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Treating Preschool Children Who Stutter: Description and Preliminary Evaluation of a Family-Focused Treatment Approach

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ABSTRACT: **Purpose:** The purpose of this article is to present a detailed description of a family-focused treatment for preschool children who stutter that addresses communication behaviors and attitudinal reactions that children and their parents may exhibit in reaction to stuttering, as well as a preliminary evaluation of the outcomes of that treatment.
Method: The study involved assessment of the children's speech fluency and a client satisfaction questionnaire that sought parents' opinions about which aspects of the treatment were beneficial. Participants were 17 children who stutter, ages 31 to 62 months, and their families.
Results: Responses to the questionnaire indicated that treatment helped families learn about stuttering and about strategies that facilitate children's fluency. Evaluation of the children's fluency revealed that all participants achieved improved fluency at the conclusion of treatment and at long-term follow-up.
Implications: Findings suggest that this treatment approach may be useful for helping children achieve improved speech fluency, effective communication skills, and healthy communication attitudes.

KEY WORDS: stuttering treatment, treatment outcomes, speech therapy

The documentation and evaluation of treatment outcomes is one of the most pressing challenges facing the field of speech-language pathology. This is particularly true in the treatment of childhood stuttering, for several differing views about preschool stuttering treatment have been presented in the literature (e.g., Conture, 2001; Fosnot, 1993; Harris, Onslow, Packman, Harrison, & Menzies, 2002; Hill, 2003; Starkweather, Gotttwald, & Halfond, 1990). Many clinicians and researchers have favored so-called "indirect" approaches to therapy, which aim to facilitate children's development of fluent speech primarily through changes in the child's communication environment and modifications to the parents' speech patterns (e.g., Conture, 2001; Gottwald & Starkweather, 1995; Guitar, 1998; Shapiro, 1999; Starkweather et al., 1990). Other clinicians have favored more direct speech modification techniques (Hill, 2003; Walton & Wallace, 1998). Still others have emphasized the value of operant techniques for reinforcing the child's fluent speech while offering mild corrections for the child's stuttered speech (Onslow & Packman, 1999).

Understanding the differences between the various treatment approaches can pose a significant challenge for clinicians, for the distinctions between indirect, direct, and operant therapy approaches are not at all straightforward (Conture & Melnick, 1999; see also Bernstein Ratner & Guitar, in press). If clinicians are to be able to employ the principles of evidence-based practice in selecting appropriate treatments for the children they treat, they must have access to empirical data on the clinical outcomes of those treatments. In examining the stuttering treatment outcomes literature, however, a problem immediately becomes apparent. Certain treatment approaches, such as the Lidcombe program, have been the subject of intensive research demonstrating the benefits of early intervention (Harris et al., 2002; Jones et al., 2000; Lincoln & Onslow, 1997; Onslow, Andrews, & Lincoln, 1994; Onslow, Costa, & Rue, 1990; Onslow, Packman, & Harrison, 2003). Although more research is certainly necessary, the amassed knowledge about the Lidcombe program provides a strong foundation for clinicians seeking to employ evidence-based practice in their treatment of preschool children who stutter. Not

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all treatment approaches for preschool children who stutter have received the same scrutiny, however. As Cordes (1998) and others (e.g., Ingham, 2003; Nippold & Rudzinski, 1995; Onslow, 2003) have noted, some treatment approaches have received relatively little study, even though they are widely recommended in textbooks and other resources about stuttering therapy. This is particularly true for approaches that involve modifications to parents' communication behaviors. If such treatment programs are to be recommended in an evidence-based practice approach to clinical practice, further research documenting the outcomes of such treatments will be necessary.

The process of documenting the outcomes of treatment can be approached in a number of ways (Ingham & Costello, 1985; Yaruss, 1998b), and a growing body of literature has addressed this topic within the field of communication disorders (e.g., Frattali, 1998a, 1998b; Ingham, 1993; Ingham & Riley, 1998; Olswang, 1998). At the minimum, treatment outcomes research requires (a) that the treatment program be described in sufficient detail that clinicians and researchers can implement it for the purposes of clinical practice, replication, and evaluation; and (b) that the treatment program be subjected to empirical study in order to establish whether the treatment achieves its stated goals and to provide information about the nature of the changes that occur for individuals receiving the treatment. It is toward both of these goals that the present article is directed. Specifically, the purpose of this article is two-fold: The first section of the article presents a detailed overview of a family-focused treatment program for preschool children who stutter; the second section describes a preliminary study designed to assess the outcomes of selected components of the overall treatment approach. Although this single article does not address all of the demands of treatment efficacy research required by an evidence-based approach to treatment, it does provide some preliminary information that clinicians and researchers can use to consider the value of this treatment approach for helping children who stutter overcome the challenges associated with their speaking difficulties.

DESCRIPTION OF A FAMILY-FOCUSED TREATMENT APPROACH FOR PRESCHOOL CHILDREN WHO STUTTER

The treatment approach presented in this article is designed to help young children who stutter (between the ages of 2 and 6) improve their speech fluency while simultaneously ensuring the development of healthy communication attitudes and effective communication skills. The treatment involves several related components, including (a) *parent-focused strategies* designed to help parents modify their communication behaviors and reduce their concerns about stuttering and (b) *child-focused strategies* designed to help children modify their communication behaviors and develop healthy, appropriate communication attitudes. As such, the treatment draws on concepts that have been set forth in a number of other treatment programs that have been described in the literature (Conture, 2001; Conture & Melnick, 1999; Fosnot, 1993; Gottwald, 1999; Gottwald & Starkweather, 1995; Hill, 2003; Logan & Yaruss, 1999; Rustin, Botterill, & Kelman; 1996; Starkweather et al., 1990; Wall & Myers, 1995; Walton & Wallace, 1998).

The components of the overall treatment approach are depicted in Figure 1. It is important to note that the parent-focused aspects of the treatment are typically addressed first, before the child-focused aspects of treatment, so parents can become educated about the nature of stuttering and so they can provide support for the child throughout treatment. Moreover, the treatment is designed to be administered in a flexible fashion, with different components being selected depending on the specific needs of the child and family. For example, if a clinician is uncertain whether intervention is necessary for a given child, then only the parent-focused components of treatment may be implemented while further monitoring and assessment are conducted to determine whether the child-focused components are warranted. Similarly, if a child experiences recovery from stuttering during administration of the parent-focused components of treatment (as often occurs, as will be shown in the second part of this article), then the child may not need to receive the child-focused components of treatment at all.

A full description of the entire treatment program would be beyond the scope of any single manuscript, for numerous strategies and techniques are employed to achieve the goals of improved fluency, effective communication skills, and appropriate communication attitudes. In an attempt to make the process of describing and evaluating the treatment more manageable, this article addresses only the parent-focused components of treatment (as indicated by the shaded boxes in Figure 1). Specifically, this article describes a "parent–child training program" that has been designed to teach parents to implement communication and attitudinal modifications that help children improve their fluency. Note that the parent–child training program does not constitute the entire treatment; child-focused components are implemented after completion of the parent-focused treatment as necessary.

