Summer 2013

Adolescents Who Stutter: Perception of Effective Therapy Techniques

Megan Weigel

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ADOLESCENTS WHO STUTTER:
PERCEPTIONS OF EFFECTIVE THERAPY TECHNIQUES

A Thesis
Submitted to the John G. Rangos, Sr. School of Health Sciences

Duquesne University
In partial fulfillment of the requirements for
the degree of Master of Science

By
Megan Weigel

August 2013
ADOLESCENTS WHO STUTTER:
PERCEPTIONS OF EFFECTIVE THERAPY TECHNIQUES

By
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Approved July 1, 2013

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ABSTRACT

ADOLESCENTS WHO STUTTER: PERCEPTIONS OF EFFECTIVE THERAPY
TECHNIQUES

By
Megan Weigel
August 2013

Thesis supervised by Gary J. Rentschler, Ph.D.

Stuttering is considered a low-incidence communication disorder, but for those who stutter, the symptoms can handicap many aspects of life. Stuttering typically presents early in childhood and data indicates the probability for natural recovery ends near the emergence of adolescence. When stuttering continues into adulthood, it is considered chronic. Currently, there is limited research on which therapy techniques have proven to be most successful with adolescents, a unique population at a pivotal age in therapy. The original intent of this study was to investigate factors that contribute to successful therapy for adolescents who stutter. Due to recruitment limitations, the data presented is considered to be part of a pilot study investigating adolescents’ experiences in stuttering therapy. The data includes measure of stuttering impact, experience in stuttering treatment, and success of stuttering treatment. Relationships between the
variables were explored. Limitations and implications of these results are discussed from a clinical perspective.
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Thank you for your continual support, positivity, and encouragement during this project. You have provided me with opportunities to challenge myself and grow as a student and a clinician. I sincerely appreciate all the advice and knowledge you have given me over the past year and throughout my Duquesne experience.

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Family and friends,

Thank you for all your love, laughter, and encouragement over this past year and throughout my time at Duquesne. This project would not have been possible without you.
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Chapter 1

Introduction

Stuttering

Typical speech is characterized by occasional disfluencies; whether it is a pause, revision of a misarticulation or the use of a filler to allow time for word retrieval. All speakers have disfluencies in their speech at some point, it is not always considered “stuttered” speech. Stuttering is defined as “interruptions to the fluency and flow of speech, where the person knows what he or she wishes to say, but is unable to because he/she is experiencing either (a) involuntary repetitions of syllables, especially when starting words, (b) involuntary prolonging of sounds, or (c) unintentional blocking of their speech” (Craig & Hancock, 1996, p. 174). The onset of, as well as the recovery from, stuttering occurs most frequently during childhood. Some studies found that up to 89% of children who stutter recovered completely (Yairi & Ambrose, 1992). For those who do not recover in childhood, the duration of disfluency beyond childhood is considered to be a negative prognostic factor for recovery (Yairi, Ambrose, Paden & Throneburg, 1996, p. 70). When stuttering continues into adulthood, it is considered to be a chronic condition. Thus, adolescence is considered to be a cutoff point for natural recovery to occur.

While people who stutter share the same diagnostic label, the diagnostic label does not detail their individual experiences. Consequently, each person who stutters presents with different symptoms, handicaps, and responses to treatment (Huinck, Langevin, Kully, Graamans, Peters & Hulstijn, 2006). The role of the speech-language pathologist is to identify the unique needs of a client who stutters and develop a
successful treatment plan. Experienced clinicians have come to appreciate stuttering as a multidimensional disorder comprised of core behaviors, secondary behaviors, and feelings and attitudes (Guitar, 2006). This perspective of stuttering enhances the efficacy of treatment by helping speech-language pathologists define ‘success’ as being greater than simply reducing the percentage of syllables stuttered (%SS) or syllables spoken per minute (SPM), but also, changing the client’s attitude, emotions and beliefs about communication. Contour (1996) stated that effective stuttering treatment includes: “…change in (a) stuttering or stuttered speech, (b) related attitudes and feelings, and (c) willingness to enter into and engage in various communication situations with various people” (p. 25).

It is also important to note that stuttering severity and negative emotions are not always directly correlated. That is, a person classified as having a mild stutter, in terms of %SS, may have a strong negative attitude toward his communication abilities. Huinck et al. (2006) studied adults who stutter to determine if a relationship exists between pre-treatment profiles and treatment outcomes while participating in the Comprehensive Stuttering Program (CSP) developed by the Institute for Stuttering Treatment and Research (ISTAR). The researchers examined measures of stuttering severity (%SS) and negative emotional reactions to stuttering. The results supported the theory that no direct correlation existed between the two factors. Their findings suggest that people with mild stuttering profiles might benefit more from therapy focusing on emotional aspects of stuttering, while people with severe stuttering profiles may find greater benefit in therapy initially focused on reducing stuttered disfluencies (Huinck et al., 2006, p. 55).
Adolescence

The fact that emotional aspects of stuttering are not directly correlated to stuttering severity is important to consider when treating adolescents who stutter. As mentioned previously, adolescence can be a critical period in stuttering therapy since it may be a final opportunity to recover. However, adolescents are a particularly challenging age group to treat due to the biological changes and maturation processes that occur during this developmental period. Changes during this transition from childhood to adulthood include physical and chemical bodily changes, the development of relationships, attitudes, and responsibilities in the journey towards independence (Spear, 2000, p. 428). Graber and Peterson (1991) found that the physical growth during adolescence is accompanied by cognitive development and maturation (Gibson & Petersen, 1991, p. 258). The fact that cognition is still developing and changing adds credibility to the notion that adolescence is a critical period for therapy.

In contrast, other effects of adolescent maturation may prevent therapy from being successful. Spear (2000) considers the increasing value of peer relationships and interactions during adolescence to be one of the changes that enables adolescents to successfully transition to independence (p. 420). In contrast, the increased importance of peers often results in a desire to conform to a common image or lifestyle. For a majority of adolescents, this “image” likely does not include stuttering or attending speech therapy. A second potentially detrimental consequence of peer relationships and growth towards independence is increased conflict with parents, as parental opinions are less influential than peers’ opinions. The influence parents have on their child’s therapy attendance or the practice of therapy goals at home diminishes during adolescence.
(Manning, 2010, p. 405). Research has also shown that changes in cognitive functioning in adolescents result in a decreased motivational level (Spear, 2000, p. 445). A decreased motivational level may significantly alter the desire to seek treatment or to be productive during therapy.

In addition to the cognitive development and physical maturation, adolescents who stutter may also need to cope with their seemingly uncontrollable speech. Research by Blood, Blood, Tellis and Gabel (2001) found that adolescents who stutter had a greater “fear of speaking,” apprehension about communication, and significantly poorer self-perceived communication competence (p. 171). While lack of motivation, cooperation, and openness might make it seem that an adolescent is averse to therapy, in reality these outward responses may be coping mechanisms. Zebrowski and Wolf (2011) provided several general recommendations for effective therapy for adolescents who stutter. The recommendations included forming a therapeutic alliance by agreeing on goals and methods and exploring the mechanics of fluent and disfluent speech (pp. 39-40). These recommendations may increase the motivation and cooperation of adolescents who stutter. Overall, the available literature on adolescent stuttering treatment is sparse in comparison to the resources available for adults and children who stutter.

