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I am submitting herewith a thesis written by JoEllen Marie Mellin entitled "Efficacy of the Lidcombe Program for Early Stuttering in a Public School Setting: A Pilot Investigation." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Speech Pathology.

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Efficacy of the Lidcombe Program for Early Stuttering in a Public School Setting: A Pilot Investigation

A Thesis Presented for
the Master of Arts Degree
in Speech Language Pathology
The University of Tennessee, Knoxville

JoEllen Marie Mellin
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ABSTRACT

The purpose of this study was twofold: 1) To determine what type of early intervention for stuttering is being offered in the public schools and compare those interventions to the Lidcombe Program for early stuttering. 2) To find out if the Lidcombe Program can be effectively implemented in the public schools. A small focus group of speech language pathologists was conducted and a questionnaire was completed by 47 school speech language pathologists in Knoxville, TN. The questionnaire revealed that school clinicians have very little familiarity with the Lidcombe Program, most do not use any particular evidenced-based programs for fluency intervention, parents have very limited roles in the treatment of preschool students who stutter, and most children are not being identified for services until approximately third grade.

In order to determine if the Lidcombe program could be implemented effectively in the schools, one treatment subject, female, 4;5, received Lidcombe treatment for 10 weeks at her school while a control subject, male, 5;3, received traditional therapy from his school SLP. The treatment subject decreased in severity from moderate to mild and her percent stuttered syllables (PSS) was reduced by 76% (from 25% to 6%). The control subject increased in severity from moderate-severe to severe and his PSS rose from 12% to 16%. As a result, it appears that the Lidcombe Program can be effectively implemented in the public schools and it would be extremely cost-effective for schools to use the program. Community education and SLP training, however, are essential to increase early identification and intervention of children who stutter.

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CHAPTER I

INTRODUCTION & LITERATURE REVIEW

Early Stuttering: Defined

The American Speech, Language and Hearing Association (1993) defines a fluency disorder as “an interruption in the flow of speaking characterized by atypical rate, rhythm, and repetitions in sounds, syllables, words, and phrases. This may be accompanied by excessive tension, struggle behavior, and secondary mannerisms.” (p.1) In early childhood, disfluencies tend to be characterized by easy whole-word and part- word repetitions, especially at the beginning of a word, and prolongations (Bloodstein, 1960; Bloodstein, 2006). Silent blocks, postural fixations, other secondary characteristics (e.g., eye blinking, facial contortions, extraneous movements of limbs) and subperceptual stuttering (avoidances and circumlocutions), are also seen in preschool children (Conture & Kelly, 1991; Yairi, Ambrose, & Niermass, 1993). These behaviors may not develop until later, however, and are traditionally considered to indicate a more “severe” form of disfluency (Bloodstein, 1960).

Stuttering can occur throughout childhood, but tends to begin between the ages of two and five years, with 75-90% of all stuttering onsets occurring before age six (Bloodstein, 2006; Kloth, Kraaimaat, Janssen, & Brutten, 1999; Silverman, 2004). The lifetime incidence of stuttering is reported to be about 5%, and the prevalence is approximately 1% of the population (Conture, 1996). At onset, there are about 2:1 males to females. In older children, the male to female ratio changes to 4 or 5:1.

The diagnosis of stuttering is frequently made based upon the frequency of primary stuttering behaviors such as repetitions, prolongations and blocks, and is calculated using a measure of Percent Syllables Stuttered (PSS). To obtain a measure of PSS, the clinician simply divides the number of syllables stuttered by the number of total syllables in a conversation or in a reading passage. In addition, secondary behavioral characteristics, such as length of blocks, facial grimacing, distracting sounds, movement of extremities, strain/struggle, and speech naturalness are often described. A severity rating of mild to severe is determined considering all of these factors.

Early childhood stuttering tends to be highly variable depending on the speaking situation. Yaruss (1997) measured stuttering frequencies of preschool children in five different speaking situations (parent-child interaction, play with clinician, play with pressures, story retell, and picture description). Stuttering frequencies varied significantly between situations. Like adults, children tend to stutter more when stressed, excited, or in an unfamiliar situation. It is a well-known phenomenon that stuttering can easily be managed in the therapy room, but when the child steps outside of therapy, he or she often begins to stutter again (Finn, 2003).

Spontaneous Recovery

It is generally accepted in the literature that up to 60-80% of children who stutter will recover without treatment (Kloth et al., 1999; Yairi & Ambrose, 1999). The reason behind this phenomenon, referred to as natural or spontaneous recovery, is unknown and it is not yet possible to accurately predict recovery for an individual child. Some factors (such as gender and family history of stuttering), however, may play a role in whether one is more likely to recover.

According to Yairi & Ambrose (1999), most spontaneous recovery occurs between 12 to 30 months post-onset for girls and 24-36 months for boys. Some children have been shown to recover up to four years post-onset. However, children who have been consistently stuttering without a significant decrease in stuttering frequency for 12 to 18 months are less likely to spontaneously recover (Yairi & Ambrose, 1999; Yairi, Ambrose, Paden, & Throneburg, 1996). Yairi & Ambrose also found that once recovery has been sustained in early childhood for several months, relapse is highly unlikely. Girls are more likely to recover than boys, and those with a family history of recovery are more likely to recover (Ambrose, Cox, & Yairi, 1997). It is important to note that stuttering severity and the presence of secondary behaviors can NOT be used to predict recovery (Yairi et al., 1996).

The high spontaneous recovery rate found in early stuttering creates difficulties when evaluating treatment efficacy for preschool treatment programs. It is nearly impossible to tease out spontaneous recovery from treatment effects because you never know if a particular child would have recovered independently or if treatment was required to help push him or her towards recovery (Saltuklaroglu & Kalinowski, 2005). Unfortunately, because so many children recover without intervention, and perhaps because of enduring concerns over directly dealing with stuttering brought on by Johnson's diagnosogenic theory of stuttering (Johnson, 1955), most pediatricians and clinicians still advocate for the "wait and see" method for early childhood stuttering (Cooper & Cooper, 1996; Yairi & Carrico, 1992).

Several different early intervention programs for stuttering are available for clinicians to choose from. Some favor an indirect approach in which parents are counseled and trained to reduce pressures on their

child and provide positive speaking situations. Other programs, like the Lidcombe Program, treat children more directly. Nearly all of the recent programs have two fundamental aspects in common – they each call for early intervention of preschool children who stutter, and they include a family-based approach with participation by one or both parents (Franken, Kielstra-Van der Schalk, & Boelens, 2005; Gottwald & Starkweather, 1995; Kelly, 1995; Rustin & Cook, 1995; Yaruss, Coleman, & Hammer, 2006). Some of these family-based treatment programs show a lot of promise, but are still in the early stages of research and development. Unfortunately, many of the most widely-used and recommended intervention techniques for childhood stuttering are based on very little evidence (Yaruss et al., 2006). The Lidcombe Program is currently by far the most researched early intervention program for stuttering, and is well-supported by empirical data.

The Lidcombe Program for Early Intervention for Stuttering

Despite the confound of spontaneous recovery, researchers are now advocating direct early intervention for stuttering (Franken et al., 2005; Jones et al., 2005; Onslow, Costa & Rue, 1990; Yaruss et al., 2006). Research has not yet provided the tools to predict who will recover spontaneously and who will not. However, studies have shown that early intervention is effective and that clinicians should be encouraged to practice early intervention for all children who stutter before the end of the preschool years (Packman, Onslow, & Attanasio, 2003), especially in light of positive efficacy results from programs such as the Lidcombe Program (Jones et al., 2005).

