine thoughts and beliefs were sourced from these client files. Two clinical psychologists independently reduced the checklist by eliminating overlapping items. Where there was disagreement about the independence of items, discussion between these two investigators either produced a consensus view or prompted an item to be discarded. Thirteen items were discarded in this process, leaving 66 items. The UTBAS items have face validity because they consist of statements made spontaneously by AWS.

Appendix B provides a worksheet for AWS to use in order to challenge their negative beliefs and thoughts. Questions 1 and 2 on the worksheet focus on the *evidence for and against the negative thought*. It is important that clients focus on evidence, in the legal sense of the word, rather than on their personal reasons for believing the negative thought. For example, the fact that someone laughed at the individual when giving a speech at school is not evidence that a shopkeeper will do the same this afternoon. Anxious individuals have been shown to overestimate the likelihood of negative outcomes in everyday situations (e.g., Menzies & Clarke, 1995) and this is largely due to over-reading the evidence-base for their negative beliefs and thoughts.

Question 5 on the worksheet addresses the fact that many of the fears that are commonly reported by those who stutter concern *outcomes that are beyond their control*, such as the opinions of others, the level of understanding about stuttering of others, whether they will stutter/block at a given moment. Letting go of outcomes that are beyond ones control is a central component in contemporary cognitive therapy packages for anxiety. Question 6 on the worksheet focuses on the *usefulness* of the thought being challenged. In other words, does the thought do anything useful or functional for the person? Does the thought advance the individual's functioning or outcomes in any way? In CBT, it is argued that a thought needs more than a strong evidence-base to be warranted in consciousness. For example, consider the following thought: "One day I will have been dead for so long that no-one will know I ever lived". While this thought might pass the evidence tests of Questions 1 and 2, it would not pass the 'usefulness' or 'utility' test of Question 6 (nor the 'control' test of Question 5). Were the individual to ruminate on the thought, it would be likely to stop productivity, lower mood, and lower motivation for everyday activities.

Finally, Question 8 on the worksheet is often important for those who stutter in managing their anxiety. The question asks the individual to consider the real costs or severity of possible negative outcomes of feared social interactions. For example, how bad is it if someone in a shop actually does laugh when someone stutters? What are the real implications? Does the person still get the items s/he wished to purchase? Is the person over estimating the costs of such encounters? The findings of several studies suggest that socially anxious individuals exaggerate the consequences of everyday speaking situations (Mattick et al., 1989).

The UTBAS items presented in Table 2 can be used to generate thoughts for Cognitive Therapy (CT) using the worksheet in Appendix B. The present authors suggest that all AWS be shown the UTBAS items and asked to indicate the items that they most frequently experience in consciousness in difficult speaking situations. These are the items that should be targeted in CT exercises.

Table 2
Statements in the unhelpful thoughts and beliefs about stuttering (UTBAS) scale (St Clare et al., 2009).

1. People will doubt my ability because I stutter
2. It's impossible to be really successful in life if you stutter
3. I won't be able to keep a job if I stutter
4. It's all my fault-I should be able to control my stutter
5. I'm a weak person because I stutter
6. No one will like me if I stutter
7. I might stutter
8. People focus on every word I say
9. I am incompetent
10. No one could love a stutterer
11. I will stutter
12. Everyone in the room will hear me stutter
13. I'm stupid
14. Other people will think I'm stupid if I stutter
15. I'll never be successful because of my stutter
16. I won't be able to answer their questions
17. I'm hopeless
18. I'm of no use in the workplace
19. People will think I'm incompetent because I stutter
20. I'll block completely and won't be able to talk
21. Everyone will think I'm an idiot
22. I can't speak to people in positions of authority
23. People will think I'm strange
24. People will think I can't speak English
25. No one would want to have a relationship with a stutterer
26. I can't think clearly because I stutter
27. I can't speak to aggressive people
28. People will think that I have no opinions
29. People will think I'm boring because I have nothing to say
30. If I block, people will think I'm retarded
31. I can't face these people
32. People will wonder what's wrong with me if I stutter
33. What will people think of me if they disagree with what I say?
34. Most people view stutterers as less capable
35. I don't want to go – people won't like me
36. My pauses are too long – people will think I'm weird
37. People won't like me because I won't be able to talk
38. I can't convince people of anything I say because I stutter
39. People will think I'm retarded if I stutter
40. I'll block – I know I will
41. I'll make a fool of myself
42. People get tired of waiting for me to get my words out
43. People shouldn't have to wait so long for me to speak
44. I always embarrass the people I'm speaking to
45. People think I have something to hide because my stutter sounds suspicious
46. People will think that I'm worthless
47. I'll embarrass myself
48. I can't speak to people I find sexually attractive
49. No one will understand what I'm trying to say
50. What's the point of even trying to speak – It never comes out right
51. I won't be able to say exactly what I want to say
52. Everyone will think I'm simple or dumb because I avoid using difficult words
53. I slow up everyone's conversation
54. Everyone hates it when I start to speak
55. I can never speak on the phone
56. I won't be able to ask for what I want
57. The person on the other end of the phone will hang up on me
58. People will laugh at me