The following sections contain specific details about the parent-focused aspects of treatment. Goals and procedures for the child-focused components of treatment, including direct fluency shaping and stuttering modification for preschoolers, as well as strategies to support the development of healthy communication attitudes, are adapted from those presented elsewhere (Conture, 2001; Gottwald & Starkweather, 1995; Hill, 2003; Logan & Yaruss, 1999; Walton & Wallace, 1998; Yaruss & Reardon, 2004).

Parent–Child Training Program: Goals and Procedures

As is often the case with treatment for young children who stutter (e.g., Conture, 2001; Gottwald, 1999; Gottwald & Hall, 2003; Hill, 2003; Logan & Caruso, 1997; Onslow & Packman, 1999; Ramig, 1993; Rustin et al., 1996), parents play a central role throughout the treatment process. Although it may be difficult for clinicians in some settings to find time to work with parents, the benefits of involving parents in the treatment can be seen throughout the therapeutic process. Educated and supportive parents can become more active partners in the treatment program, whether their role involves providing contingent feedback about the child's speech (Onslow & Packman, 1999) or modeling communication modifications, as described below. Thus, a significant amount of attention is paid to educating parents about stuttering, helping parents reduce their own fears and concerns about their child's speech, and training parents about the use of appropriate communication modifications to support their children's therapy. More specifically, the primary goals of the

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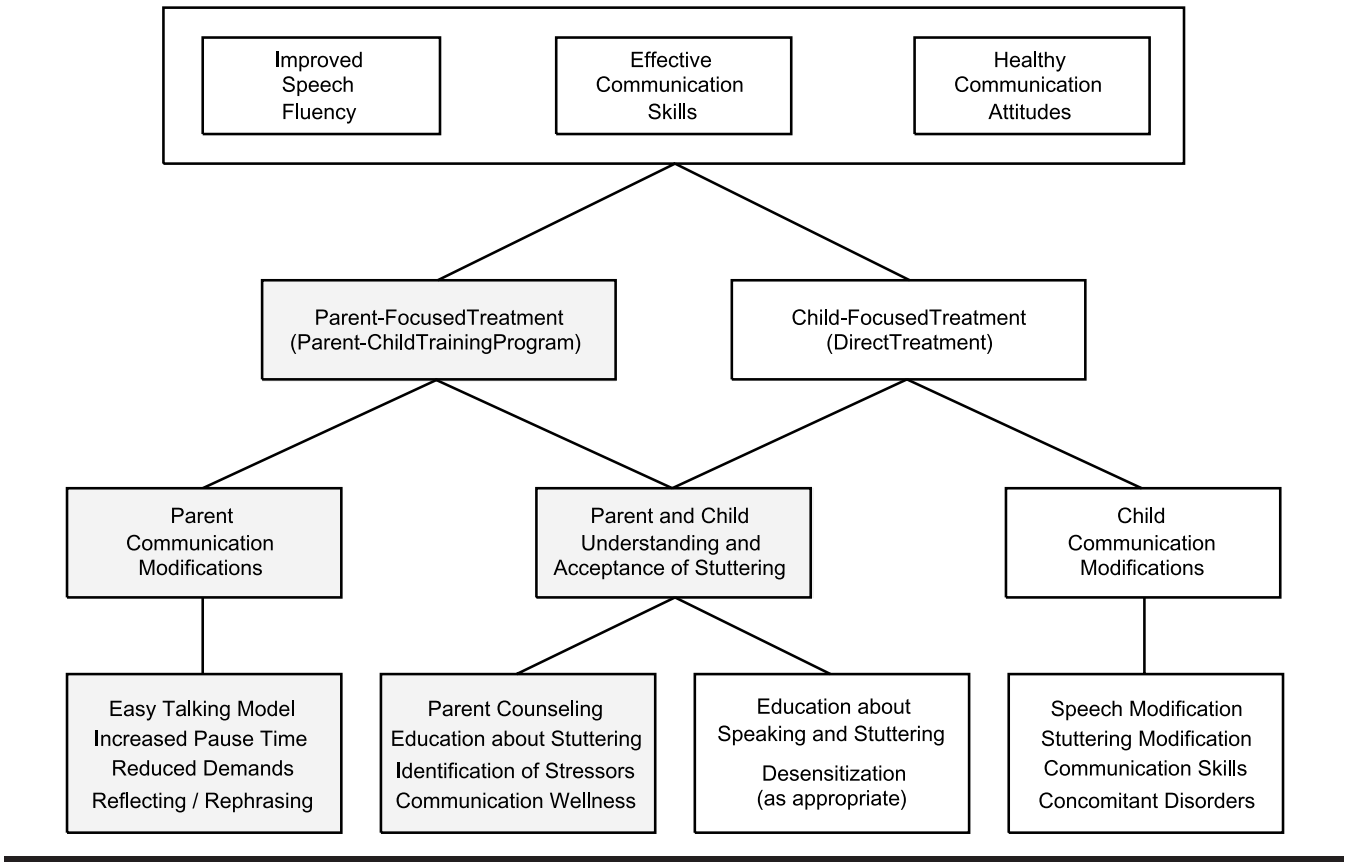
Figure 1. A family-focused treatment approach for preschool children who stutter. The shaded areas represent the parent-focused components of treatment that are described and evaluated in this article.



parent–child training program are (a) to help parents learn about stuttering and about how to become active participants in their child's treatment and (b) to help parents implement communication modifications in their interactions with their child that may facilitate the child's development of fluent speech, healthy communication attitudes, and effective communication skills.

Parent–Child Training Program: Structure of Sessions

The parent–child training program typically consists of six to eight sessions, 45 min in length, scheduled once per week or every other week. This scheduling allows time for parents to begin implementing communication modifications and other techniques at home with the child before each new strategy is introduced. Allowing flexibility in the timing of sessions is often necessary for accommodating the demands of third-party payers or the scheduling restrictions that may be imposed by families or schools. For example, if only a 60-day treatment period is approved by an insurance company, parent training sessions may be conducted weekly to ensure that all goals are met within the specified time period. Treatment can also be extended so that a family with timing constraints due to work or schooling can schedule sessions every other week as necessary.

The parent–child training program can be divided into three components: (a) *education and counseling,* in which parents learn about communication and stuttering, reduce their concerns about their child's speech, discuss the importance of responding to stuttering in a supportive manner, and consider other aspects of the child's development to ensure that they do not interfere with treatment (two to four sessions); (b) *communication modification training,* in which parents learn to implement strategies to facilitate their child's development of fluent speech (three sessions); and (c) *review and re-assessment,* in which parents evaluate their use of the treatment strategies and consider the impact of those strategies on the child's fluency (one to two sessions).

Education and counseling (2 to 4 sessions). The purpose of the initial sessions is to prepare parents to become active participants in their child's therapy. Steps in this process include educating parents about stuttering, addressing parents' concerns about their child's speech, and teaching parents how to respond to their child's stuttering in a supportive manner. The sessions are also used to provide parents with an overview of the treatment program so they will know what to expect as treatment progresses. Parents attend these initial sessions without their children. This allows for a more open discussion of the child's stuttering and overall development and provides enough time to answer parents' questions and provide them with specific information about childhood stuttering.