**Treatment with Adolescents who Stutter**

Craig, Hancock, Chang, McCready, Shepley, McCaul, Costello, Harding, Kehren, Masel, and Reilly (1996) conducted a controlled clinical study to validate the efficacy of three treatment approaches with adolescents who stutter. The approaches were compared to each other as well as to a control group. The approaches included: Intensive Smooth Speech (INTSS) treatment, Intensive Electromyography Feedback (EMG), and home-
based Smooth Speech (HOMESS) treatment. The researchers recruited 97 participants for the study and divided them into 4 groups: 27 participants in the INTSS group, 25 in the EMG group, and 25 participants in the HOMESS group. The control group was comprised of 20 participants on a waiting list for therapy.

INTSS treatment consisted of approximately five hours of practice sessions followed by a week-long intensive, group therapy program administered by two speech-language pathologists. The goal of the smooth speech approach is to enhance airflow when speaking by slowing rate of speech, using easy onset, and vowel prolongation. Participants practiced fluent speech at very slow speaking rates initially and then increased speaking rate over the course of the week. During the program, the participants were involved in group activities, such as telling jokes and presenting monologues. They also engaged in transfer activities, such as talking to novel conversation partners and ordering tickets at a museum. Daily structured rating sessions and video self-assessments were the emphasis of the treatment program. The final session consisted of discussion with parents regarding treatment practices and maintenance.

The EMG feedback treatment was provided to participants in a one-week intensive, group treatment program. The focus of this treatment approach was to increase awareness and control of EMG activity in speech muscles. Participants were given computer and auditory feedback during non-speaking tasks that required them to change the tension level of speech muscles. Once participants could successfully manipulate muscle tension with feedback, they were required to complete the same task without feedback. Upon successful completion of this stage, participants continued treatment in a hierarchical fashion: moving from single words to conversation level. The requirements of stage
completion were: keeping muscle tension below two microvolts before the participant spoke and performing stutter-free speech with and without feedback. The last two days of treatment consisted of transfer activities such as playing board games, group conversation, shopping, and telephone calls without EMG feedback.

Treatment for the HOMESS group consisted of clinical instruction of smooth speech techniques to both parent and children participants. The instruction was provided once a week for four weeks in a clinical setting, with each session lasting 6.5 hours. Instruction focused on building the parent-child relationship as well as mastering the use and reinforcement of smooth speaking techniques. The goal was to have parents replace the clinician during activities in the clinic and implement treatment practices at home. Parents were responsible for maintaining speech diaries that recorded the details of treatment implementation in the home. The diaries were reviewed by the clinicians to ensure that the treatment was performed adequately.

Measures of percentage of syllables stuttered (%SS), speaking rate or syllables per minute (SPM), and speech naturalness were collected pre-treatment, immediately post-treatment, three months post-treatment and 12 months post-treatment in three different speaking settings. During the first setting, participants talked with the clinician in the clinic. In the second setting, participants talked on the clinic phone to a family member with the clinician present and in the third setting they talked to a family member at home, which was video recorded and brought to the clinic.

Results showed that %SS and SPM improved in each treatment group, but no change was seen in the control group. The level of improvement decreased over time in all three treatment groups, as evidenced by comparing the immediate post-treatment,
three months post-treatment, and 12-month post-treatment measures. It was noted that the INTSS group had greater percent improvement immediately post-treatment, but the EMG and HOMESS groups had higher percent improvement on the three- and twelve-month post-treatment measures. Speech naturalness measures improved in all three treatment groups and no improvement was seen in the control group. The EMG and HOMESS groups had a greater amount of improvement in comparison to the control group than the INTSS group. The State-Trait Anxiety Inventory for Children (STAIC) was used to measure psychological status pre- and post-treatment. Anxiety levels dropped for all three treatment groups. State anxiety levels dropped in the control group, but Trait anxiety levels remained the same three months post-treatment.

While the data helped to support the efficacy of each treatment technique, the quantitative design of this study did not allow the researchers to account for the differences between each of the participant’s improvement or the reasons that some relapsed. The researchers also measured a decrease in each participant’s anxiety level across treatment periods, but no explanation for this trend was offered. The authors concluded that successful technique use varied between individuals, which clinicians need to consider when designing treatment plans. Participants provided feedback in a speech diary, but the diary was used to record assignments and details of the subject's performance in each treatment session (Craig et al., 1996). The diary did not provide a qualitative description of the experiences in treatment. Overall, this study shed light on treatment efficacy of adolescents who stutter, but might have benefitted from supplemental qualitative data to explain the variability within and among participant outcomes.
Qualitative Research with Adolescents who Stutter

An example of the qualitative data that was lacking in Craig et al.’s (1996) study can be found in the investigation conducted by Hearne, Packman, Onslow and Quine (2008). They investigated the perceptions of teens who stutter in terms of their experiences during adolescence and in speech therapy during this period. The study included 13 adolescents and young adults, 12 males and one female, who were selected through a non-probability purposive sampling procedure. The subjects had a variety of therapy experiences and all were instructed to answer questions about their therapy experience during adolescence, despite some participants now being young adults.

The study included seven separate interviews of two focus groups comprised of three to four members. The design of this study enabled the researchers to use both open-ended and in-depth questions to obtain a more complete picture of the participants’ “behaviors, attitudes and/or motivation” in seeking stuttering therapy during adolescence (Hearne et al., 2008, p. 83). Topics discussed in the group sessions were formulated a priori as well as potential probes and follow-up questions. Topics included: (a) the experience of stuttering, (b) reasons for seeking or not seeking therapy, (c) barriers to seeking treatment, (d) the treatment experience, and (e) suggested improvements to treatment during adolescence (p. 84). Member checking was conducted at the end of each group session to ensure the researchers interpreted the information gathered from participants accurately.
Two topic areas emerged from the group sessions and interviews, as they occupied a majority of the discussion time. The first topic was awareness of stuttering. Participants described a lack of awareness of their stuttering among family members, peers, and teachers. Participants also reported limited personal knowledge of the cause and nature of stuttering. Proposed reasons for this limited understanding included embarrassment, denial, and a culture in which stuttering is considered taboo. The participants’ opinions were divided on two topics. The first was the benefit of educating peers and teachers about stuttering and the second was whether stuttering could be considered a “big enough” problem to warrant increased public awareness (p. 90). While all subjects agreed that increased awareness would help to decrease bullying, only two reported being bullied during adolescence as a result of stuttering.