The Lidcombe Program (LP), developed in Sydney, Australia in the early 1980's, is a parent-based operant intervention for preschool children who stutter. It has been studied extensively in public and private clinical settings, and has been very successful in those settings, nearly eliminating stuttering in all speaking situations in an average of 11 weeks and maintaining fluency for up to 7 years after the initial treatment (Jones et al., 2005; Kingston, Hubert, Onslow, Jones, & Packman, 2003; Lincoln & Onslow, 1997).

The idea to use an operant-based model for fluency therapy came from a most unlikely place – a puppet show (see Onslow, Packman, & Harrison, 2003). At the University of Minnesota, during a time when Johnson's diagnosogenic theory was widely accepted, Martin, Kuhl, & Haroldson (1972, as cited in Onslow et al., 2003), conducted a landmark study in which children spoke with a puppet mounted in a lighted box. When the child stuttered, the light would turn off and the puppet would disappear for a few seconds. The two children in the study stopped stuttering and their fluency generalized to outside of the clinic for up to a year later. Roger Ingham, a psychology postdoctoral student visiting the university at the time, brought this idea to Sydney, Australia, where he and Mark Onslow became acquainted. Onslow continued to research stuttering treatments for children while Ingham went on to research adult stuttering. Since the time of the "puppet study," Onslow and his colleagues have developed and refined the idea of an operant-based approach to stuttering therapy for children. Onslow found that, rather than using an elaborate puppet set-up to provide reinforcements for fluency, parents could easily do so in the child's natural environment.

The LP is unique in that it requires parents or guardians to participate fully and to provide direct operant-based intervention at home. The

parents come into the therapy room with their child, and are trained to take stuttering severity ratings and provide verbal contingencies for fluency (i.e. "good smooth speaking!", "that was a bit bumpy"). With guidance from the speech-language pathologist, parents provide intervention at home during a 10 to 15 minute play interaction and rate global severity each day. When the child's percent syllables stuttered (PSS) and parent-reported severity ratings reach near-zero levels for three consecutive weeks, the maintenance stage of the program begins. During this stage, clinic visits and verbal contingencies become less and less frequent as parents are empowered to monitor their child independently.

The verbal contingencies provided by parents are meant to be positive and unobtrusive to conversation. Parents are taught to always provide more contingencies for fluent speech than for unambiguous stuttering (specifically, at a 5:1 ratio). The goal is for the child to practice fluent speech as much as possible, and if the child is highly disfluent, the parent is taught how to elicit fluent speech during structured play (i.e. use of cloze statements, imitation, even choral speech if needed). As the child becomes more fluent, the activities quickly switch to spontaneous conversation.

The child is not explicitly taught any fluency techniques (such as slow speech, prolongation, or relaxation), and his or her speech remains natural-sounding (Bonelli, Dixon, Ratner, & Onslow, 2000; Lincoln, Onslow, & Reed, 1997; Onslow, Stoker, Packman, & McLeod, 2002). This is significant because many fluency programs which are used today teach techniques, such as "Turtle Talk" (speaking at a slowed rate), breathing techniques (for relaxation or taking a deep breath before initiating speech), easy onsets (a soft, breathy initiation to speech) , etc., which

can greatly impact speech naturalness (Gottwald & Starkweather, 1995; Healy & Scott, 1995; Stuart & Kalinowski, 2004). To the child, treatment using the Lidcombe Program is simply a time to play and spend positive, quality time with a parent while practicing “smooth speech.”

Evidence for the Effectiveness of the Lidcombe Program

There have been at least 12 clinical trials of the Lidcombe Program to date, all with very positive results (see Jones et al., in press). Treatment subjects were shown to have achieved <1 PSS for up to 12 months post-treatment in an average of 11 sessions (Jones, Onslow, Harrison, & Packman, 2000; Kingston et al., 2003; Onslow, Andrews & Lincoln, 1994; Onslow et al., 2002). Also, stuttering severity is typically reduced by 30% within the first five treatment sessions (Onslow et al., 2002).

Probably the most compelling research to come out for the LP was the randomized, controlled trial of 54 children conducted in New Zealand (Jones et al., 2005). This study compared the effects of the LP to a randomly-selected control group. Parents in both groups were asked to collect speech samples at home before treatment and at three, six, and nine months post-treatment. The mean percentage of stuttered syllables at nine months post-treatment was 1.5% for the treatment group and was 3.9% for the control group. The authors concluded that the Lidcombe Program is therefore efficacious for treating preschool children who stutter and that it is more effective than spontaneous recovery.

Although the LP does not target speech and language parameters and does not specifically teach children or parents to change their speech, children who have undergone Lidcombe treatment have been examined for unintended effects such as changes in speech, timing, language, and possible psychological effects. Latterman, Shenker, & Thordardottir (2005), found that language development is not disrupted or

altered by the LP. Bonelli et al. (2000), studied speech samples from nine children before and after Lidcombe treatment. They found no significant changes in child speech rate, interspeaker turn latencies, or pragmatics. In fact, mothers' speech rate actually increased, which would directly oppose the Demands and Capacities Model of stuttering, which theorizes that stuttering is reduced when parents reduce demands on their children by speaking slowly and in short, simple sentences (Franken et al., 2005; Starkweather, 2002).

Woods, Shearsby, Onslow, & Burnham (2002), asked parents to complete behavioral and attachment checklists pre-treatment, during treatment, and post-treatment. They found that the direct treatment provided by the LP produced no negative effects such as anxiety, aggression, withdrawal, or depression. This contradicts Johnson's diagenetic theory of stuttering, which theorizes that direct attention to a child's stuttering would cause negative psychological effects, make the disfluencies worse, and should be avoided (Johnson, 1955).

The LP also has positive long-term outcome data. Lincoln and Onslow (1997) followed 43 children after completing the program. Near-zero stuttering frequencies were maintained for up to seven years post-treatment. Shenker and Roberts (2006) reported long-term outcomes for 14 bilingual children in Canada who had participated in the LP. Consistent with the 1997 study, the bilingual subjects maintained PSS levels of about 1-2% for up to eight years. A follow-up to the 2005 randomized controlled trial (Jones et al., in press) contacted 20 participants from the original trial at an average of five years post-randomization. Seventeen of the 20 participants contacted had maintained the level of fluency achieved post-therapy and three of the children relapsed. Nineteen out of 20 parents reported being satisfied or very satisfied with the program.

Although studies using the Lidcombe Program have been conducted with children over the age of six, the authors stress that the program loses effectiveness once children become school-aged, so it is essential that children begin to receive direct treatment before age six or seven (Jones et al., 2005; Lincoln et al., 1997; O'Brian, Onslow, Cream, & Packman, 2003).

Fluency Intervention in the Public Schools

U.S. law requires public schools to provide special education services for children as young as three years. Preschool children who stutter are entitled to services, but there are several major obstacles to providing adequate services to young children in the school systems. For example, children are only eligible for fluency services if their disability is deemed to have an "educational impact" (Gottwald & Starkweather, 1995). This can be particularly difficult to prove for preschool children, when the negative educational and social impacts may not yet be as noticeable as they are in older children.