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Session 1. In the first session, each parent first completes a *stressor inventory* (Appendix A) designed to identify personality characteristics of the child and environmental factors that may affect the child's ability to speak freely and communicate effectively. If both parents are present for the initial session, each parent completes the inventory individually, without input from one another, so the parents' perceptions can be compared. The specific items on the stressor inventory are based on the idea that children's fluency is impacted not only by the environment they are in, but also by their reaction to that environment, as well as by their temperament (e.g., Anderson, Pellowski, Conture, & Kelly, 2003; Hill, 1999). By focusing on the interaction between the child and the environment, the clinician can work with the parents to individualize the treatment strategies to each family's specific needs.

Next, the parents and clinicians work together to identify ways to reduce the impact of each environmental stressor. For example, if parents report that their schedule at home is busy and that they often feel rushed, and if they believe that this contributes to time pressures that affect the child's speech, then the parents and clinician may brainstorm ways of reducing these time pressures. The parents may then work to set aside a set period of time each day so the child can interact with the parents with less time pressure, or they may consider different scheduling options for the child's activities in order to allow for more one-on-one time. Note that in brainstorming solutions to environmental stressors, the clinician is encouraged to let parents take the lead in finding solutions to the situations they have identified as stressful, rather than simply giving parents a "fix-it" list or providing a set of predefined recommendations that they must adhere to (e.g., Rustin et al., 1996). If parents are involved in the decision-making process, it is often easier for them to "own" the solution and become more active participants in the treatment process.

The remainder of the first session focuses on educating parents about the nature of stuttering and about factors that might impact their child's fluency. Analogies are used to help parents understand the multifactorial nature of stuttering. The first analogy describes factors that can affect a child's speech so parents understand the rationale for the treatment. The "bucket analogy" (Appendix B) shows how children's capacity for producing fluent speech can be visualized as a bucket of water. Certain factors (stressors) add water to the bucket, and if the child's bucket becomes too full, water spills out and the child will stutter. Factors that add water include (a) aspects of the *child's overall development and temperament* (Anderson et al., 2003), such as perfectionistic tendencies and a high degree of sensitivity, an intense or driven personality, the presence of concomitant speech or language disorders, and a genetic predisposition to stutter; (b) *interpersonal stressors,* such as major changes or traumatic events that may be occurring in the child's life (e.g., toilet training, birth of a sibling; see Hill, 2003), marital or sibling conflicts, unrealistic demands being placed on the child, or a fast-paced and unpredictable lifestyle; and (c) certain *communicative stressors* that can increase the child's sense of time pressure, such as a negative response to disfluency on the part of the listener, demanding questioning or other forms of communication pressure, frequent interruptions, competition for talking time, and a rapid rate of conversation. The parents are taught that some factors (particularly the communicative stressors) can potentially be modified by the parents (Conture & Zebrowski, 1992; Hill, 2003), whereas other factors (particularly intrinsic factors such as the genetic predisposition to stutter, the child's life experiences, or the child's temperament; see Anderson et al. 2003; Hill, 1999; Yairi, Ambrose, Paden, & Throneburg, 1996) are less under the parents' control. Parents learn that the purpose of therapy is to modify those things that can be realistically modified while not taking responsibility or feeling guilty about the things they cannot change.

Next, parents learn that each of the factors identified above adds a different amount of water to the child's bucket—some factors add a lot of water; other factors add only a little. Parents learn that the "size" of the bucket is based on a child's intrinsic skills. Thus, a child with strong motor and linguistic skills may have a larger bucket (or a greater capacity to withstand disruption), so more water, contributed by various stressors, would be necessary to cause the bucket to overflow. Other children may be more susceptible to breakdowns in their speech due to limited capacity to withstand communicative or other stressors. The rationale for this explanation is closely tied to an adaptation of the "Demands and Capacities Model" as described by Starkweather (Starkweather & Givens-Ackerman, 1997; see also Yaruss, 2000). Parents are taught that many of these factors vary from situation to situation and from one time to another. This helps them understand why their child's speech fluency fluctuates so greatly. It is emphasized that the variability of stuttering is just a "feature" of the disorder and not something that should cause parents concern or alarm. Finally, understanding that each factor adds water to the bucket, but does not, by itself, *cause* the bucket to overflow, helps parents accept the multifactorial nature of stuttering (Smith & Kelly, 1997). This helps them learn that they cannot explain stuttering by focusing on only a single issue (e.g., fast speaking rates or traumatic events) and that they are not to blame for their child's stuttering (Yaruss & Reardon, 2004).

The second analogy, "communication wellness" (Appendix C), serves as a roadmap for the treatment process. Parents are shown how treatment is structured, beginning with the education and counseling sessions, moving to the communication modification sessions, and ending with the review and reevaluation sessions. The communication wellness analogy highlights the fact that some children will require further treatment following completion of the parent–child training program (depicted as "child-focused" aspects in Figure 1).

Parents are then provided with a handout to help them distinguish between various types of speech disfluencies (Appendix D). Examples of such handouts can be derived from several sources (Conture, 2001; Hill, 2003; Yaruss, 1997b); the specific example shown in Appendix D is reprinted from Yaruss and Reardon (2004). This helps parents learn which types of disfluencies are typically associated with childhood stuttering (e.g., part-word repetitions of three or more iterations, prolongations, or blocks), and which disfluency types are typically associated with normally (dis)fluent speech (e.g., phrase repetitions, interjections). Parents also learn which other features of speech can indicate more advanced stuttering (e.g., any type of disfluency that is produced with tension or struggle, rises in pitch or loudness during disfluencies, physical tension in jaw or face, or avoidance of speaking situations and fear of talking). This helps them understand the behaviors they are observing in their child's speech so they will be better judges of the child's fluency as therapy

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progresses. Additionally, it enables parents to see that progress may not be measured only in terms of the frequency of stuttered disfluencies, but also in the *types* of disfluency (e.g., moving from blocks to repetitions).

Next, parents are given a "charting" exercise to complete before the next session (e.g., Hill, 2003). In this assignment, parents observe at least 5, but no more than 10, samples of their child's speech and then prepare a summary using a charting form (Appendix E) documenting with whom the child was communicating, what message the child was trying to express, what types of disfluency were observed, how aware the child seemed to be about the speaking difficulty, the listener's reaction to the stuttering, the child's reaction to stuttering, and any communicative pressures that were present in the situation. Completing this chart helps parents focus on specific, observable aspects of their child's stuttering rather than only on the fact that the child is stuttering or on what the stuttering may mean for the child's future. Note that the parents are asked not to chart more than 10 specific aspects of their child's disfluencies so they do not spend their entire time thinking about observable characteristics alone. They are encouraged to spend the remainder of the time attending to the child's *message*. It can also be helpful to have parents keep a journal of topics the child was talking about during stuttering episodes (Hill, 2003; Logan & Yaruss, 1999; Zebrowski & Schum, 1993). Again, this helps them hear the content of the child's speech and not merely the number of disfluencies.

Finally, to support the lessons learned in this first session, parents are given supplemental resources about preschool stuttering, including handouts or booklets from the Stuttering Foundation of America (www.StutteringHelp.org) and the National Stuttering Association (www.WeStutter.org). Parents also receive a resource guide (Coleman & Coleman, 2004) that helps them locate additional information about stuttering if they are interested, as well as other handouts from the Stuttering Center describing the treatment process (these handouts, as well as those in the appendices, are available at www.StutteringCenter.org).