The second topic that emerged was experiences in treatment. The treatment each participant received was unique and two of the participants had not enrolled in therapy until after adolescence. One common attribute among the participants was that the decision to attend therapy was made independently. All participants viewed this independent decision as pivotal to a successful therapy experience. Some participants also described the pressure of seeking employment and their career as reasons to enroll in therapy. Both of these results reflect the idea that adolescence is a transition from childhood to independent adulthood.

Participants also preferred the group therapy setting, finding it to be more “realistic” and supportive (p. 90). This preference is consistent with the idea that peer relationships increase in value and importance during adolescence. While transfer tasks were more difficult, the majority of participants expressed that they were also the most
effective. Subjects suggested that treatment could be enhanced with more maintenance or follow-up meetings to provide encouragement and serve as a reminder to continue using learned techniques. Overall, Hearne et al. (2008) provided important direction for clinicians to consider when treating adolescents who stutter. This information can help shape the structure of therapy and provide clinicians with insight into the obstacles often faced treating adolescents (i.e. lack of intrinsic motivation to seek treatment or lack of self-discipline to continue practice after treatment).

**Qualitative Research with Adults who Stutter**

Qualitative research on adolescents who stutter is just beginning to be conducted, but several informative studies were completed with adults who stutter. Corcoran and Stewart (1995) authored one such study comparing the structure of their investigation to the bio-medical model established by Weston, Brown, and Stewart (1989). In this model, stuttering was considered to be the “disease” and the individual experience or suffering of each person who stutters was the “illness” they faced (Corcoran & Stewart, 1995, p. 90). Corcoran and Stewart selected seven participants varying in age (25-50 years), gender (five males and two females), severity of stuttering (severe, moderate, mild), and treatment experience (fluency-shaping, stuttering modification, or combination of both).

Their method included two semi-structured interviews, which were 60-90 minutes in length and composed of open-ended questions and probes to obtain additional detail and clarification. The purpose of the first interview was to gather information about the participants’ experiences stuttering, and the second interview served to clarify the information gathered in the first interview and build the reliability of the findings. Analyses of the interview transcripts revealed two notable themes regarding the
participants’ experience stuttering: understanding stuttering and interpersonal relationships. A lack of understanding of the stuttering experience by family members, speech therapists, and teachers negatively impacted these relationships. The lack of understanding resulted in the inability to discuss stuttering with parents, unhelpful and special treatment from the teacher, and ineffective treatment from speech-language pathologists.

Beneficial relationships occurred with stuttering peers because they were perceived to truly understand the participants’ struggles with stuttering. Participants viewed others who stutter as sources of comfort, hope, and encouragement. As one participant stated, "I'm not different from these people. We all feel the same and it's okay” (Corcoran & Stewart, 1995, p. 93). The relationship with the speech-language pathologist was beneficial for the participants when it provided emotional support through treatment. Participants also reported that speech therapists presented an explanation of the physiology of stuttering. Understanding the physical aspects of stuttering and the theories behind treatment techniques supplied clients with an invaluable sense of control. As reported by one participant, “knowing that I could do something about it [stuttering] probably changed it right then and there, more instantaneously than anything, was that I knew I could overcome it with some effort and with some help” (p. 93).

This was one of the earliest qualitative studies conducted on the experiences of adults who stutter; it was informative and provided valuable information for clinicians. Only a small portion of the discussions focused on therapy experiences, but a large portion of the data can be applied to clinical practice. Quantitative data can only apply to effective, individualized treatment plans with a certain degree of authority. By contrast,
regardless of treatment type (i.e., fluency-shaping, stuttering modification, or a combination), participants reported the most valuable part of therapy to be (1) gaining knowledge of the physiology of stuttering, (2) understanding the theory behind stuttering modification techniques, and (3) the feeling of control that resulted. Thus, these components should be incorporated into every treatment plan and could only be discovered through a qualitative investigation.

**Qualitative Research**

While a quantitative study design can reveal valuable information when comparing different treatment approaches, a qualitative study might be more beneficial due to the multidimensional structure of stuttering. Tetnowski and Damico (2001) supported the use of qualitative research with people who stutter because it utilized a conceptual framework during the analysis of stuttering. The conceptual framework is the knowledge of the participant’s experience that explains variability in numerical data. The authors contrasted qualitative and quantitative research: “Experimental research is designed to control the context in which speech is employed so that various contextual factors (extraneous variables) may be reduced. In establishing such control, however, the experimental context often loses the complexity and dynamism of an authentic communicative context” (Tetnowski & Damico, 2001, p. 18). Not only is stuttering a multidimensional disorder, but achieving success in therapy is also a dynamic process. Analyzing the relationship between the dimensions of stuttering and treatment success within a conceptual framework allows for participant variability, yet common themes can still emerge. Hopefully, these themes will be applicable for speech-language pathologists treating clients who stutter. Currently there is limited research on this topic, but it has the
potential to shape treatment plans for a client population during a valuable transitional
time in the development of stuttering.

Corcoran and Stewart (1995) concluded that clinicians jeopardize the success of
therapy by focusing solely on the speech symptoms of stuttering (p. 94). They also
reiterate the importance of shared experiences between clinician and client and call upon
clinicians to engage in this deeper level of understanding. While Hearne, et al. (2008)
gathered rich data from their study of adolescent stuttering experiences, they noted that
the structure of the investigation did not allow them to reach a saturation point, where no
new ideas or views emerge from the group. Hearne’s account of the incompleteness of
their study was a call to further investigate the experience of adolescents who stutter in
therapy. Having participants reflect on their experiences in stuttering therapy could
provide clinicians with valuable information on factors that contribute to successful
treatment plans.

**Purpose of the Study**

The purpose of this study was to investigate how the following factors alter
adolescents’ perceptions of effective stuttering treatment according to self-report:

1. stuttering severity,
2. emotional aspects of stuttering,
3. format of treatment,
4. motivation to begin therapy,
5. education on stuttering and therapy techniques.

**Hypotheses**

It was predicted that relationships would be found between the following factors
and treatment success:

1) A positive relationship between an independent decision to begin stuttering therapy and treatment success.

2) Therapy that addresses emotions and attitudes toward stuttering would contribute to treatment success.

3) Education on the physiologic aspects of stuttering and the theory behind therapy techniques targeting the physiological action of stuttering would contribute to treatment success.

4) Therapy in a group format would contribute treatment success.

5) Participants with an OASES score that indicates a greater impact of stuttering on their life, or a more severe stutter, will report treatment to be more successful.