Nippold (2004) surveyed 127 speech-language pathologists (SLPs) in Oregon about their views on the treatment and identification of stuttering. Although the majority of respondents indicated the need for early treatment of stuttering, they commented that they were more likely to recommend children with severe stuttering accompanied by secondary behaviors. The assumption may be that young children with mild stuttering are more likely to recover without intervention, but the literature (Harris, Onslow, Packman, Harrison, & Menzies, 2002; Yairi et al., 1993; Yairi et al., 1996) tells us that this is not the case. Over half of the respondents said

that they would be more likely to provide services for children who had concomitant speech or language disorders rather than stuttering alone because they considered the former to be a more serious problem. The presence of a concomitant disorder would also enable SLPs to make a stronger case for educational impact in order to qualify a student for services.

For those children who do qualify for speech services, research suggests that the interventions they are receiving are not sufficient. Kalinowski, Saltuklaroglu, Dayalu, & Guntupalli (2005) sent a questionnaire to school SLPs in North Carolina in order to determine treatment efficacy for stuttering. One hundred and one respondents reported a median recovery rate of 13.9% over their careers in the school system. The median number of children who had completely recovered was two, and 28 respondents reported no recoveries since beginning practice as an SLP. The median reported time spent on a case was three years (ranging from one to six years). The authors attribute these findings to therapeutic ineffectiveness in the treatment of childhood fluency disorders in schools.

In light of these findings, it is no wonder the literature indicates that speech-language pathologists in general are uncomfortable working with clients who stutter. St. Louis and Lass (1981) found that speech-language pathology students believed that speech therapists were "neither adept nor comfortable treating stutterers." St. Louis & Durrenberger (1993) surveyed 105 clinicians from across the nation and asked them to list their most and least-preferred disorders to work with. Six participants listed stuttering (in any age) as their favorite disorder and 41 listed stuttering as their least preferred disorder. Kelly et al. (1997) found that nearly half of 157 school SLPs in Indiana felt that their clinical skills were inadequate for managing stuttering. School clinicians are reported to be even less

comfortable working with preschool students who stutter than school-age students and few clinicians feel adequately prepared by their academic programs to evaluate and treat preschool-aged students who stutter (Brisk, Healey, & Hux, 1997; Kelly et al., 1997; Mallard, Gardner, & Downey, 1988).

There is currently very little research describing what specific treatment approaches school clinicians are using for early stuttering and the effectiveness of current treatment approaches. Kelly et al. (1997) surveyed 157 school SLPs in Indiana in order to get a picture of fluency therapy in the schools. SLPs were asked what types of therapy approaches they used for fluency students (age was not specified). The majority of the respondents reported using stuttering modification, fluency shaping, or an eclectic approach. Respondents were also asked to describe parental involvement in fluency therapy. Although the majority of SLPs had contact with parents through conferences, by telephone, or through written correspondence, only 28% reported including parents as part of the therapy process.

Although the Lidcombe Program is the most well-researched program intervention available, it is unclear if school clinicians are using the program or any similar programs involving parents. There is also very little in the literature to indicate how many preschool children are being identified and are receiving services in schools.

Purpose of this Study

The primary investigator (PI) travelled to Australia in the summer of 2006 and visited the Australian Stuttering Research Centre (ASRC) in Lidcombe, Australia for approximately one week. There, she met several

of the LP creators and researchers including Mark Onslow and Ann Packman. She was able to shadow clinician Cheryl Andrews as she provided Lidcombe therapy to a number of children and parents. The LP is now considered best practice in Australia, so clinicians all over the country use it, and the ASRC continues to conduct research and develop the program. Children who are not making adequate progress with their regular SLPs are sent to the ASRC for expert intervention and make considerable gains in fluency.

After visiting the ASRC, the PI wondered if the program has ever been implemented in a school setting. Because the average length of Stage 1 is only 11 weeks, it should be a very cost-effective and time-saving choice for schools. There are no school-based speech-language pathologists in Australia, so the LP has never been tested in Australian schools. The PI wanted to know if SLPs in our local schools use the Lidcombe Program. Have they even heard of it or know about the current research regarding early intervention for stuttering? If not, what do they use instead and how do those interventions compare to the LP? Is it feasible and efficacious to use the LP in a public school setting? Is the program simple and effective enough that a novice SLP can implement it with positive results? All of these questions can be condensed into two basic research questions:

1. What type of early stuttering intervention is currently being offered in local schools, and how does it compare to the Lidcombe Program?
2. Can the Lidcombe Program for early stuttering be implemented effectively in a public school environment?

The purpose of this study is to answer these two basic questions. We hypothesize that the school-based SLPs in our area have very limited familiarity with the LP, and that the LP will prove to be an easy, effective and cost-efficient early intervention option for schools. The PI set out to test this hypothesis by conducting a pilot investigation comparing a typical Lidcombe intervention to the current intervention being offered by a school SLP, and to identify any obstacles to using the LP in local public schools.

CHAPTER II

METHODS

Research Question 1: What type of early stuttering intervention is currently being offered in local schools, and how is it similar or different to the Lidcombe Program?

Participants

Local school district speech-language pathologists were invited by Fran Mitchell, the Knoxville County Schools Speech-Language Program supervisor, to volunteer to participate in a small focus group. The SLPs in attendance signed consent forms and were assured that participation would be voluntary and confidential. The objective of the focus group was to determine the SLPs' familiarity with the Lidcombe Program, to outline the different types of stuttering treatment currently being used in the schools, and to discuss potential issues that might arise with the implementation of the Lidcombe program (e.g., lack of parent participation).

An additional questionnaire was also distributed in order to obtain more information about caseloads and current practices for early stuttering. Anyone who was a Knox County school SLP currently working with speech and language disorders was asked to participate.

Procedure

The focus group was held after school in a centrally-located elementary school in Knox County. It was voluntary, informal, and the PI provided snacks. Everyone in attendance was encouraged to participate

and add to the conversation. The PI explained the LP in detail and asked the following questions:

1. Were you familiar with the Lidcombe program before receiving our letter?
2. Have you considered using the Lidcombe program? Why or why not?
3. What type of fluency therapy do you typically use? Do you use a specific program?
4. Where or how did you learn the fluency program you use?
5. How do you respond to fluency or disfluency?
6. How do you collect data for your fluency clients?
7. What type/ how much parental involvement do you typically have?
8. How many hours of therapy do your clients receive each week?
9. What is your criterion for discharge from therapy?
10. On average, how long is a fluency client in speech therapy until discharged?
11. What obstacles do you foresee to using the Lidcombe program in the schools?
12. What advice would you give me before I start working with children in the schools?

Following the focus group meeting, a questionnaire was distributed to Knox County speech-language pathologists during a district-wide SLP meeting. (See Appendix A.) The faculty advisor for this study was present while SLPs completed the forms and was available to answer any questions as needed. All of the returned questionnaires were numbered and the data were entered into Microsoft Excel for analysis.

Research Question 2: Can the Lidcombe Program for early stuttering be implemented effectively in a public school environment?

Participants

The original design of the study was to include six preschool children, where three children would be randomly placed in a treatment group and three would be placed in a control group. The control group would receive stuttering therapy from their school clinicians, and the PI would simply conduct pre- and post-treatment evaluations for an 11 week treatment period. The treatment group would receive Lidcombe therapy from the PI at their schools. Subjects were to be selected by local school personnel for potential participation in the study.