Session 2. Whereas the first session focuses on the parents' understanding of stuttering and the general process of therapy, the second session provides an opportunity for counseling parents regarding their concerns about their child's stuttering. In this session, parents are given the opportunity to continue exploring the effect of various interpersonal stressors on their child's speech. At the same time, the clinician helps them begin to consider the communicative and other potential stressors that they have identified as problematic.

The first activity in the second session is a review of the home charting exercise. Each category of the home chart described above is discussed with the parents in order to identify any trends in type of disfluency, child and listener reactions, and specific pressures of the situations in which the child stuttered. This helps parents see that stuttering is variable and is not typically related to one specific environment (Yaruss, 1997a). It also gives parents the chance to discuss the severity of their child's stuttering by identifying the presence or absence of physical tension, avoidance, prolongations, or blocks. Consideration of the listener reactions to the stuttering provides an opportunity to review appropriate, supportive responses (Logan & Yaruss, 1999), as well as strategies for facilitating such responses from listeners. Finally, the charting exercise gives parents the chance to actively participate in the treatment of their child's stuttering. In other words, it allows them to begin the transition from *worrying* about their child to *helping* their child (Hill, 2003; Logan & Yaruss, 1999; Starkweather & Givens-Ackerman, 1997).

Following this review, the parents and clinician discuss the reading material that was distributed in the first session. This gives parents the chance to ask questions about stuttering and often leads to a more general discussion of the parents' concerns about their child's speech. If necessary, these concerns are addressed in more detail during further counseling sessions, as discussed below. Finally, the session ends with an introduction to the fluency-facilitating strategies that will be targeted in treatment. If a video camera is available, the parents are asked to bring a blank videotape to the remaining sessions so they can record the communication modification sessions. This allows them to review the strategies at home and makes it easier for them to demonstrate treatment strategies to family members and others who interact regularly with the child.

Occasionally, the initial education and assessment sessions reveal issues that the parents may need to address before learning communication modifications. For example, some parents require additional support to understand the nature of stuttering or the fact that they are not the cause of the child's stuttering (Yaruss & Reardon, 2004). Other parents may have more general concerns about childhood development, parenting strategies, sibling interactions, or life events that the child may be experiencing (Hill, 1999). Note that some of these issues may be outside the scope of practice of speech-language pathology, so the clinician must be prepared to refer the family to other professionals for support and counseling, as appropriate. For those issues that are within the scope of practice for speech-language pathologists, clinicians may need to be prepared to spend one to two additional sessions, as necessary, to counsel the parents about communication-related topics in order to ensure that such concerns will not interfere with the parents' ability to participate actively in the parent-focused components of treatment.

Communication modification training (3 sessions). The next three sessions are dedicated to helping parents learn how to use communication modifications that facilitate their child's production of more fluent speech. The strategies are selected depending on the needs of the child and family, based on the clinician's and parents' judgment of the child's response to treatment, both in therapy sessions and at home. In general, strategies include minimizing time pressures that the child may experience by reducing the pace of conversation, reducing communication demands on the child by modifying parents' questioning style, reflecting/rephrasing the child's utterances to provide a positive communication model, and providing a supportive communicative environment.

Each of the communication modification sessions is recorded on the videotape that was supplied by the parents. This tape can be used to facilitate comparison of the parents' communication patterns before and after each treatment session. The videotape also provides a model that parents can refer to when practicing modifications at home. Finally, the clinician can use the videotape to direct the parents' attention to other strategies that may be addressed in future sessions. Each of the communication modification sessions follows the same general format.

First, the parents and clinician engage in a brief "check-in" period where they can discuss any changes that have occurred

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since the previous session and the clinician can describe the specific strategies that are to be addressed in this session. The clinician then engages in one-on-one interaction with the child for approximately 15 min while modeling the strategies targeted for that particular session (e.g., reducing the pace of the interaction through reduced speaking rates or reflecting and expanding the child's utterances). Parents watch this interaction from an observation room or, if an observation room is not available, from a corner of the treatment room, so they will be able to recognize and understand the communication modifications that are being modeled (see also Gottwald & Starkweather, 1995; Starkweather et al., 1990).

Next, the clinician exchanges places with one of the parents, who then interacts with the child for approximately 15 min while the clinician and the other parent (if present) remain in the observation area. During the interaction, the parent practices the communication strategy that was just modeled by the clinician. To facilitate training, the parent receives real-time feedback from the clinician via a wireless microphone and receiver system. (The parent wears an earbud receiver so the child cannot hear the feedback, though feedback can also be provided after the practice session if a receiver system is not available.) This helps to ensure that the parent is completing the modifications appropriately. After the first parent has completed the practice, the second parent (if present) is given the opportunity to try the modifications. Finally, the parent(s) and clinician review the session and discuss strategies for implementing modifications at home.

One of the most difficult challenges facing any treatment approach that requires parents (or others) to implement specific treatment strategies in real-world situations is ensuring compliance with the recommended procedures. It is, of course, impossible for a clinician to ensure that parents are actually using treatment strategies as the clinician had advised. Still, clinicians can encourage parent compliance through the use of techniques such as videotaping and charting, as described above. Furthermore, clinicians can informally assess the adequacy of the parents' participation in therapy through the "check-in" discussions at the beginning of each session and by directly observing the changes the parents are able to make during their interactions with the child. The parent-focused treatment program attempts to further account for issues relating to parent compliance through the review sessions described in the next section.

Review and re-assessment (1 to 2 sessions). The final session(s) of the parent–child training program provides clinicians with the opportunity to review the treatment strategies and ensure that parents are able to implement the techniques appropriately. Clinicians can also use this time to meet with family members or others who interact with the child (e.g., grandparents, caregivers, babysitters, siblings). Particular emphasis is placed on techniques that parents have difficulty implementing, and additional practice sessions are scheduled if necessary. Finally, the clinician reevaluates the child's speech fluency and communication skills. If the child exhibits speech fluency within normal limits (fewer than approximately 3 stuttered disfluencies per 100 words of conversational speech; e.g., Conture, 2001), combined with appropriate communication attitudes (e.g., Logan & Yaruss, 1999), then he or she may be dismissed from therapy while the parents and clinician continue to monitor the child's fluency, communication attitudes, and communication skills through phone calls or reevaluations over a period of 3 to 6 months.

Before dismissal, parents are educated about various "risk factors" and "warning signs" they should watch for that might indicate that the child's stuttering is increasing or returning (e.g., increase in the frequency of either stuttered or so-called normal disfluencies, physical tension or struggle during fluent or stuttered speech, negative communication attitudes). If the child has continued to stutter during the parent-focused components of treatment, he or she may participate in the child-focused components of therapy (i.e., more direct therapy addressing the child's speech fluency and communication attitudes), either immediately or following a brief monitoring period. Regardless of the recommendation that is made, parents are reminded of the importance of following through with the techniques that have been addressed. The following section describes in more detail the specific communication modifications that are addressed in the parent training sessions.