Chapter 2

Methods

Participants

Participants for this pilot study were three adolescents diagnosed with a stuttering disorder, between the ages of 13 and 17 years. All participants had received a stuttering diagnosis without an accompanying language or articulation disorder, and received therapy services by a certified speech-language pathologist for a minimum of twelve months between the ages of twelve and sixteen. Inclusion of such a narrow age range helped to ensure that participants were reporting on recent experiences in therapy. Demographic information for the participants can be found in Table 1.
Table 1. Demographic Information for Participants

<table>
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<tr>
<td>Gender</td>
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<td>Male</td>
<td>Male</td>
</tr>
<tr>
<td>Age to begin Treatment</td>
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<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Length of Treatment (years)</td>
<td>6</td>
<td>5</td>
<td>12</td>
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<tr>
<td>Initial severity diagnosis (according to self-report)</td>
<td>Mild</td>
<td>Severe</td>
<td>Mild</td>
</tr>
</tbody>
</table>

Participants were recruited with a flyer (see Appendix A) that was displayed in UPMC Children’s Hospital locations and Duquesne University Speech-Language-Hearing Clinic. Flyers were sent to speech-language therapists in the Pittsburgh area as well as the Pittsburgh chapter of the National Stuttering Association. A member of the thesis committee distributed flyers to clients of the Virtual Stuttering Center. Lastly, study details were posted on the online list-serve for clinicians who specialize in working with people who stutter and are part of the American Speech-Language-Hearing Association Special Interest Group.

A range of stuttering severity, gender, racial/ethnic background, and length and type of treatment were invited to participate in the study. All participants were screened prior to participation in the study. Potential participants were disqualified if they were not between the ages of 13 and 17, had an accompanying language or articulation disorder, or had not received stuttering treatment for a minimum of 12 months. Two participants were excluded from the study because they were outside the desired age range. Parental permission was required and all participants completed the informed consent procedures as approved by the Duquesne University Institutional Review Board.
**Procedures**

The pilot study was a mixed qualitative-quantitative design administered in a written questionnaire/survey format (see Appendix B). The qualitative portion of the questionnaire was a phenomenological design that consisted of open- and close-ended questions regarding the participant’s experience in therapy. The participants provided written responses to the questions. Questions explored areas that include: motivation to begin therapy, expectations at the beginning and end of therapy, explanations of therapy tasks, and the focus of treatment. The quantitative survey portion of the study consisted of completion of the *Overall Assessment of the Speaker’s Experience of Stuttering* (*OASES-T*; Yaruss & Quesal, 2008) to gather information about the impact of stuttering on the participants’ life using a Likert scale ranging from one to five. Response scales are organized so that a higher score indicates a greater negative impact associated with stuttering and a lower score indicates less negative impact (Yaruss & Quesal, 2006, p. 101). Questions explored areas that included: participant’s general knowledge of stuttering, reactions to stuttering, difficulty in daily communication situations, and quality of life. The questionnaire and survey were sent to the participants via mail along with a pre-paid return envelope.

**Instrumentation**

The written survey and the OASES test were the primary instruments used in the study. The OASES is based on the World Health Organization’s *International Classification of Functioning, Disability, and Health* model (Yaruss & Quesal, 2010, p. 4). This model calls for the consideration of the observable impairment seen in people who stutter (i.e. speaking disfluencies) as well as the way the disfluencies impact his or
her reactions to stuttering, the reactions of those in the speaker’s environment, and the ways in which stuttering limits the speaker’s ability to perform daily activities and restricts his or hers ability to participate fully in life (p. 16). As discussed earlier, effective speech-language pathologists must look to change not only stuttered speech, but related attitudes and feelings, and willingness to enter into and engage in a variety of communication situations with different people (Contour, 1996). The OASES allows clinicians to measure a client’s attitudes and feelings, participation in communication situations, and make clinical decisions with that information.

The OASES measures stuttering impact using a Likert scale that corresponds to a qualitative and quantitative result. Each scale ranges from one to five, with one indicating a low degree of impact and five indicating a high degree of impact. The qualitative description of the scales numerical values vary across and within the four sections. This variation is due to the different area each section explores and the response that is measured (i.e. knowledge, feeling, frequency, or quantity). An overall impact score is calculated by totaling the number of points scored, then dividing this value by the total number of items completed on the test. The numerical overall impact score corresponds to a qualitative description of degree of impact.

**Analyses**

The student researcher completed content analysis of open-ended items to examine and interpret patterns and themes across participants’ experiences during stuttering therapy. Responses were compared categorically. That is, responses to questions about treatment techniques were compared between participants and responses to questions about motivation for therapy were compared between participants. Additional categories
were technique education, emotional aspects of stuttering, stuttering severity, and successful outcomes of treatment. The analysis included identifying frequently occurring words and ideas across all participant responses.

Data triangulation was employed to strengthen the validity of the study’s results. It was achieved by gathering participant data through the same process (e.g., written survey). The quantitative data from the OASES rating scales was analyzed according to the numerical value of the participant’s response and content analysis of participants’ responses was performed.

Chapter 3

Results

The greatest constraint associated with this study is the limited number of participants who were recruited. Due to the low number of participants, it was difficult to identify trends in the data or formulate conclusions. The low incidence of stuttering as a communication disorder provided a challenge to recruitment, as did upholding the screening criteria for inclusion in the study. However, the inclusion criteria contributed to the formation of a fairly uniform participant group in terms of demographic characteristics (See Table 1). A second limitation of the data set was that one participant (SS03) did not complete all items on the qualitative questionnaire. The absence of response is recorded as “N/A” in the following data reports.

Qualitative Survey Responses

**Beginning Treatment.** All three participants reported that the decision to begin treatment was made by parents, specifically their mother. It should be noted that all
participants began treatment during childhood rather than adolescence. This topic is explored further in the discussion section.

**Pre- and Post-Treatment Expectations and Motivation.** Participants were asked to explain their expected outcome at the beginning of treatment and similar responses were seen across participants. The expectation of improving fluency and decreasing %SS was a common theme.

- Curing; fluency (SS01).
- Not much (SS02).
- To become more fluent (SS03).

When asked their motivation to attend speech therapy, the importance of increasing fluency was reiterated, as well as areas in which increased fluency would have the greatest impact.

- Fluency (SS01).
- My mother (SS02).
- To be able to answer questions in class and hold conversations with my peers (SS03).

The survey asked participants how their expectations of therapy had changed since the beginning of treatment. Analysis of the responses revealed a change in cognitive maturity since beginning treatment. This may reflect the young age at which treatment was begun.

- I've realized that I'll never be fluent, and that I'll always stutter. Therapy for me is more about acceptance now, versus the naïve 4th grader that first walked into therapy (SS01).
- I realized that this (speech therapy) was the major reason why I am fluent (SS02).
- N/A (SS03).

A clear change is seen in Participant SS01’s attitude towards treatment and his focus of treatment shifted to the emotional aspects of and attitude towards stuttering,
rather than fluency and %SS. Participant SS02’s expectation remained focused on %SS and the fluency he was able to achieve due to treatment.

**Participant Treatment.** Variations in treatment setting, format, speaking target instruction, and speaking target success was found amongst the participants. This variation was desirable as the main purpose of the study was to identify common positive aspects of therapy across different treatment programs. For details of each participant’s treatment, refer to Table 2.