All SLPs in Knox County were notified several times by e-mail about the study and calls were made to Child Find in both Knox County and Anderson County in order to identify possible subjects. The only requirements to be qualified for the study were that participants must be between the ages of 4:0 and 6:0, they must have been stuttering for at least 6 months prior to the beginning of the study, they had to have a stuttering frequency of at least 2 percent stuttered syllables (PSS), and at least one parent had to be willing to participate. After exhaustive calls and emails, only four potential candidates were identified.

Two of the four families who qualified for the study said they were not interested because they felt their children were receiving adequate services through the school system. The other two parents signed on to participate and both children, one boy and one girl, were to receive Lidcombe treatment from the PI. The parents received a letter describing

the program and met with the PI to discuss the program in detail before being asked to sign a consent form.

The Lidcombe Program requires a commitment on the part of at least one of the child's parents or guardians. Parents must be willing to participate in one hour of training each week and to perform at least 10 minutes of intervention at home every day. Unfortunately, after meeting with the mother of one of the children, and describing the program in greater detail, she elected to pull her son from treatment because she "didn't have enough time" due to a change in jobs, sickness, etc. Her son continued to receive services from his school SLP. He was assigned as a control participant and his progress was monitored by the PI. So, in the end, there was one treatment subject, C.M., and one control subject, A.R.

Procedure

The treatment and control subjects were both evaluated pre- and post- treatment for stuttering frequency and severity using the Stuttering Severity Instrument for Children and Adults, 3rd Edition (SSI-3) and both were screened for normal hearing. Both subjects were receiving services for articulation from their school SLPs, but have not been diagnosed with any other disorders or syndromes.

The treatment subject, C.M., received treatment from the PI, who is a Lidcombe-certified second-year graduate student in speech-language pathology, under the supervision of a speech-language pathologist certified by the American Speech-Language-Hearing Association. The Lidcombe Program was implemented according to the protocol outlined in *The Lidcombe Program of Early Stuttering Intervention: A Clinician's Guide* (Onslow et al., 2003). C.M. and one or both of her parents came in to the school therapy room once a week. At the beginning of each session, the PI took a measure of percent stuttered syllables (PSS) during a

10-minute interaction. The PSS was taken online using the "CHOPPER Fluency Meter," a freeware Palm OS program developed by Joseph Donaher (an SLP from the Children's Hospital of Philadelphia) in 2005. The CHOPPER allows the clinician to quickly measure frequency and type of disfluencies, duration of blocks, and secondary behaviors. (For more information and to download the fluency meter software, go to www.mnsu.edu/comdis/isad8/papers/donaher8/donaher8.html.)

C.M.'s parents were trained to accurately assess severity and learned to identify fluent vs. non-fluent speech. Her parents were also trained to elicit fluent speech during play with their child and to provide verbal contingencies for fluency. Her parents spent at least 10 minutes a day during structured play at home, providing verbal contingencies for fluent speech and for unambiguous stuttering (at a 5:1 ratio), and quickly moved to providing feedback in unstructured tasks. They recorded daily global severity ratings, which were plotted to C.M.'s data graph weekly. Each session, the parents and clinician discussed C.M.'s severity levels over the past week, any questions/concerns the parents had, and suggestions were provided for the next week. C.M. continued to receive services for articulation only from the school SLP once a week for 30 minutes in a small group setting but received no additional treatment for fluency.

All of C.M.'s treatment sessions were recorded using a Panasonic NV-GS120 digital video camera. Tapes were dated and reviewed by the PI and another speech-language pathology graduate student in order to count stuttering frequency during the initial 10-minute conversation for each session. Stuttering counts were conducted both by hand and using the CHOPPER program by each rater in order to assess both inter-rater reliability and intra-rater reliability.

For the control participant, A.R., parental involvement (other than consent) was not required. He received typical services from his school SLP in a small group setting for 30-minute sessions twice a week. The school SLP worked on fluency and articulation goals concurrently. A.R.'s speech group included three to four children in the same grade who were receiving services for speech and/or language but not fluency. His school SLP focused mostly on relaxation, slow speech, and taking deep breaths before initiating speech.

CHAPTER III

RESULTS

Research Question 1

Focus Group

Four SLPs were in attendance at the focus group meeting. They had 2 to 20+ years of experience working in the schools. One SLP had zero current fluency clients, two had one client each, and one SLP had five on her caseload. None of the SLPs who attended had ever heard of the Lidcombe Program before we contacted them, but they were very interested in learning about it. After describing the program to them in detail, they all said that they would be interested in trying the program with their clients. Surprisingly, they did not think parental involvement would be difficult for their preschool clients, because the parents tend to be very involved, are active in their children's therapy, and regularly interact with the SLP. They did express concerns about their caseloads and schedules, however. Only one SLP (the one with five clients) is able to see all of her fluency clients individually, and for 30 minutes to an hour at a time each week, depending on the client's severity. The others said that their clients are treated in articulation or language groups for only 15 to 30 minutes at a time. With schedules packed tightly already, it would be difficult for them to find time to fit in a weekly one-hour session with parent and child.

The SLPs were also asked about what types of fluency intervention they use for young clients. None of them reported using a specific

program, rather a combination of techniques that they learned in school, picked up from experience or learned from colleagues. Table 1 outlines the differences between the Lidcombe Program and the current intervention used by the school SLPs in our focus group.

SLP Questionnaire

Forty-seven Knox County speech-language pathologists responded to our questionnaire (Appendix A). Detailed results of the SLP questionnaire are outlined in Table 2. Respondents had an average of 15 years of experience working as an SLP, ranging from 1 to 35 years. Seventy-nine percent had their Master's degree, 17% had a Bachelor's, one respondent had a Doctorate and one had an EDS. Only three respondents (6%) reported some specialization in the area of fluency, citing a CEU course, a local in-service meeting, and some doctoral study in the area of fluency. In the last three school years, 21% percent of participants have worked with preschoolers who stutter, 28% percent have worked with kindergarteners who stutter, 70% have worked with elementary school children, 21% with middle school children, and 19% with high school children. Fifteen percent of respondents reported that they have not worked with any children who stutter in the last three years. The SLPs in our survey were currently serving an average of 1.85 children who stutter, ranging from zero to five. Although 21% of respondents report having worked with preschoolers who stutter, only five respondents currently have a preschooler on their caseload and only 16 out of the 137 total children reported on caseloads in the last three years were preschoolers. The median grade of identification for services was reported to be the third grade. The average