Parent Communication Modifications

During the communication modification sessions, four specific strategies are targeted: (a) use and modeling of an easier, more relaxed manner of speaking ("easy talking model"); (b) use of increased pause time between speaker turns so as to reduce time pressures the child may feel when communicating; (c) reduction of demands to speak and increased time pressures often associated with "rapid-fire" questioning, if present; and (d) reflecting, rephrasing, and expanding on children's utterances to provide a positive communication model. These four strategies have been selected based on research suggesting that modifying these aspects of communication can facilitate children's production of fluent speech (see review in Bernstein Ratner, 2004). Note that these strategies are not used in an "across-the-board" or "one-size-fits-all" fashion. The parents' and children's needs are also considered in determining how the strategies are targeted. For example, some parents may already be using a form of easier speech when treatment is initiated, so they may spend less time targeting this strategy in treatment. Others may have a rapid communication style that can only be modified through more intensive practice. By adjusting the treatment in this fashion, clinicians can tailor the treatment to the specific need of each child and family. As described above, clinicians can help parents develop the ability to successfully and appropriately implement communication changes by *modeling* the strategies, then giving parents the opportunity to *practice* the strategies with their child and *providing feedback* about the parents' success. The interactive nature of training helps parents develop competence and confidence using the strategies. In addition to ensuring that parents understand treatment goals and procedures, this approach also improves parents' compliance with treatment. Following is a more specific description of each of the modifications.

Easy talking. Easy talking is designed to facilitate the child's production of more fluent speech by reducing the time pressures the child may be experiencing. Although time pressure is a difficult concept to measure objectively, it is hypothesized that the child's perception that he must hurry through his speech may cause him to initiate speaking before he is ready or attempt to speak more quickly than he can maintain fluently (see review in Conture, 2001). Although more evidence is certainly needed (Bernstein Ratner, 2004), there is support for the notion that

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children speak more fluently when parents reduce their speaking rates (Guitar & Marchinkoski, 2001; Guitar, Schaefer, Donahue-Kilburg, & Bond, 1992; Stephenson-Opsal & Bernstein Ratner, 1988; Zebrowski, Weiss, Savelkoul, & Hammer, 1996). Furthermore, there is evidence of a relationship between mother–child dyadic rates (i.e., the difference between the parent's rate and the child's rate) and the severity of the child's stuttering (Kelly & Conture, 1992; Yaruss & Conture, 1995). Thus, easy talking is designed, in part, to reduce parent speaking rates in an attempt to increase children's speech fluency.

The easy talking strategy is similar in some ways to "turtle speech," slow speech (Conture, 2001; Fosnot, 1993; Starkweather et al., 1990), or "easy, relaxed speech" (Hill, 2003) in that it involves a slowed rate of speech with less physical tension and increased pause durations between words and phrases. At the same time, it is important to note that changes in rate, tension, and timing are slight—drastic reductions in rate or long pauses are not preferred in this approach because they may not sound as natural to the parent or child. Moreover, this technique is not simply based on a slower rate of speech, but on a reduction in the overall *pace* of the interaction between the parent and child. Thus, parents are not simply instructed to "speak slowly," but rather to judiciously use slight reductions in rate and increases in pausing to minimize the likelihood that the child will feel that he should be in a hurry to speak.

The most important aspect of easy talking is that the parent's speech should sound *natural* rather than artificially slow or with unusually long pauses. Parents are encouraged to use pauses in places where they would normally pause (e.g., between sentences and phrases, between speaker turns; see Kelly, 1993). For this reason, this is sometimes referred to as "phrased speech" so as to help parents understand the importance of grouping words together in phrases rather than speaking one word at a time. Parents are also taught to keep the pauses to *less than 1 s* in duration so that the flow of conversation is not adversely affected. Parents are encouraged to avoid "mechanical" sounding or staccato-style speech, very slow speech, or speech that has a sing-song quality. Although it is true that some approaches to modifying parents' speaking styles may incorporate these features, the goal of this technique is to reduce the pace of the interaction without specifically slowing the parent to below-normal speeds or affecting the naturalness of the parent's speaking style. An excellent model of this speaking style was used by the television personality, "Mister Rogers." Although Mister Rogers did not use an unusually slow speaking rate, he did reduce the overall pace of his speech by introducing natural pauses at appropriate places in an utterance. If parents are having difficulty using this speaking style, they can watch Mister Rogers to try to imitate his speaking style. Parents can also practice slower speech while reading children's books because this helps them divide utterances into phrases more easily.

Note that during the therapy sessions, parents may practice using a slower rate of speech, or longer pauses, than they will ultimately use in the home setting. This is done to help parents develop a tolerance for speaking slowly and allowing pauses in their conversation. Parents learn that the interaction style they will use at home will most likely fall somewhere between their pace before treatment and the pace they practiced in the clinical setting, and the feedback provided by the clinician during the training sessions helps to ensure that parents are able to use the modifications in an appropriate fashion.

Increased pause time/reduced time pressure. Combined with the use of a slightly slowed speaking rate is the use of slightly increased pausing, both within sentences (between phrases) and between speaker turns. As before, further evidence regarding this strategy is needed, though it seems clear that longer parent pause times are associated with increases in children's fluency (e.g., Bernstein Ratner, 1992; Newman & Smit, 1989; Winslow & Guitar, 1994), whereas interrupting is associated with increased stuttering (Kelly & Conture, 1992; Meyers & Freeman, 1985; Yaruss & Conture, 1995). Parents can be trained to increase their pause time and improve their conversational turn-taking through the practice of pausing—by not more than 1 s—after the child has completed an utterance. Delaying responses helps to minimize the likelihood that the parent will engage in "simultalk" (Kelly & Conture, 1992; Yaruss & Conture, 1995) or try to talk over the end of the child's utterances. The delayed response lets the child know that he has enough time to say what he wants to say without feeling undue time pressure. This strategy also helps the parents ensure that the child was actually finished speaking at the end of an utterance rather than being stuck in a moment of stuttering or, simply, pausing before saying something else. Increasing pause time can be used in all conversational settings, though parents are encouraged to begin their practice in structured situations so they can learn how long to pause and so they can gain a better understanding of when pausing will be most beneficial to the child's speech.

Reduced communication demands. Several authors have suggested that increased demands to speak, in the form of frequent questioning on the part of parents, can make it more difficult for children who stutter to maintain their fluency (e.g., Starkweather et al., 1990). Still, research has not supported the notion that children stutter more in response to questions (or, at least to short-answer and yes/no questions; see Weiss & Zebrowski, 1992), and other authors have questioned the wisdom of simplifying the language model provided by the parents or reducing the number of opportunities the children have for communication (Bernstein Ratner, 2004). Such concerns are definitely warranted, and it would not seem appropriate to limit children's language input in any fashion. Still, some children do appear to be sensitive to frequent demands to speak, particularly at times when they are experiencing increased difficulty with their fluency (e.g., Conture, 2001). Furthermore, it appears that rapid-fire questioning also increases *time pressures* the child may feel when trying to communicate, and this, too, can affect the child's ability to maintain fluency. Thus, helping parents learn to *modify* the form of their questions (not reduce them) can be useful for minimizing the demand for speaking that a child may experience (Santus, Tellis, Yaruss & Coleman, 2005). More specifically, parents are trained to modify the structure of their questions from direct requests for information to *indirect* prompts. For example, a request like "What is the boy doing?" can be replaced by the statement "I wonder what the boy is doing." This gives the child the opportunity to comment if he wants to but does not *require* an answer if the child does not want to respond at that moment. By starting requests with "I wonder" or "I think," parents can give the child the same opportunity to provide information without feeling the need to answer if he or she is not ready to do so. Other examples of question starters include "I bet," "I guess," "Maybe," "It looks like," and so on. A list of these alternatives for indirectly prompting responses is provided to the parents when this strategy

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is introduced. Use of such starters can also serve as a cue for parents to remember to model the easy talking strategy.