Table 2 (*Continued*)

59. People will think I'm mute
60. I'll never finish explaining my point – they'll misunderstand me
61. The answering machine will turn off if I block – I won't be able to leave any message
62. They'll think I'm a prank caller if I block
63. I won't be able to say 'hello' when I pick up the phone
64. People who stutter are stupid
65. People who stutter are incompetent
66. People who stutter are boring

2.5. Attentional training

Mindfulness-based procedures have become increasingly popular components of CBT programs for anxiety (Papageorgiou & Wells, 1998; Rapee & Heimberg, 1997; Wells, 1990; Wells, White, & Carter, 1999). A simple mindfulness procedure that can be used by SLPs is Attentional Training, as described by Clarke and Wardman (1985). It is intended to reduce the frequency of threat-related intrusive thoughts. It is claimed that this is achieved by increasing the person's capacity to attend to alternative cognitive targets. That is, by increasing one's ability to control where attention is placed, individual's can reduce their bias toward negative aspects of the social environment. The procedure has been used with a variety of anxious groups including agoraphobics (for example, Clarke & Wardman, 1985), and obsessive-compulsive sufferers (for example, Jones & Menzies, 1997; Krochmalik, Jones, & Menzies, 2001; Krochmalik, Jones, Menzies, & Kirkby, 2004).

In attentional training, clients are seated in a comfortable posture, with eyes closed, and are asked to focus on a counting/breathing mantra. On each 'in' breath the individual counts a number in his mind. On each 'out' breath the individual hears the word 'relax' in his mind. Clients are instructed to complete this simple meditation breathing procedure twice a day for 5 min in each session. It is not a muscle relaxation procedure, per se, many of which have been used with people who stutter (see Ingham, 1984). A detailed description of Attentional Training can be found in, Menzies et al. (2008).

3. General conclusions

It appears clear that, given developmental histories often marked by bullying and poor peer relationships, psychological interventions are appropriate for many AWS. While further refinement and testing of CBT procedures is warranted, data supporting the use of CBT with AWS are encouraging. Existing trials suggest that CBT for this population leads to psychological gains similar to those experienced by other socially anxious groups following CBT. It seems that CBT produces less social avoidance and anxiety and greater engagement in everyday life.

Of course, the need for interventions to reduce avoidance and social anxiety have been acknowledged and discussed widely in the past, and various procedures have been used to address these issues in various programs. However, to our knowledge, the CBT procedures presented in this paper are the first to be drawn from a widely recognised CBT model in clinical psychology and adapted especially for AWS. Furthermore, the procedures are part of a comprehensive CBT program that has been trialled with AWS and shown to be effective. We think that the UTBAS is a particularly useful CBT tool as it prompts AWS to recognise their unhelpful thoughts about stuttering and provides a way of gauging the extent to which they reduce with CBT. The UTBAS has face validity as the list of unhelpful thoughts and beliefs was assembled from case histories of AWS.