Table 1. Focus Group Results

	Lidcombe	Public Schools
Parental Involvement	Parental involvement essential; Parent delivers tx daily	Not required. Some parents keep in touch through e-mail and do speech homework assignments with their children
Data Collection	Global severity ratings taken daily; PSS taken weekly using fluency counter	Tics recorded on paper for each stuttered word; Subjective observations recorded each session
Clinician Training	Lidcombe Trainer's Consortium, Manual provided free online	No formal program or training used; Modified fluency shaping techniques; Easy-Does-It for Fluency; trained through graduate school and various workshops
Response to Disfluency	Ignore or ask child to repeat smoothly; Comment "That's a little bumpy."	Child is taught to identify disfluencies and asked to repeat using fluency technique
Response to Fluency	Praise fluent speech 5:1 ratio fluent to disfluent. "Very smooth speaking!"	No specific response used for fluent speech; Praise given for correct use of techniques.
Type of therapy	Play-based, natural environment	In speech therapy room, play-based and/or structured tasks to practice techniques; Easy Does It; "Turtle Talk"
Therapy per week	1 hour, once per week; Tx provided 10 min/day by parent	Ranges from 15 min, 1-2x/week to 1 hour/week
Criteria for Discharge	<1% stuttered syllables & 1-2 severity rating for 3 consecutive wks	Based on clinician judgment & "educational impact"
Duration until Maintenance	Avg. 11-22 sessions until Stage 2; not affected by initial severity	Depends on severity; ranges from 1 year to life-long
Maintenance Schedule	Schedule of Stage 2 Clinic Visits: (2 weeks, 2 weeks, 4 weeks, 4 weeks, 8 weeks, 8 weeks, 16 weeks); Tx is withdrawn gradually (6 days/week, then 5 days, etc); Decreasing frequency of verbal contingencies.	Clients are typically reevaluated 2-3 times per year after discharge
Evidence	Randomized Controlled Trial (Jones, 2005); Lincoln & Onslow (1997) mean PSS <1% for 2-7 years post tx	? No specific programs used

Table 2. SLP Questionnaire Data

Question	Response	Number of respondents	Percentage
Q2. What is your highest academic degree?	Master's	37	79%
	Bachelor's	8	17%
	Doctoral	1	2%
	Other	1	2%
Q3. Any specialized training in fluency?	Yes	44	94%
	No	3	6%
Q4. Are you familiar with the Lidcombe Program?	Heard of it but don't know much about it	19	40%
	No, I've never heard of it	14	30%
	Familiar with it but don't use it	14	30%
	Yes, I have used it	0	0%
Q5. Typical involvement of parents of preschool children who stutter	Parents carry over some treatment goals through homework assignments.	16	46%
	Parents are concerned and involved but do not actively participate in treatment or carryover.	13	37%
	Besides the mandatory parent meetings, I rarely have any contact with parents.	3	9%
	Parents are essential. They regularly attend therapy and are trained to work on goals at home.	2	6%
Q6. What type of fluency techniques do you use?	Fluency Shaping	44	100%
	Indirect approach	30	68%
	Relaxation exercises	29	66%
	Breathing exercises	28	64%
	Child counseling	25	57%
	Parent counseling	20	45%
	Van Riper Stuttering Modification	16	36%
	Parent training	16	36%
	DAF/FAF	10	23%
	Other	2	5%
Q9. (T/F) If a 4-year old boy who stutters also has a phonological and/or language disorder, I would recommend treatment for phonology and/or language first. Fluency can wait.	False	36	80%
	True	9	20%
Q10. (T/F) Because of the high rate of spontaneous recovery in early stuttering, I usually recommend that parents of preschoolers who stutter wait until school age before receiving treatment.	False	31	72%
	True	11	26%
Q11. (T/F) Although my students who stutter can maintain fluent speech in the therapy room, the fluency rarely transfers to other environments.	True	22	51%
	False	21	49%
# of SLPs who have worked with children who stutter in each age group in the last 3 years	Elementary school	33	70%
	Kindergarteners	13	28%
	Preschoolers	10	21%
	Middle school	10	21%
	High school	9	19%
	I haven't worked with any children who stutter in the last 3 years	7	15%
Toddlers	0	0%	

length of time children have been on an SLP's caseload is approximately two years, ranging from less than a year to ten years. Twenty-two children were reported to have been discharged from fluency therapy in the last three years. Reasons given for discharge include: The child maintained fluency/corrected (n=7); no educational impact (n=4); the child demonstrated proper use of fluency strategies (n=3); the child graduated from high school (n=3); the child was fluent in classroom (n=1); lack of motivation (n=1); receiving private services (n=1).

Participants were asked about their current therapy sessions and the techniques they use for fluency therapy (See Q6-8, Q11). Sessions were reported to last an average of 30 minutes a day and are provided an average of 1.66 times per week. Most respondents reported using a variety of different techniques (60% listed five or more.)

The approaches used by more than half of the respondents include: Fluency Shaping (100%), Indirect Approach (68%), Relaxation exercises (66%), Breathing exercises (64%) and Child Counseling (57%). Other techniques mentioned by the respondents include yoga and teacher counseling. Only 36% of respondents reported using some kind of parent training. Slightly over half of the respondents report that fluency achieved in the therapy room rarely transfers to other environments.

Participants were asked about their use of parental involvement in treating preschool children who stutter (See Q5). The overwhelming majority (83%) reported that parents either carry over some treatment goals through minimal homework assignments or do not actively participate in treatment or carryover. Only 6% of respondents reported that parents regularly attend therapy sessions and work on goals at home.

The respondents were also asked about their familiarity with the Lidcombe Program and their attitudes about early intervention for

children who stutter (See Q4,9,10). Thirty percent had not heard of the LP, 40% had heard of it but didn't know much about it, 30% said they were familiar with it but had never used it, and 0% of respondents have used the program themselves. Because we had previously sent out letters to all SLPs describing the LP in order to find subjects, the number of clinicians who had heard of the program was probably much higher than it would have been before our study began. Encouragingly, 80% of respondents indicated that they would not recommend phonology or language therapy only for a 4-year old who stutters and has a concomitant speech/language disorder. Also, 72% said that they do not usually recommend to parents of children who stutter to wait until school-age before receiving treatment.

Research Question 2

C.M.

Detailed information for both subjects is outlined in Table 3. The treatment participant, C.M., was female, 4:5, had been stuttering for one and half years, and had no known history of stuttering in her family. Upon initial assessment, her stuttering severity was 25 PSS and her parents reported that she was more fluent during the assessment than normal. C.M.'s disfluencies consisted of whole and part-word repetitions, prolongations, and blocks of about one second in duration. Her pre-treatment score on the Stuttering Severity Instrument for Children and Adults, 3rd Edition (SSI-3) was 19, indicating an overall severity rating of "moderate."

C.M. was a delightful child, and was amazingly attentive for a four-year old. Her father and mother both attended the first session together so

Table 3. Subject Information

Subject	Treatment		Control	
	C.M. pre-tx	C.M. post tx	A.R. pre-tx	A.R. post-tx
Age at onset	3 years old	--	3 years old	--
# Years stuttering	1.5 years	--	2 years	--
Gender	Female	--	Male	--
Family History	None	--	Uncle stuttered as a child and recovered	--
Concomitant disorders	Articulation	--	Articulation	--
Age at evaluation	4:5	4:7	5:3	5:5
Types of disfluencies	Whole & part-word repetitions, prolongations, blocks (~1 sec)	Whole & part-word repetitions, prolongations, blocks now fleeting	Whole & part-word repetitions, prolongations, long blocks (3-7 secs)	Same
Secondary characteristics	None	None	Loud breathing; Poor eye contact	Same, but breathing even more distracting
PSS	25%	6%	12%	16%
SSI score	19	11	23	26
SSI severity rating	Moderate	Mild	Moderate to Severe	Severe

they were both introduced to the program and were able to provide contingencies at home. After the initial meeting, C.M. was accompanied to weekly treatment sessions by her mother. Her mother caught on right away to the 5:1 ratio of praise versus correction, and was able to provide contingencies while keeping the activity fun, natural, and enjoyable for everyone. The clinician did notice that C.M.'s mother would sometimes provide positive contingencies when C.M.'s speech was not really fluent. This occurred mostly on prolongations, so the clinician spent some time educating the mother on what is and what is not considered fluent speech.