Reflecting/rephrasing. The reflecting/rephrasing strategy is designed to provide general facilitation and support of the child's language development (e.g., Camarata, Nelson, & Camarata, 1994; Nelson, Camarata, Welsh, Butkovsky, & Camarata, 1996; see also Conture, 2001). With this strategy, parents reflect what the child says with a slightly slower and easier manner of speaking (i.e., using the "easy talking" model described above). Parents can repeat the same words used by the child, or they can expand on them with a message that maintains the content of the child's utterance but provides additional information. For example, if the child says "I-I-I-I wa-wa-want this guy oooover here," the parent can respond with an easy talking model, "Oh / you want that guy/over there." The reflecting/rephrasing strategy is used so the child can hear what was said in an easier, more relaxed manner. It also provides confirmation that the parents heard what the child said and the message was communicated successfully, even though it may have been disfluent. Finally, this strategy gives parents the opportunity to provide an appropriate language, articulation, and fluency model for the child. It is important to point out to parents that they should use this strategy not only following disfluent utterances, but also following fluent productions (Weiss, 2002). This minimizes the possibility that the child will become concerned about the fact that the parent only reflects certain utterances or that the child will feel that disfluent utterances result in greater attention being paid to his or her speech.

Strategies That Foster the Development of Parent Communication Attitudes

In addition to teaching strategies that promote children's development of more fluent speech, the parent-focused component of therapy also includes strategies designed to foster the development of healthy communication attitudes—for both the parents and the child. This is accomplished by helping parents learn how to respond to their child's stuttering in an open, matter-of-fact, supportive manner, much as they would with any difficulty with learning a motor skill, such as coloring or riding a tricycle (Logan & Yaruss, 1999; Yaruss & Reardon, 2004; see also Starkweather & Givens-Ackerman, 1997). As parents learn to respond to their child's stuttering in a more accepting manner, they help children learn that they are interested in the content of their *message* rather than the manner in which they are speaking. This also helps children learn that "bumpy" or stuttered speech is just part of their process of learning to speak. Combined with other strategies to directly facilitate the child's development of healthy communication attitudes (see "child-focused treatment" in Figure 1), these strategies minimize the likelihood that the child will become overly concerned about speech disruptions and respond to stuttering with increased physical tension or struggle. This component of treatment should not be viewed as "giving up" on fluent speech. The parents and child are still working toward the development of normal speech fluency; they are simply doing it in an environment that fosters acceptance of the child's communication skills and minimizes the likelihood that the child will develop the negative communication attitudes that plague older children and adults who stutter.

Summary of Parent-Focused Components of Treatment

In sum, the treatment strategies described in this article represent one component of a comprehensive treatment approach that includes both parent-focused and child-focused strategies aimed at helping children improve speech fluency, develop and maintain healthy communication attitudes, and achieve effective communication skills. The parent–child training program described above is a systematic treatment approach of short duration that is tailored to the needs of individual families. Treatment is administered using a flexible schedule and specific strategies, which are supported by a small but growing literature about the factors that affect preschool children's speech, are selected based on an ongoing analysis of the child's responses in therapy.

Although this treatment is similar to other approaches that have been described in the literature, and although clinical and anecdotal experience suggests that such approaches are effective for improving children's fluency, it is still necessary for clinicians and researchers to have access to meaningful treatment outcomes data supporting the use of a particular treatment. Unfortunately, as noted above, the field has long suffered from a lack of treatment outcomes data, particularly for those approaches to treatment that are based, at least in part, on modifications to the child's communication environment. In a preliminary attempt to address this problem, the next section of the article will summarize a first attempt to collect basic treatment outcomes data for the parent-focused strategies described above.

PRELIMINARY EVALUATION OF TREATMENT OUTCOMES

When evaluating the efficacy of treatment for preschool children who stutter, there are a number of potential outcome measures that one might consider. The most basic measure is the child's fluency at the conclusion of treatment. In a family-focused treatment approach (i.e., one that contains both child-focused and parent-focused components), it is also necessary to examine variables that contribute to the parents' compliance with the treatment procedures, as well as the relative value of different treatment components for helping children achieve the goals of improved fluency, healthy communication attitudes, and effective communication skills. This is because the child's success in treatment will depend not only on the interaction with the clinician, but also on the parents' ability to successfully implement treatment strategies at home and in other settings. Thus, in this preliminary outcomes study of this family-focused treatment approach, two sets of variables were selected for analysis: (a) the child's fluency before and after treatment, as well as at long-term follow-up, and (b) the parents' perceptions about the value of the various components of the parent–child training program that was described in the first part of this article.

Method

Participants. In an attempt to provide a frank assessment of treatment outcomes for the therapy approach described in the first

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part of this article, this study reports the outcomes for *all* children and their families who were enrolled in treatment during the initial 18-month development period (May 2000 through December 2001), with the second author as clinician.

Participants were 12 boys and 5 girls who ranged in age from 31 months to 62 months at initial evaluation (M = 40.8 months; SD = 9.1 months). Their parent-reported time since onset of stuttering at the initial evaluation ranged from 1 to 38 months (M = 10.3 months; SD = 9.7 months). Nine participants had a parent-reported family history of stuttering (52.9%), and six were diagnosed as exhibiting a concomitant disorder of speech or language development (35%). Children's ages at the time of the initial diagnostic evaluation and first treatment session, as well as other relevant demographic information (e.g., parent-reported time since onset of stuttering, severity of stuttering at the initial diagnostic evaluation, presence of a family history of stuttering, presence of a concomitant speech or language disorder), are summarized in Table 1.

Participants had been diagnosed as stuttering and were presumed to be at risk for continuing to stutter based on procedures described by Yaruss, LaSalle, and Conture (1998). All participants exhibited at least three stuttered types of disfluencies per 100 words during a conversational speech sample, and at least one adult who was familiar with the child had expressed concerns about the child's speech fluency (e.g., Yaruss & Conture, 1995).

Speech fluency assessment. Direct measures of children's speech fluency were completed before the onset of treatment (either at the time of the initial evaluation or at the first treatment session that the child attended) and at the conclusion of the parent–child training program. Fluency counts were based on the percentage of stuttered types of disfluencies per 100 words over speech samples of at least 200 words. Disfluencies were counted as "stuttered" or "stutter-like" if they consisted of sound/syllable repetitions, monosyllabic whole-word repetitions, prolongations, and blocks (see Yaruss, 1997b, for a review of the types of disfluencies examined in this study). Specific reliability checks were not completed for the frequency count data presented in this study, though the second author, who collected the data, had previously completed the training procedures described by Yaruss (1998a) to ensure a high degree of intrajudge reliability in stuttering frequency counts.