**Table 2. Description of Participants’ Treatment**

<table>
<thead>
<tr>
<th>Participant:</th>
<th>Treatment Setting:</th>
<th>Treatment Format:</th>
<th>Focus of Treatment:</th>
<th>Targets taught:</th>
<th>Most successful target:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS01</td>
<td>-School</td>
<td>-Individual treatment</td>
<td>-Reducing stuttering</td>
<td>-Easy onset</td>
<td>-Preparatory sets</td>
</tr>
<tr>
<td></td>
<td>-Private clinic</td>
<td>-Stuttering support group</td>
<td>-Increasing fluency</td>
<td>-Light contact</td>
<td>-Pull-outs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Emotions/attitudes towards stuttering</td>
<td>-Pull-out</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Knowledge/understanding of stuttering</td>
<td>-Preparatory sets</td>
<td></td>
</tr>
<tr>
<td>SS02</td>
<td>-Hospital clinic</td>
<td>-Individual treatment</td>
<td>-Reducing stuttering</td>
<td>-Easy onset</td>
<td>-Preparatory sets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Group treatment with other people who stutter</td>
<td>-Increasing fluency</td>
<td>-Light contact</td>
<td>-Vowel stretching</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Stuttering support group</td>
<td>-Emotions/attitudes towards stuttering</td>
<td>-Pull-out</td>
<td>-Pause and phrase</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Knowledge/understanding of stuttering</td>
<td>-Pause and phrase</td>
<td></td>
</tr>
<tr>
<td>SS03</td>
<td>-School</td>
<td>-Individual treatment</td>
<td>-Reducing stuttering</td>
<td>-Easy onset</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Increasing fluency</td>
<td>-Slow rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Emotions/attitudes towards stuttering</td>
<td>-Light contact</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Knowledge/understanding of stuttering</td>
<td>-Pull-out</td>
<td></td>
</tr>
</tbody>
</table>

Despite variation in treatment setting, format, speaking target instruction, and speaking target success, the reported focus of treatment was the same across all three participants. Participant responses indicate that treatment focused on both the speaking (reducing stuttering, increasing fluency) and non-speaking (emotions, attitudes, theoretical knowledge) aspects of stuttering.
Emotions and Attitudes Towards Stuttering. The qualitative survey asked participants to report whether attitudes and emotions towards stuttering were discussed in treatment and if they had found it helpful.

Yes and yes (SS01).
Yes, it made me more aware and more fluent (SS02).
N/A (SS03).

Participant SS02’s response was particularly interesting as he found addressing emotions and attitude towards stuttering to have a positive correlation with fluent speech. In future studies, it would be of interest to gather more data from Participant SS01 in hopes of gaining a more detailed picture of why he addressing emotions and was attitudes helpful.

Treatment Success. Participants were asked to identify aspects of therapy that contributed most and least to the success of treatment, using a 1-5 ranking scale with 1 having the greatest contribution and 5 having the least.

Table 3. Contributions to Treatment Success

<table>
<thead>
<tr>
<th>Participant</th>
<th>SS01</th>
<th>SS02</th>
<th>SS03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution ranked #1:</td>
<td>Improved attitude/confidence when speaking</td>
<td>Increased fluency</td>
<td></td>
</tr>
<tr>
<td>Contribution ranked #2:</td>
<td>Reduced Stuttering</td>
<td>Reduced stuttering</td>
<td>-Improved attitude/confidence when speaking</td>
</tr>
<tr>
<td>Contribution ranked #3:</td>
<td>Increased fluency</td>
<td>Knowledge of technique use</td>
<td></td>
</tr>
<tr>
<td>Contribution ranked #4:</td>
<td>Knowledge of technique use</td>
<td>Knowledge of stuttering</td>
<td>-Reduced Stuttering</td>
</tr>
<tr>
<td>Contribution ranked #5:</td>
<td>Knowledge of stuttering</td>
<td>Improved attitude/confidence when speaking</td>
<td></td>
</tr>
</tbody>
</table>
Analysis of these responses revealed variability among the participants. Participant SS01 ranked “improved attitude/confidence when speaking” as the greatest contributing factor to treatment success. This seemed related to his changed expectation of treatment. His expectation had shifted from reducing stuttering disfluencies to becoming more accepting of his speech disorder. However, his high rankings of “reduced stuttering” and “increased fluency” indicate that addressing stuttering disfluencies were also important contributors to treatment success.

Participant SS02 ranked the speaking aspects of stuttering (increased fluency, reduced stuttering) as having had the greatest contribution to treatment success. The ranking aligned with his changed expectations of treatment. He reported that his expectations changed because he identified treatment as the reason he can speak fluently.

Participant SS03 ranked “improved attitude/confidence when speaking,” “knowledge of technique use,” and “knowledge of stuttering” as equally important contributions to treatment success. “Reduced stuttering” and “increased fluency” were ranked below these three items, but were equal to each other in their contribution to treatment success. It was interesting to see that improving the speaking aspects of stuttering were not as important to him, but they were the most important to participant SS02.

Participants were also asked how successful they found treatment overall using a 1-5 ranking scale, with 1 being highly unsuccessful and 5 being highly successful.

<table>
<thead>
<tr>
<th>Table 4. Overall Treatment Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant</td>
</tr>
<tr>
<td>Overall rank of treatment success:</td>
</tr>
</tbody>
</table>
It was difficult to identify a trend in participant responses to this question given the limited data set. Participant SS02 ranked his treatment with the highest level of success and reported “increased fluency” and “decreased stuttering” to have contributed the most to treatment success. Participants SS01 and SS03 ranked the overall success of their treatment lower and reported non-speaking aspects of stuttering treatment as greater contributions to treatment success.

**Suggestions to Improve Treatment.** Participants were asked to offer their opinion about changes that would have made therapy more effective.

- Beginning to focus on acceptance earlier on (SS01).
- Nothing it was perfect (SS02).
- N/A (SS03).

Participant SS01’s response was interesting because it highlights the importance of addressing emotions and attitude towards stuttering in treatment. It was disappointing that Participant SS03, who ranked his overall treatment success the lowest, did not provide details about what was lacking or what he thought could make treatment more successful.

**Overall Assessment of the Speaker’s Experience Stuttering (OASES) Results**

The quantitative data for this pilot study was gathered using a survey instrument, the OASES test, which participants completed independently and returned to the student researcher via mail. The OASES was used to measure the impact of stuttering and details about participants’ experiences as a person who stutters. Table 5 provides details of the scores as they relate to qualitative severity levels.
Table 5. OASES Scoring Scale

<table>
<thead>
<tr>
<th>OASES Numerical Score</th>
<th>1.00-1.49</th>
<th>1.50-2.24</th>
<th>2.25-2.99</th>
<th>3.00-3.74</th>
<th>3.75-5.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>OASES Qualitative Score</td>
<td>Mild</td>
<td>Mild/Moderate</td>
<td>Moderate</td>
<td>Moderate/Severe</td>
<td>Severe</td>
</tr>
</tbody>
</table>

Participant SS01’s total degree of impact score fell in the mild/moderate range, participant SS02’s score was in the mild/moderate range, and participant SS03’s score fell in the moderate/severe range. A graph of their corresponding numerical scores is provided in Figure 1.