C.M. responded positively to the treatment, and by the fifth session, her PSS had dropped from a consistent level of high 20's to 8%. Her school SLP, preschool teacher, neighbors, and even her grandmother who spoke to her only over the phone were reported to notice a change within five weeks. C.M. began to point out to her parents that she was being smooth when she felt they weren't praising her enough, and she proclaimed to her school SLP that she was a "Smooth Talker!" Her mother reported higher severity during specific times of the day/week when she was more excited. The clinician instructed C.M.'s mother to target smooth speech during these more difficult times in order to increase generalization and improve global severity. C.M.'s PSS and daily severity ratings continued to drop pretty steadily.

On week 8, the PI noticed a lot of long prolongations on all words beginning with /s/. This was very unusual for C.M., and her mother was perplexed because she had been very fluent at home all week (with consistent severity scores of two). Her PSS rose from 5% to 10%. Later, the PI mentioned this strange new occurrence to C.M.'s school SLP. The school clinician said that she had been targeting /s/ in articulation therapy just

before our session and that she hadn't noticed any disfluencies during their articulation session. By the next session, the /s/ prolongations had disappeared and C.M.'s severity scores remained low.

By the end of 10 weeks, C.M. reached consistent severity ratings of two (in four weeks straight) and her final PSS was measured to be 6% in-clinic, which is a 76% reduction in PSS from initial evaluation. (See Figure 1). It is important to note that PSS was measured very early in the morning, when C.M. was reportedly the most disfluent. Her parents stressed that she was almost completely fluent later in the day, so the P.I. asked them to bring in a taped sample of her speech in the afternoons. The PSS from this 10-minute at-home sample was 2%. C.M. was re-evaluated post-treatment using the SSI-3. Her level of struggle and length of blocks had decreased significantly (from approximately one second in length to fleeting blocks) and her post-treatment score was 13, indicating a severity of "mild." Inter-rater reliability (reliability between the two raters) was .91 and intra-rater reliability (within-rater reliability between using the CHOPPER and traditional hand counting methods) was also .91 (See Figure 2). Week 1 only has a CHOPPER count from Rater 1 because the PI did not have the video camera that week. Weeks 3 and 9 are blank because the subject was unable to attend on those days (due to a snow day and Spring Break). Week 11 indicates the taped at-home sample provided by the parent and was only reviewed by Rater 1. Reliability was calculated using weeks 2,4-8, and 10 only.

A.R.

The control participant (initials A.R.) was male, 5:3, had been stuttering for two years, and his mother reported that he had an uncle

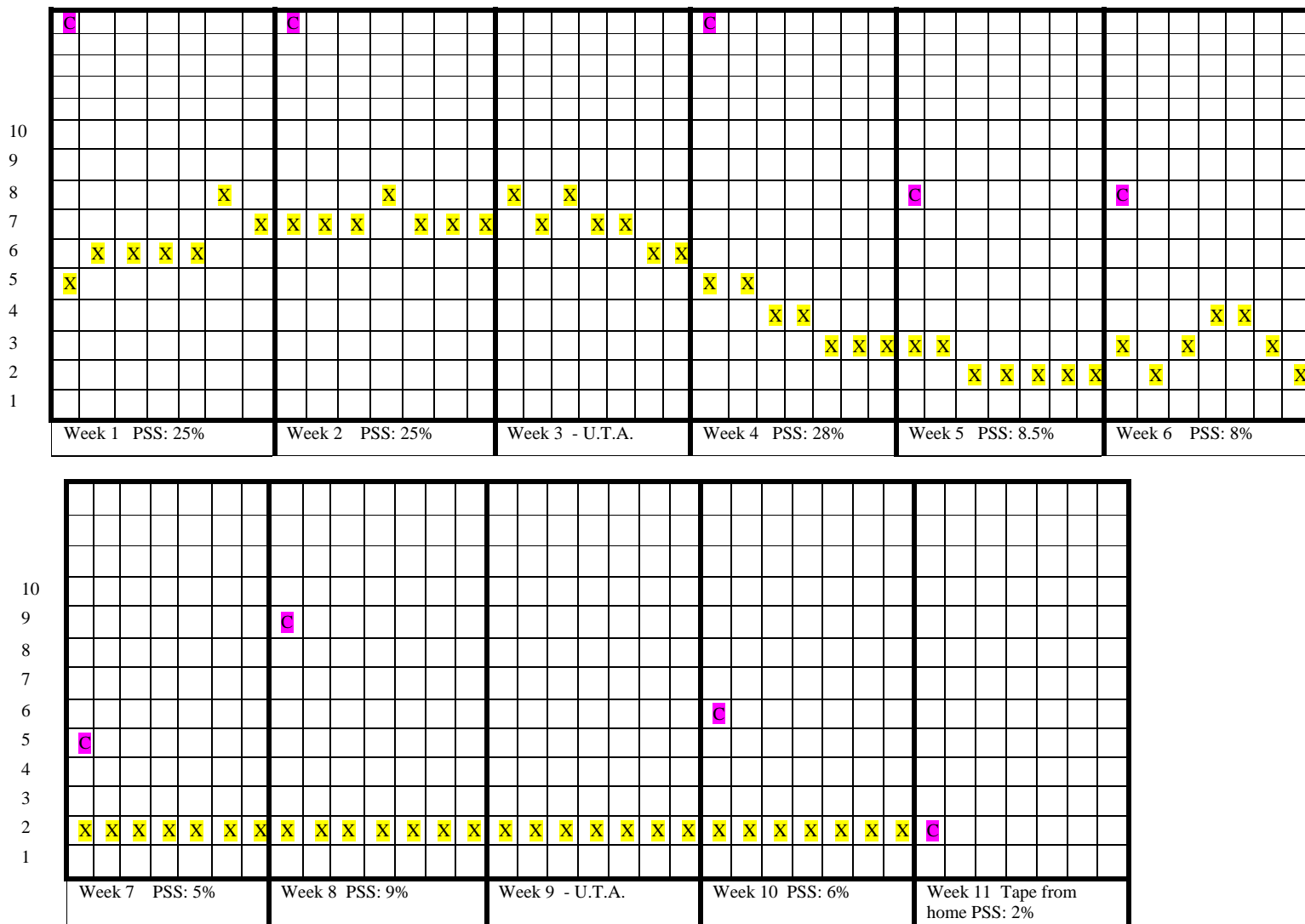


Figure 1: Data Chart for C.M. (X=Daily Severity Ratings; C= Weekly PSS Count)



Figure 2: PSS Counts of Rater 1 and Rater 2 using the Chopper fluency program and hand counting methods

who stuttered as a child and had recovered. Upon initial assessment, A.R. had a stuttering count of 12%. His disfluencies consisted of whole and part-word repetitions, blocks, and some secondary behavioral characteristics including distracting loud breathing and poor eye contact. His pre-treatment score on the SSI-3 was 23, indicating an overall severity of "moderate to severe." Although his PSS was lower than C.M.'s, his distracting breathing, struggle behaviors, and longer blocks raised his overall severity rating.