Parent questionnaire. All 17 of the children's parents received a questionnaire seeking information about the parents' satisfaction with various aspects of the parent–child treatment program, as well as about children's fluency before and after treatment. Of the 17 families, 11 returned completed questionnaires (64.7% return rate). The questionnaire, shown in Appendix F, asked parents to rate the helpfulness of (a) the parent training sessions, (b) the stressor inventory, (c) the home charting activity, (d) videotaping of sessions, and (e) use of the wireless microphone system. Parents provided ratings of how helpful each component of the treatment was on a 4-point scale (*to a high degree, to a moderate degree, to a minimal degree,* and *not sure*). Parents were also asked to rate their overall satisfaction with the treatment on a 3-point scale (*very satisfied, moderately satisfied,* and *not satisfied*).

In addition to seeking information about the components of treatment, the questionnaire asked parents to rate their child's speech fluency in various situations before and immediately after the parent-focused components of treatment. The rating system was similar to that used by Campbell (1999) to describe outcomes of children with speech sound production deficits. Specifically, parents were asked to rate how often the child was able to speak

Table 1. Demographic information.

Participant ID	*Gender*	*Age at initial evaluation (months)*	*Age at first treatment session (months)*	*Time since onset at initial evaluation (months)*	*Stuttering severity at initial evaluation*	*Family history of stuttering*	*Other speech or language disorder*	*Questionnaire returned*
S1	M	31	32	6	Moderate	no	no	yes
S2	M	33	34	4	Moderate-Severe	yes	no	yes
S3	F	33	37	6	Mild-Moderate	yes	yes (artic.)	yes
S4	F	34	35	1	Moderate	no	no	yes
S5	M	34	38	3	Severe	yes	no	yes
S6	M	35	37	6	Moderate-Severe	yes	yes (artic.)	yes
S7	M	37	40	6	Mild	no	yes (voice)	no
S8	M	37	39	12	Moderate-Severe	yes	yes (artic.)	yes
S9	M	39	42	6	Moderate	no	no	yes
S10	F	39	41	12	Moderate	yes	yes (artic.)	no
S11	F	40	44	7	Moderate	no	yes (voice)	no
S12	M	42	47	14	Moderate-Severe	yes	yes (artic.)	no
S13	M	43	48	6	Moderate-Severe	no	no	no
S14	M	44	51	6	Moderate	yes	yes (artic.)	yes
S15	F	51	53	12	Mild	no	no	yes
S16	M	60	64	30	Mild	no	no	no
S17	M	62	65	38	Moderate-Severe	yes	no	yes
Mean	(12 males)	40.8	43.9	10.3	Mild: 3	(9 yes)	(8 yes)	(11 yes)
SD	(5 females)	9.1	9.7	9.7	Mild-Mod: 1 Moderate: 6 Mod-Sev: 6 Severe: 1	(8 no)	(9 no)	(6 no)

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without stuttering (a) at home, (b) at school, and (c) in new situations. Responses were based on a 5-point scale (5 = *always,* 4 = *almost always,* 3 = *sometimes,* 2 = *rarely,* 1 = *never*).

Long-term follow-up. Long-term follow-up data were obtained for all 17 children who participated in treatment. Follow-up data were collected through informal, unstructured phone conversations with parents that were conducted by the second author. Where possible, direct observations of the children's speech were also completed to determine whether the child was still exhibiting stuttering behaviors in conversational speech. The primary information gathered through the follow-up analyses consisted of parent and clinician judgments about whether stuttering continued to be a problem for the child. In addition, whether or not the child was still receiving treatment for stuttering was determined through chart review and parent confirmation during the follow-up phone call. Follow-up periods ranged from a minimum of 1 year to a maximum of 3 years following the completion of treatment (average follow-up period = 2.3 years; *SD* = 0.8 years).

Results

Clinician's rating of children's speech fluency. Table 2 summarizes children's frequency of stuttered types of disfluencies that were observed by the clinician at the initial diagnostic evaluation and at the final session of the parent–child training program. All 16 children for whom pre- and posttreatment stuttering counts were available exhibited reduced disfluency rates following treatment (mean stuttering frequency before treatment = 16.4%, *SD* = 6.6%; mean stuttering frequency after treatment = 3.2%, *SD* = 2.0%). Because of the relatively small number of participants, a Wilcoxon Signed-Ranks Test was used to compare the children's fluency before and after treatment. Results revealed a significant reduction in the children's frequency of stuttered disfluencies in the clinical setting ($Z = -3.517$; $p < .001$).

Table 2. Clinician-rated stuttering frequency at the initial and final treatment sessions.

Participant number	*Frequency of stuttered disfluencies at the beginning of the parent–child training program*	*Frequency of stuttered disfluencies at the final session of the parent–child training program*
1	15	2
2	15.5	2
3	8.5	2
4	10	3
5	28	6
6	15	3
7	17	4
8	28	5
9	11	7
10	N/A	2
11	19	3
12	25	1
13	19	7
14	12	3
15	22	2
16	8	3
17	10	0
M	16.4	3.2
SD	6.6	2.0

Note. A Wilcoxon Signed Ranks Test revealed a significant difference in stuttering frequency counts taken before and after treatment ($Z = -3.517$; $p < .001$).

Parents' ratings of treatment helpfulness and satisfaction. The questionnaire asked parents to rate their satisfaction with specific aspects of the treatment program. Table 3 provides a summary of the responses from the 11 families who returned questionnaires. Overall, results demonstrate that most parents were pleased with the components of the parent–child training program. Parent education about stuttering was judged to be the most valuable, with 10 parents rating it as helpful *to a high degree* and 1 parent rating it as helpful *to a moderate degree.* Videotaping of treatment sessions was judged to be least valuable, with only 3 parents (27%) rating it as very helpful, 4 parents (36%) rating it as moderately helpful, and 3 parents (27%) rating it as minimally helpful. (This is consistent with the clinician's notes that some families did not actually view the videotape between sessions.)

Parents also rated their *overall* satisfaction with the treatment program. All but one of the respondents ($n = 10$, 91%) reported that they were *very satisfied* with the treatment; the remaining respondent ($n = 1$; 9%) reported being *moderately satisfied.*

Parents' ratings of children's speech fluency. The questionnaire also asked parents to rate their children's fluency before and after the parent–child training program. Results, summarized in Figure 2, support the clinician's judgment that children's fluency improved during treatment. Because of the small number of respondents and the ordinal nature of the response scale, parents' pre- and posttreatment ratings were compared using a series of three Wilcoxon Signed-Ranks Tests (overall $\alpha = .05$; individual α after Bonferroni correction = .017). Children were judged by their parents to speak significantly more fluently following treatment at home ($Z = -2.64$; $p = .008$) and in new speaking situations ($Z = -2.64$; $p = .008$). Although ratings appeared to indicate that children also spoke more fluently at school, this difference did not reach significance ($Z = -1.63$; $p = .10$). This was likely due to the fact that 4 of the children were not yet enrolled in school at the beginning of the treatment period, and parents of 2 other children could not provide an opinion about the child's fluency in the school setting. Thus, this comparison was based on the responses of only 5 parents.