![Figure 1. Total OASES degree of impact score. Mild impact: 1.00-1.49, mild/moderate impact: 1.50-2.24, moderate impact: 2.25-2.99, moderate/severe impact: 3.00-3.74, and severe impact: 3.75-5.00.](image)

While the total degree of impact score aids in understanding the extent to which stuttering has influenced the participants’ lives; detailed analysis of each section provides a more complete picture. The degree of impact score for each section was reported graphically as well as analysis of specific participant responses within each section.
Section I. The first section of the OASES, “General Information,” is comprised of questions about the speaker’s view of his impaired speech fluency. Questions explore three general areas: 1) the speaker’s perception of his fluency and ability to maintain it, 2) the speaker’s knowledge of stuttering and treatment, and 3) the speaker’s overall attitude towards being identified as a person who stutters. Participants SS01 and SS03’s total section scores were in the moderate degree of impact range, while participant SS02 scored within the mild-to-moderate degree of impact range.

Participant SS01 and SS03’s responses to questions in the first general area revealed variability in the perception of their own fluency and their ability to maintain fluent speech. Responses to questions in the second general area indicated a strong foundational knowledge of stuttering and treatment options across all three participants. Participant SS03’s responses in the third general area revealed a more negative attitude about being a teenager who stutters.

Figure 2. OASES Section I degree of impact score and standard deviation. Mild impact: 1.00-1.49, mild/moderate impact: 1.50-2.24, moderate impact: 2.25-2.99, moderate/severe impact: 3.00-3.74, and severe impact: 3.75-5.00.
Section II. The second section of the OASES explores the speaker’s reactions to stuttering in three general areas: 1) affective reactions to stuttering, 2) behavioral reactions the speaker exhibits as a result of stuttering, and 3) the speaker’s cognitive reactions to stuttering. Participant SS01’s total score for this section fell in the moderate degree of impact range, participant SS02 had a mild/moderate degree of impact score, and SS03 had a moderate/severe degree of impact score.

Analysis of the affective reaction responses revealed that all three participants “sometimes” felt ashamed or embarrassed about their stuttering. Participants SS01 and SS02 reported that they “rarely” felt helpless about their speech, while SS03 reported that he “often” felt helpless. Participants SS01 and SS02 “rarely” felt guilty when they stuttered, but SS03 “sometimes” felt this emotion.

Analysis of the behavioral reactions to stuttering revealed that Participant SS02 “rarely” blinks, makes a fist, moves his head, or makes other movements when he stutters, while participants SS01 and SS03 reported that they “often” react this way to stuttering. Participants SS01 and SS02 reported that they “rarely” stop talking when they are about to stutter, but participant SS03 responded that he “often” does this. Participants SS01 and SS03 also reported that they “often” use fillers or starter words, clear their throat, or cough to try to not stutter, while participant SS02 reported that he “rarely” reacted in this fashion.

Analysis of the cognitive reactions exposed some themes among the participants. While the three participants did not agree that people’s opinions of them are based on their speaking ability, there was some agreement that they did not want other people to know that they stuttered. There was great variability across participant’s response to the
OASES item: “My stuttering keeps me from doing the things I want to do in my life.” Participant SS01’s response was “strongly disagree”, SS02’s response was “don’t disagree or agree,” and SS03’s response was “strongly agree.” This item specifically probes the WHO ICF concept of a person’s limited ability to fully participate in life activities due to their disability. Further investigation of the participants’ responses to this item (i.e. specifically what activities does your stuttering prevent you from doing?) could provide valuable information and a more complete picture of the disability to the researcher.

![Figure 3](image_url)

**Figure 3.** OASES Section II degree of impact score and standard deviation. Mild impact: 1.00-1.49, mild/moderate impact: 1.50-2.24, moderate impact: 2.25-2.99, moderate/severe impact: 3.00-3.74, and severe impact: 3.75-5.00.

**Section III.** Section III explores communication in daily situations in four general areas: 1) difficulty in general speaking situations with different age groups, numbers of people, and environments, 2) difficulty in the school setting, 3) difficulty in social situations, and 4) communication difficulty at home. Participant SS01’s score fell in the
moderate degree of impact range, SS02 scored in the mild/moderate degree of impact range, and SS03 scored in the moderate/severe degree of impact range.

The participants’ responses demonstrated varying degrees of difficulty in the speaking situations presented. All three participants reported that talking on the phone was “very hard.” Participant SS01 reported that it was “somewhat hard” to talk, both to a large group of people and to talk to another person one-on-one, but “very hard” to talk to a small group of people. Responses from participant SS02 indicated that talking to a large group of people was “not very hard” and talking to both a small group and in a one-on-one situation was “not hard at all.” Participant SS03 reported it was “extremely hard” to talk to large groups of people, “somewhat hard” to talk to a small group, and “very hard” to talk in a one-on-one situation.

Participant SS03 reported that communication situations in class, such as giving a presentation, talking to teachers, or asking a question out loud, were all “extremely hard” for him, but communication outside of class was “not very hard.” Participant SS01 and SS02’s responses indicated that communication in the school setting was not as difficult for them. Participant SS02 reported that class presentations were “somewhat hard,” while participant SS01 reported that asking questions in class and talking outside of the classroom were “somewhat hard” for him.

Analysis of communication difficulty in social situations showed that all three participants found talking with friends or people they know well was “not hard at all.” Participants SS01 and SS03 reported that talking with people they had just met and starting a conversation with somebody was “somewhat hard,” while participant SS02 reported either of these situations were “not at all hard.”
In the section that explored communication difficulties in the home, participant SS03 reported that it was “very hard” to talk to parents, siblings, and other family members, while participants SS01 and SS02 reported that speaking at home was “not hard at all” or “not very hard.” It would be of interest to further investigate participant SS03’s family dynamics. His response was unexpected, as the home environment generally presents less communication difficulty since family members are familiar with the participant’s speaking abilities and difficulties.

Figure 4. OASES Section III degree of impact score and standard deviation. Mild impact: 1.00-1.49, mild/moderate impact: 1.50-2.24, moderate impact: 2.25-2.99, moderate/severe impact: 3.00-3.74, and severe impact: 3.75-5.00.

Section IV. Section IV examines the impact stuttering has on the participant’s quality of life. Questions in this section explore five areas: 1) how quality of life has been affected by the speaker’s stuttering, reactions to stuttering, and other people’s reactions, 2) the degree of interference stuttering has had on communication at home, school, and social situations, 3) the impact of stuttering on family life and relationships, 4) the constraint stuttering has had on education and career goals, and 5) how stuttering has
impacted the speaker’s feelings of self-confidence, self-worth, and enthusiasm for life. The variance between participants SS01 and SS02 degree of impact score and that of participant SS03 was the greatest on this section. Participant SS01 scored in the mild/moderate degree of impact range, participant SS02 scored in the mild degree of impact range, and participant SS03 scored in the moderate/severe degree of impact range.