The PI regularly spoke to A.R.'s school clinician about his progress in school therapy, but unfortunately, she reported that his stuttering severity and frequency remained consistently high throughout treatment. The PI felt that his secondary breathing behavior had worsened and was even more distracting than before. A.R. was re-evaluated after 11 weeks of school treatment. His post-treatment PSS was 16% and he received a score of 26 on the SSI-3, indicating a rating of "severe."

CHAPTER IV

DISCUSSION

Research Question 1

In our first research question, we wanted to examine what types of early intervention for fluency are currently being used by school clinicians and how they compare to the Lidcombe Program. We also wanted to know if any school SLPs were using the LP or any similar parent-focused programs.

According to the focus group and SLP questionnaire, local school clinicians are not using the Lidcombe Program and most have very little familiarity with it. In fact, most of them are using a mixture of several different techniques for fluency therapy rather than using any evidenced-based program. Only three of the clinicians in our survey had any specialized training in fluency. Over half of the respondents report that fluency established in the therapy room does not generalize to other situations. Fluency clients stay on SLP caseloads for an average of two years, ranging up to 10 years, and only 22 out of 137 total children were reported to have been discharged from therapy in the last three years. Of this number, only seven were dismissed because they no longer stuttered. Consistent with findings from previous clinician surveys (Brisk et al., 1997; Cooper & Cooper, 1996; Kalinowski et al., 2005), it appears that school SLPs are at a loss for how to best treat their fluency clients and are not properly trained on evidence-based programs for fluency intervention. We were encouraged by the level of interest in the LP that we received.

All of the SLPs in our focus group were excited to learn about the program and expressed interest in receiving training in it.

Although the SLPs in our focus group thought it would not be difficult to incorporate parents into therapy for preschool children, only 36% of respondents on the questionnaire reported using any type of parent training and 43% of respondents don't even have a minimal level of parent participation (i.e. helping with homework assignments.) Our survey also revealed that most clinicians would not recommend waiting until school-age to begin services for a preschool child who stutters; however, only five out of 47 surveyed SLPs currently have a preschool child on their caseload.

Furthermore, children are reportedly not being identified until around the third grade. This delayed age of identification may explain why it was so difficult to find subjects for our study. Knox County Child Find, an organization which screens preschool children throughout the county for speech and language disorders and recommends services, screened approximately 200 preschool children this year and identified only one child to receive services for fluency. In the last three years, one Knox County Child Find office reported to have identified only six children out of 432 total children screened. This is approximately 1.4% of the children who were screened, which is very low considering that the incidence rate of stuttering is approximately 5%. We would also expect this number to be slightly higher because the population screened by Child Find is a population of children with possible speech or language disorders rather than the typical population.

Research Question 2

In our second research question, we asked if the Lidcombe Program could be implemented effectively in the public schools. In this study, the PI was easily able to conduct the program in a public school setting with fast, positive results. The treatment participant, C.M., reached consistently low severity ratings and had a 76% reduction in PSS (from 25% to 6%) in only ten weeks. Her stuttering severity rating decreased from moderate to mild. Her parents, school SLP, and other family members all noticed a significant change and her parents were very pleased with the program. In the same amount of time, the control subject, A.R., has increased in severity from moderate-severe to severe and his PSS increased from 11% to 16%. His family and school SLP have noticed no improvements in therapy or at home.

Despite these positive results, implementation of the LP in the public schools is not without its obstacles. We have already discussed the difficulties in identifying preschool children who stutter. The LP will obviously not work if the children are not being identified until the third grade. It is unclear why more preschool children are not being identified, but community education about the vital importance of early intervention for fluency is recommended for SLPs, teachers, parents, caregivers, and physicians.

Other obstacles to LP implementation include: variable, often unpredictable, school schedules that may make it difficult to get consistent attendance and may increase the time it takes to complete Stage I. Also, trying to coordinate schedules with parents can be very difficult. Working parents may have to come in after regular school hours or take some time off work each week for treatment sessions. SLPs may have to stretch their own schedules in order to work around parent work

schedules. Another major obstacle is finding time on school caseloads. One hour individual treatment sessions are rare in the schools, and the idea of trying to fit that into an already tight schedule can be daunting for school SLPs. However, considering the shorter amount of time to complete the program (not to mention the increased effectiveness), it may be feasible to rearrange schedules in favor of offering longer individual sessions for shorter lengths of time.

Finally, probably the biggest obstacle in implementing the LP in schools is the need for parent participation. Some of the parents we spoke to just didn't understand the need for their participation when their child was already receiving services through their schools. There is a belief that the schools will "fix" their children without the parents' help. Others may have heard from doctors, teachers, or family members, that their child will probably recover on their own so they feel they don't need to place their children in therapy for fluency until they're older. This is not a problem in Australia, where the LP is considered best practice for fluency intervention. There, parents, teachers, and SLPs are familiar with the LP and they understand that early parental involvement is essential to treating stuttering. Unfortunately, this is not yet the case in the U.S., but with community and parent education, it can be improved.

With a willing and dedicated parent, the LP can be a wonderful and highly rewarding program. It is very easy to implement and is designed to be fun, so both parent and child end up enjoying the time they spend together practicing fluency. It requires very little preparation on the part of the SLP and no lesson plans are needed, as you can do anything (i.e. looking at picture books, playing a game, looking through family photos, etc), just as long as the child and parent are talking and having fun. As C.M.'s mother became familiar with the program, our

weekly sessions became shorter and shorter, because she needed very little support and feedback. This is good news for schools, because in just a few weeks, treatment sessions may be reduced from an hour long to 45 minutes or half an hour, depending on the needs of the particular family.

The best news for schools is that the LP is extremely time and cost-effective. Our survey found that children who stutter are on SLP caseloads for an average of two years. If a child attends therapy twice a week for 30 minutes at a time, for approximately 36 weeks in a school year, they would participate in about 144 total therapy sessions or 72 hours of therapy. It costs the Knox County school system approximately \$57 an hour to employ an SLP, so that adds up to an average of \$4,104.00 per child if they are seen individually. Even assuming treatment in a small group of four children, the total cost to the school is over \$1000 per year. Considering that children typically stay on caseloads for at least two years, each child who stutters will receive over \$2000 of treatment. Considering the rate of dismissal from therapy for stuttering in Knox County, and the success level of typical school-based stuttering treatment in general, this is expensive treatment. In contrast, Stage 1 of the LP is known to require an average of 11 one-hour sessions to achieve fluent speech (Kingston et al., 2003). Using this average, LP therapy at Stage 1 would cost the district \$627. Following Stage 1 treatment, approximately eight half-hour maintenance sessions will be necessary, costing an estimated \$228.00 per child. In total, the LP would be predicted to cost less than half of traditional therapy, and is far more likely to result in a resolution to the stuttering.

Limitations of the Study

The biggest limitation of this study was the very small sample size. With only one treatment subject and one control subject, it is not possible

to obtain statistically significant data or to make any grand conclusions about the effectiveness of the Lidcombe Program in public schools. We can, however, say that the program can be conducted with positive results in a short amount of time. We were also able to compare the LP to current therapy offered in the schools, and identify some obstacles to implementing the program on a wide-spread basis.