The CBT procedures for AWS presented here are straightforward to implement, and the authors suggest that they can be used on their own or in conjunction with speech treatment. CBT would seem to be a particularly valuable adjunct for treatments based on speech restructuring, such as variants of prolonged speech. As suggested by Craig and Tran (2006), we think CBT can be used with any AWS who have raised anxiety, whether or not they meet the DSM criteria for Social Phobia. However, it should be noted that the administration of CBT procedures with AWS, and the evaluation of their effects, should be in accordance with established CBT guidelines. The present authors also caution that they should only be used by SLPs who have had appropriate experience and/or training during their professional preparation and/or at

some later stage, and that their use should be in accordance with the code of ethics of the individual SLP's professional body.

CONTINUING EDUCATION

Cognitive behavior therapy for adults who stutter: A tutorial for speech-language pathologists

QUESTIONS

1. Adults who stutter
   (a) are never diagnosed with Social Anxiety Disorder
   (b) by definition have Social Anxiety Disorder
   (c) by definition cannot have Social Anxiety Disorder
   (d) are diagnosed with Social Anxiety Disorder in more than 70% of cases
   (e) are diagnosed with Social Anxiety Disorder in approximately 50% of cases
2. Exposure
   (a) is historically the most common behavioral approach to anxiety management
   (b) is essential in order for cognitive behavior therapy to work
   (c) is one of three traditional components of cognitive behavior therapy
   (d) must be used in combination with attentional training during cognitive behavior therapy
   (e) none of the above
3. Which of the following is not a standard component in cognitive behavior therapy?
   (a) focus on interpersonal relationships in early life
   (b) exposure
   (c) behavioral experiments
   (d) cognitive restructuring
   (e) attentional training
4. Worrying about outcomes that are beyond the control of the individual
   (a) is essential for diagnosis of Social Anxiety Disorder
   (b) is not a healthy thing to do
   (c) occurs often in those with stuttering who are not diagnosed with Social Anxiety Disorder
   (d) is rare in those with stuttering
   (e) none of the above
5. The procedures used in cognitive behavior therapy
   (a) can only be implemented by clinical psychologists
   (b) absolutely require that speech-language pathologists work collaboratively with clinical psychologists
   (c) are similar to many procedures that speech-language pathologists use to treat adults who stutter
   (d) were derived from Joseph Sheehan's work
   (e) none of the above

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Appendix A. Behavioural experiments: testing out unhelpful thoughts

Behavioural Experiments: Testing out unhelpful thoughts

Unhelpful Thought

(1) Planned Activity.

(2) What do you expect to happen? What do you predict will occur? (Try to be specific about your predictions).

Prediction 1.

Prediction 2.

Prediction 3.

(3) How certain are you about these prediction(s)? Rate your confidence (0-100) that each prediction will occur?

Prediction 1 (0-100). _____

Prediction 2 (0-100). _____

Prediction 3 (0-100). _____

(4) What happened when you carried out the planned activity? Did your prediction(s) come true?

(5) If you were carrying out the same activity again, or a similar activity, what would you predict would happen?

Prediction 1.

Prediction 2.

Prediction 3.

(6) What have you learned by carrying out the planned activity? Did you find evidence for or against the causal thought? Has this activity changed the way you think about the causal thought?

Appendix B. Cognitive restructuring: learning to attack unhelpful thoughts

Cognitive Restructuring: Learning to attack unhelpful thoughts

Unhelpful Thought

1. What evidence do you have for the thought?

2. What evidence do you have against the thought?

3. What would you tell a friend (to help them) if they had the thought?

4. Think of your calmest, most rational and supportive friend or family member. How would he/she react to the causal thought? What would he/she say?

5. Are you worrying about an outcome that you can't control? Is there any point to this type of worry?

6. What does the thought do for you? How does it make you feel? Is it helpful in any way, or is it just distressing?

7. What good things would you gain if you gave up the thought? How would you life be different if you didn't believe the thought?

8. If the causal thought was true, what is the worst outcome? Is it as bad as you think?

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