The greater quality of life impact for participant SS03 was interesting because he reported an initial diagnosis of mild stuttering severity. His responses provide support to the idea that overt speaking disfluencies do not always directly correspond to the severity of impact stuttering has on the speaker’s life. When asked how negatively their life has been affected by their stuttering, participant SS01 and SS02 responded “a little”, while participant SS03 responded “completely.”

Participants SS01 and SS02 reported that stuttering interfered “not at all” or “a little” with their ability to succeed at school, do the things they want to do, the number of friends they have, their relationships with others, and their participation in dating or involvement in other social events. Participant SS03 also reported that stuttering restricts “not at all” how many friends he has, but that it interfered “a lot” with his ability to succeed in school and do the things he wants to do, his relationships with other people, and how often he goes on dates and other social events.

Questions that probe the impact of stuttering on family life and relationships were analyzed. Participants SS01 and SS02 felt that stuttering would interfere “not at all” or “a little” with their ability to go to college, get a job, get married, and have a good life. Participant SS03 believed that stuttering would interfere “a lot” with his ability to go to
college and would interfere “completely” with his ability to get a job, get married, and have a good life.

The fourth area explored was the degree of constraint stuttering has had on education and career goals and asked participants how significantly stuttering prevented them from saying what they want to say in three situations. Participant SS01 reported that stuttering prevented him “not at all” at home, “a little” at school, and “a lot” in social situations. Participant SS02 felt that stuttering prevented him “not at all” at home or in social situations and “a little” at school. Participant SS03 reported that at home stuttering prevented him “a lot”, “a little” at school, and “some” in social situations. Again, it was interesting to see the significant impact stuttering had on participant SS03’s ability to communicate at home.

Analysis of the fifth area, how stuttering has impacted the speaker’s feelings of self-confidence, self-worth and enthusiasm for life, demonstrated a continuation of the response trend. Both participant SS01 and SS02 reported that stuttering interfered “not at all” with their confidence in themselves, while participant SS03 reported that it interfered “completely” with his self-confidence. Participant SS01 reported that stuttering interfered “a little” with his overall energy and excitement for life, participant SS02 reported that stuttering interfered “not at all,” and participant SS03 reported that it interfered “a lot.”
Figure 5. OASES Section IV degree of impact score and standard deviation. Mild impact: 1.00-1.49, mild/moderate impact: 1.50-2.24, moderate impact: 2.25-2.99, moderate/severe impact: 3.00-3.74, and severe impact: 3.75-5.00.

Chapter 4
Discussion

At the beginning of the study it was predicted that certain common aspects of effective therapy would arise despite differences in treatment setting, format, focus, or specific target instruction. It was hypothesized that the common aspects would include: addressing emotional aspects of stuttering, education on the physiological aspects of stuttering, and education on the theory behind therapy techniques. In Section I of the OASES, there are three items that specifically asked about the participant’s knowledge of stuttering physiology. Participants’ responses to these questions revealed a high level of knowledge about stuttering physiology. The validity of this statement might be questioned as the responses were gathered from self-report.

On the qualitative questionnaire, all three participants reported that “knowledge/understanding of stuttering” was a focus of treatment. While all three
participants received education on the physiological aspects of stuttering and the theory behind therapy techniques, the contribution to the effectiveness of therapy was inconclusive. On the qualitative questionnaire, participant SS01 ranked his knowledge of therapy techniques and knowledge of stuttering as the two lowest contributors to therapeutic effectiveness. Participant SS02 ranked them as #3 and #4 out of five respectively, while participant SS03 ranked them as the greatest contributors (along with improved attitude and confidence when speaking). It is hoped that future studies, with more participants, would reveal a trend more conclusively.

It was hypothesized at the beginning of the study that participants who were involved in group therapy would report a higher degree of treatment success. This was based on the premise that adolescents place greater value on their peers’ opinions and that group treatment would provide a greater sense of support. Rudimentary support for this hypothesis was found in this data. Participant SS02, who had the highest overall treatment satisfaction rating (5, on a scale of 1-5), attended group treatment with others who stutter and a stuttering support group. Participant SS01’s overall treatment satisfaction rating was a 4; he attended a stuttering support group. Participant SS03’s overall treatment satisfaction rating was a 3 and he did not report any group involvement.

It would be of interest to further investigate the role of support groups and the experience that it provided for these participants, specifically the impact it may have had on the participants’ quality of life. This interest stems from the differences in participant scores on Section IV of the OASES, which explores the impact of stuttering on quality of life. Participant SS03’s responses indicate that he believes stuttering will “completely” interfere with his future life and relationships, while participant SS01 and SS02’s
responses indicate that stuttering will “not interfere at all.” These responses led the researcher to hypothesize that stuttering support groups may have provided participants SS01 and SS02 with an opportunity to discuss their doubts and fears about the future with others who stutter. When describing the advantages of group therapy for adolescents who stutter, Manning states: “Perhaps most important, the support in terms of understanding, motivation, and courage provided by the members of the group to each individual can hardly be underestimated” (Manning, 2010, p. 411). Participant SS01 and SS02 may have received this understanding, motivation, and courage from other members in their groups who have successfully completed college, gotten a job or gotten married.

This study also sought to investigate the effect that making an independent decision to attend therapy had on treatment success. It was hypothesized that an independent decision to attend speech therapy would contribute to greater overall treatment success. However, all three participants reported that the decision to attend therapy was made for them by their parents, but still reported highly successful treatment.

The hypothesis stemmed from previous research in which adolescents reported that an independent decision to attend therapy was a critical factor in treatment success (Hearne et al., 2008). A possible explanation of the difference in findings was that the participants in the current study and the Hearne et al. study reported their motivation to attend therapy at different ages. The participants in the Hearne et al. study reported their motivation to attend therapy specifically as an adolescent, while the participants in the current study reported their motivation to attend therapy as young children. Many children who stutter, including the participants in this pilot study, begin treatment at an age when they do not have the cognitive ability to independently decide whether or not to
attend therapy. This is one possible explanation for the different results. Future studies might address this topic by formulating questions that specifically explore motivation for enrolling in therapy at different ages.

It was hypothesized that treatment that addressed the emotional aspects of stuttering would emerge as a contributing factor to overall treatment satisfaction. The hypothesis was based on previous research that found adolescents who stutter tend to have feelings of apprehension and fear towards communication (Blood et al., 2001). Aspects of treatment that seek to remediate negative attitudes towards communication and increase confidence speaking are integral parts of stuttering therapy (Contour, 1996). With the limited data from this study, it was not possible to reach a conclusive measure of the contribution that addressing emotional aspects of stuttering had on treatment success.

On the qualitative questionnaire, all three participants in this study reported that “emotions/attitudes toward stuttering” was a focus of therapy. A second item on the questionnaire specifically asked if emotions and attitudes toward stuttering were addressed in therapy and if it was helpful. Participant SS02 reported that it increased his awareness and fluency, which supported the researcher’s hypothesis. However, when asked to rank the aspects of therapy in terms of its contribution to treatment success, participant SS02’s response led the researcher to question the importance of addressing emotions and attitudes in comparison to other aspects of therapy. Participant SS02 ranked “improved attitude/confidence when speaking” as making the least contribution to success in therapy, which is the goal of including emotional aspects in stuttering treatment. Participant SS01 ranked it as the most successful aspect of therapy and
participant SS03 ranked it as having an equal contribution with knowledge of stuttering physiology and knowledge of treatment techniques.