Because we only had one treatment subject, it is very possible that her improvement in fluency was due to spontaneous recovery. Because she is female, her likelihood of spontaneous recovery is even more likely. However, the control subject had a history of a family member who recovered, which is also a factor making him more likely to recover. There is no way to know for sure if C.M.'s improvement was due to spontaneous recovery, but the fact that she was stuttering at consistently high levels for over a year and then suddenly dropped in severity within five weeks of starting the LP is a good sign that the program may have been a key factor.

The only peculiarity in C.M.'s data occurred in week eight. As discussed in the results section, her PSS rose dramatically during this time. Upon investigation, it was determined that this is when the school SLP began targeting /s/ in therapy and was asking C.M. to prolong the /s/ sound to make it more obvious. C.M.'s articulation sessions occurred just prior to the fluency therapy session and during week eight, C.M. had an increase in the number of prolongations in her speech. In future studies, we would recommend that treatment subjects receive articulation therapy on a different day as the Lidcombe sessions so as not to greatly influence PSS. We would also recommend meeting at different times during the day, if possible, in order to get a more accurate picture of in-clinic PSS.

The PI would like to have followed the subjects for an extended period of time, at least through Stage 2, but unfortunately ran out of time. The PI will continue with C.M. until she reaches the end of Stage 1. The PI also plans to train another graduate student on the LP so that she may provide maintenance treatment for C.M. through Stage 2.

Conclusion and Future Directions

All of the literature on the Lidcombe Program indicates that it is a highly effective and positive treatment program for preschool children who stutter when conducted in a private clinical setting. Despite the obvious limitations of having only one treatment subject and one control subject, we can say that the Lidcombe Program may also be implemented effectively in the public schools. We hope these results will inspire school districts to focus more on parent-based early intervention for stuttering.

In the future, we would like to see local school SLPs be trained on the LP and we suggest a school system-wide study be conducted in order to determine the program's effectiveness on a larger scale. Another future direction, suggested by Finn (2003), would be to train SLP Assistants (SLPAs) and/or preschool classroom teachers to provide 10-15 minute Lidcombe treatment sessions during the school day in order to increase generalization to the classroom.

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APPENDICES

APPENDIX A

Please complete this survey if you are a speech-language pathologist (SLP) currently treating children with speech and language disorders in Knox County. Your responses will remain anonymous. Please add any comments that you feel would clarify answers or add important information. Thank you for your time.

1. How many years have you worked as an SLP? _____
 2. What is your highest academic degree?
 Bachelor's Awarded in _____
 Master's Awarded in _____
 Doctoral Awarded in _____
 Other: _____ Awarded in _____
 3. Do you have any specialized training/certification in the area of fluency?
 No
 Yes. Please specify: _____
 4. Are you familiar with the Lidcombe Program for Early Stuttering?
 No. I have never heard of it.
 I've heard of it but don't know much about it.
 I'm familiar with the program but have never used it.
 Yes. I have used it.
 Other: _____
 5. Which of the following best describes the typical involvement of parents of the younger children who stutter that you treat (younger than 6 years)?
 Parents are essential to treating my younger clients who stutter. They regularly attend therapy sessions and are trained to work on goals at home.
 Parents carry over some treatment techniques through homework assignments. Progress and parental concerns are regularly addressed.
 Parents are concerned and involved, but do not actively participate in treatment or carryover at home.
 Besides the mandatory parent meetings, I rarely have any contact with parents.
 Other: _____
 6. How long do most sessions for fluency last in your school? _____ (mins)
 7. How many sessions per week are provided for children who stutter? _____
 8. What type of fluency therapy techniques/ programs do you use? (check all that apply)
 Indirect Approach (i.e. create positive speaking experiences and reduce time pressures on child. No specific techniques are taught.)
 Relaxation exercises
 Breathing exercises
 Fluency Shaping (Slow speech, easy vocal onset, light articulatory contacts, etc.)
 Van Riper Stuttering Modification (Cancellations, Pull-Outs, Preparatory sets)
 The Lidcombe Program for Early Stuttering
 Delayed/Frequency Altered Feedback (i.e. SpeechEasy)
 Child counseling
 Parent counseling
 Parent training
 Other: _____
 Other: _____
 My own approach (please describe): _____
- Comments:**
- | TRUE | FALSE | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 9. If a 4-year old boy who stutters also has a phonological and/or language disorder, I would recommend treatment for phonology and/or language only at first. Treatment for fluency can wait. |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Because of the high rate of spontaneous recovery in early stuttering, I usually recommend that parents of preschoolers who stutter wait until school age before receiving treatment. |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. Although my students who stutter can maintain fluent speech in the therapy room, the fluency rarely transfers to other environments |

We would like to gather information about children who stutter and the services they receive in the public schools. For each of the three school years indicated, please fill in the appropriate caseload information.

	Age Ranges	# of children who stutter on caseload in each age range	List age or grade of identification for each child	# of years each child has received services for fluency	Current status: (check for each child)		Reason for discharge?
					Active	Discharged	
2007-2008	Toddlers(1-2yrs):	0 1 2 3 4 5 +	a)	a)	a)		a)
	Pre-K(3-4yrs):	0 1 2 3 4 5 +	b)	b)	b)		b)
	Kindergarteners:	0 1 2 3 4 5 +	c)	c)	c)		c)
	Elementary:	0 1 2 3 4 5 +	d)	d)	d)		d)
	Middle School:	0 1 2 3 4 5 +	e)	e)	e)		e)
	High School:	0 1 2 3 4 5 +					
2006-2007	Toddlers(1-2yrs):	0 1 2 3 4 5 +	a)	a)	a)		a)
	Pre-K(3-4yrs):	0 1 2 3 4 5 +	b)	b)	b)		b)
	Kindergarteners:	0 1 2 3 4 5 +	c)	c)	c)		c)
	Elementary:	0 1 2 3 4 5 +	d)	d)	d)		d)
	Middle School:	0 1 2 3 4 5 +	e)	e)	e)		e)
	High School:	0 1 2 3 4 5 +					
2005-2006	Toddlers(1-2yrs):	0 1 2 3 4 5 +	a)	a)	a)		a)
	Pre-K(3-4yrs):	0 1 2 3 4 5 +	b)	b)	b)		b)
	Kindergarteners:	0 1 2 3 4 5 +	c)	c)	c)		c)
	Elementary:	0 1 2 3 4 5 +	d)	d)	d)		d)
	Middle School:	0 1 2 3 4 5 +	e)	e)	e)		e)
	High School:	0 1 2 3 4 5 +					

Additional Comments:

VITA

Jody Mellin is originally from Tucson, Arizona, but has lived all over the country, including North Carolina, Vermont, Idaho, California, and Tennessee. She went to college to pursue her undergraduate education at the University of Idaho, where she met her husband, Mike. She spent a semester in Costa Rica studying Spanish in the summer of 2001 and went on to earn a B.S. in Psychology and a B.A. in Spanish. Jody and Mike lived in the San Francisco area for a few years after graduating and then decided to move to Knoxville, TN to pursue their graduate educations. She traveled to Australia to become acquainted first-hand with the Lidcombe Program for Early Stuttering where it was created, at the Australian Stuttering Research Centre. She also attended a Lidcombe Consortium training and is certified in the program. Jody completed her Master's degree in Speech Language Pathology at the University of Tennessee in May, 2008. Her major interests in the area of speech language pathology are in early intervention for stuttering, phonological awareness, and aural habilitation. Jody and Mike plan to move to Casper, WY, where they hope to have many new and exciting adventures together.