Analysis of items on OASES Section II indicated a variation in the degree of emotional impact stuttering had on participants. All three participants reported that they “sometimes” felt ashamed of or embarrassed by their stuttering. Participants SS01 and SS02 reported that they “rarely” felt helpless about their speech, while participant SS03 revealed that he “often” felt helpless. Participants SS01 and SS02 reported that they “rarely” felt guilty when they stuttered, but participant SS03 “sometimes” felt that way.

It was interesting to note that while participant SS03’s degree of impact score indicated the greatest emotional reaction to stuttering, his initial stuttering severity rating was mild. Participant SS02’s degree of impact score indicated less emotional reaction towards stuttering, but his initial severity rating of stuttering was severe. These two participants present provisional support for the notion that the perception of stuttering severity is the result of factors other than %SS alone, but is comprised of core behaviors, secondary behaviors, and the feelings and attitudes toward stuttering (Guitar, 2006). Again, it should be stressed that this conclusion is tentative due to the limited number of participants in this study and the responses of participant SS01. Participant SS01 had a relatively low emotional reaction to stuttering and a mild initial stuttering severity rating. It is suggested that future studies continue to explore this theory (Huinck et al., 2006).

**Clinical Implications**

The clinical implications of this pilot study are limited, but some general suggestions for clinicians working with adolescents who stutter can be made. The first consideration clinicians need to make is the client’s expectation of therapy. Adolescence
is a period when many cognitive and emotional changes occur. Related to therapy, these changes might include a shift in treatment expectations, as seen in participant SS01 and SS02’s responses. It may be beneficial for the clinician to re-explore treatment expectations with the client, especially if they have been treating the client for an extended period of time or if the client had therapy previously.

A second consideration is the administration of an instrument, such as the OASES, to gain a more complete measure of the impact stuttering has on various aspects of the client’s life. Emotions and attitudes towards stuttering are difficult to assess, but have as much of an impact on stuttering severity as the number of speaking disfluencies. Relationships and social settings are constantly evolving during adolescence and identification of difficult communication settings may improve the effectiveness of treatment. A final consideration for clinicians is the benefit of group therapy or referring their client to a support group for adolescents who stutter. Information about the impact of group therapy or support groups from this pilot study is limited, however, the effectiveness of group treatment can be found in other literature sources (Yaruss, Quesal, Reeves, Molt, Kluetz, Caruso, McClure & Lewis, 2002; Berkowitz, Cook & Haughey, 1994; Bradberry, 1995; Ramig, 1993).

Clinicians who work with adolescents who stutter are presented with very real challenges, but a unique opportunity as well. Clinicians have the opportunity to make a great impact during a time of cognitive development and maturation. Whether stuttering has a severe or mild impact on the client’s quality of life, clinicians can address the multiple dimensions of stuttering to enable the client to transition from childhood to adulthood successfully. The results of this study provide direction for future studies that
will provide clinicians with a better understanding of the aspects of successful treatment for adolescents who stutter.
References


PARTICIPANTS NEEDED
Individuals between the ages of 13 and 17 are needed to participate in a research study regarding the effectiveness of stuttering therapy.

Requirements:
- Stuttering diagnosis without accompanying language or speech sound disorder
- Received stuttering therapy for a minimum of 12 months between the ages of 12 and 16
- Participation requires the completion of a survey: approximately 40 minutes
- Token of appreciation will be provided

For more information, call or email
Megan Weigel

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Appendix B: Questionnaire

Stuttering Therapy Effectiveness Questionnaire

Please respond to the questions below to the best of your ability

Age: ________       Gender: M or F

1. At what age was your stuttering first noticed? ____________

2. At what age did you receive a diagnosis of stuttering? ____________

3. Was your stuttering diagnosed as severe, moderate or mild? _________________________

4. At what age did you begin receiving speech therapy for stuttering? ____________

5. How many years did you receive stuttering treatment? ________

6. Who made the decision to begin speech therapy? ___________________________

7. In what settings have you received speech therapy? (e.g. private clinic, school, hospital, university clinic)
   __________________________________________________________________________

8. In what format have you received speech therapy? (circle all that apply)
   a. Individual treatment
   b. Group treatment with other people who stutter
   c. Group treatment with other communication disorders
   d. Stuttering support group
   e. Other (specify) __________________________________________________________

9. What outcome did you expect when you began speech therapy?
   __________________________________________________________________________

10. What was your motivation to attend speech therapy?
    __________________________________________________________________________

11. How were your parents involved in your speech therapy? (Circle all that apply)
    a. Transportation
    b. Encouraged target use at home
    c. Required me to attend
    d. Allowed me to attend independently
    e. Allowed me to use targets independently
    f. Other __________________________________________________________

12. How did the speech-language pathologist explain what happens when you stutter? (For example, what happens with your breathing, vocal fold tension, different types of stuttering that occur.)
    __________________________________________________________________________

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13. How did the speech-language pathologist explain what causes stuttering? (For example, impact of genetics or coordination of motor and language skills.)

______________________________________________________________________________

14. Speech therapy focused on: *(circle all that apply)*
   a. Reducing stuttering
   b. Increasing fluency
   c. Emotions/attitudes towards stuttering
   d. Knowledge/understanding of stuttering
   e. Other ________________________________

15. Which of the speaking techniques below were you taught in speech therapy? *(Circle all that apply)*
   a. Easy onset
   b. Slow rate
   c. Light contact
   d. Pull-out
   e. Others ___________________________________________________________________

16. How did the speech-language pathologist provide an explanation of how the targets would improve fluency?

______________________________________________________________________________

17. What speaking techniques did you find most helpful to increase your fluency?

______________________________________________________________________________

18. Did you discuss your attitude and emotions towards speaking and stuttering in therapy? Was this helpful to you?

______________________________________________________________________________

19. Did you practice speaking techniques in carryover activities (e.g. phone calls, presentations, introductions) outside the therapy room? Did you find this helpful?

______________________________________________________________________________

20. What made therapy most successful for you? *(Rank 1-5, 1 being the most)*
   ___ Increased fluency
   ___ reduced stuttering
   ___ knowledge of stuttering
   ___ improved attitude/confidence when speaking
   ___ knowledge of technique use

21. How successful do you consider your treatment to have been? *(Circle one)*
   *(very unsuccessful)* 1 2 3 4 5 *(highly successful)*

22. How have your expectations of therapy outcomes changed since you began?

______________________________________________________________________________
23. What would have made therapy more effective for you?

___________________________________________________________________________
___________________________________________________________________________

Thank you for completing this questionnaire and participating in the study. Please answer the questions on the OASES form. When you have completed both, return them in the envelope provided.