Treatment outcomes/long-term follow-up. Table 4 summarizes the *total* number of treatment sessions that children and their families received, including both the parent–child training program and any child-focused treatment that was indicated. As shown in this table, 9 of the 17 children (53%; S4, S7, S8, S11, S13, S14, S15, S16, S17) were dismissed from treatment following administration of the parent-focused aspects of treatment (i.e., six- to eight-session "parent–child training program" described in detail in the first part of this article). Two other children (S10 and S12) received only the parent-focused treatment for stuttering, though they also received additional treatment for other, concomitant communication disorders. S10 received three sessions to address an articulation disorder, and both articulation and fluency were judged to be within normal limits at the conclusion of treatment and at the 1-year follow-up evaluation. S12 continued to

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Table 3. Parents' ratings of "helpfulness" of various treatment components and overall satisfaction with treatment.

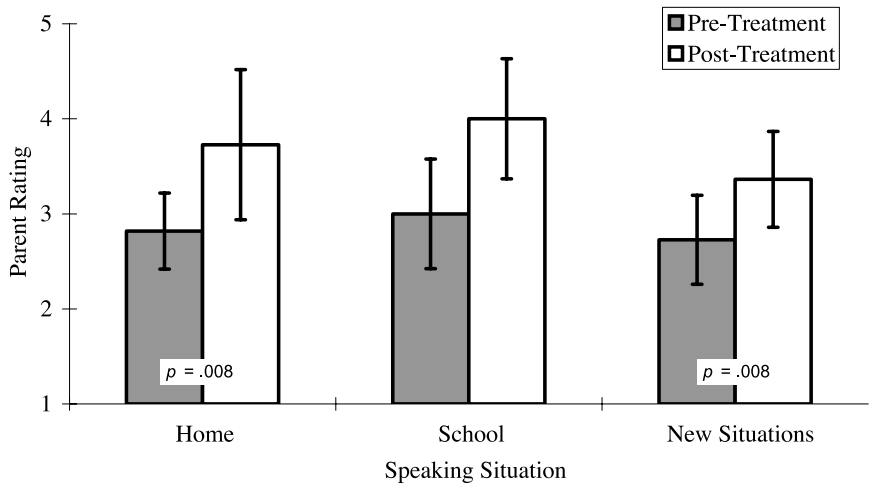
	Helpfulness rating					
	High degree		*Moderate degree*		*Minimal degree/not sure*	
Treatment component	M	SD	M	SD	M	SD
Parent training	10	91%	1	9%	0	0
Stressor inventory	5	45%	4	36%	2	18%
Home charting	6	55%	5	45%	0	0
Videotaping	3	27%	4	36%	3	27%
Wireless system	8	73%	3	27%	0	0
	Satisfaction rating					
Treatment program	*Very satisfied*		*Moderately satisfied*		*Not satisfied*	
Satisfaction	10	91%	1	9%	0	0

receive treatment for articulation and voice disorders at the 2-year follow-up evaluation, though the child's fluency was within normal limits at the conclusion of the parent–child training program and at follow-up. Thus, a total of 11 of the 17 children (64.7%) exhibited sufficient improvements in speech fluency following the parent–child training program that they were dismissed from stuttering therapy entirely, without receiving any specific child-focused treatment. Follow-up evaluations revealed that all 11 of these children continued to exhibit normal fluency following treatment.

Of the 11 children who received only the parent-focused components of treatment for stuttering (i.e., the parent–child training program described above), 5 had a positive family history of stuttering and 6 exhibited concomitant speech disorders (2 children exhibited articulation disorders and 2 children exhibited voice disorders). The average time from the onset of stuttering to the initial diagnostic for these 11 children was 13.1 months (range: 1 month to 38 months; *SD* = 11.1 months), and all but one of these 11 children had been stuttering for more than 6 months at the time of treatment. (These factors are associated with an increased likelihood for chronic stuttering; Yairi et al., 1996.)

The remaining 6 children (35%; S1, S2, S3, S5, S6, S9) continued to stutter following completion of the parent-focused treatment, so they were enrolled in child-focused treatment as explained in the introduction to this article. Of these children, 1 (S1) received five individual sessions and 2 others (S5, S9) received four group sessions before dismissal. Follow-up for all 3 children up to 2-1/2 years after conclusion of the additional treatment revealed fluency within normal limits. Of the remaining 3 children, 1 child (S2) had a significant family history of stuttering, with several family members exhibiting chronic stuttering. This child received considerably more child-focused individual therapy before achieving more fluent speech, though he was dismissed after approximately 1 full year of therapy and continued to exhibit normal fluency at a 2-year follow-up evaluation. Another child (S3), who exhibited a severe speech sound disorder and a

Figure 2. Mean parent ratings of children's fluency before and after the 6-session parent–child training program.



Note. Higher values indicate increased ability to speak fluently; Error bars represent ±1 *SD*.

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Table 4. Treatment duration and follow-up outcomes for all participants.

Participant number	*Number of Tx Sessions*	*Follow-up (years)*	*Treatment description*	*Parent-reported status at follow-up (April 2004)*
1	11	2	PCTP plus 5-session refresher	Fluency WNL after 5-session refresher and at follow-up
2	50	2	PCTP plus indiv tx	Fluency WNL after indiv tx and at follow-up
3	30	1.5	PCTP + tx for artic, fluency	Fluency and artic WNL after indiv tx and at follow-up
4	6	3	PCTP Only	No tx needed after PCTP; Fluency WNL after tx and at follow-up
5	10	3	PCTP + 4 gp fluency sessions	Fluency WNL after group tx and at follow-up
6	29	1	PCTP + tx for artic, fluency	Fluency and artic WNL after indiv Tx and at follow-up
7	6	1	PCTP only for fluency	Family moved; One-year follow-up revealed very mild fluency and voice disorder
8	6	2.5	PCTP Only	No tx needed after PCTP; Fluency WNL after tx and at follow-up
9	10	3	PCTP + 4 gp fluency sessions	Fluency and artic WNL after indiv tx and at follow-up
10	9	1	PCTP + 3 indiv artic sessions	Fluency and artic WNL after indiv tx and at follow-up
11	6	3	PCTP Only	No tx needed after PCTP; Fluency WNL after tx and at follow-up
12	6	3	PCTP Only for fluency; Still receiving artic tx	No further fluency tx needed; Child continued to receive tx for artic and voice disorders (not for a fluency disorder)
13	6	2.5	PCTP Only	No tx needed after PCTP; Fluency WNL after tx and at follow-up
14	6	2.5	PCTP Only	No tx needed after PCTP; Fluency WNL after tx and at follow-up
15	6	3	PCTP Only	No tx needed after PCTP; Fluency WNL after tx and at follow-up
16	6	2.5	PCTP Only	No tx needed after PCTP; Fluency WNL after tx and at follow-up
17	6	2.5	PCTP Only	No tx needed after PCTP; Fluency WNL after tx and at follow-up

Note. PCTP refers to the six- to eight-session "parent-child training program" described in the first portion of this article. Children who received the PCTP only received *only* the parent-focused portions of the treatment; other children received the parent-focused treatment in addition to child-focused treatment as needed. Tx = treatment; Gp = group; Artic = articulation; WNL = within normal limits.

positive family history of stuttering, was dismissed following approximately 6 months of therapy. At follow-up, this child continued to need occasional refresher sessions for both fluency and speech sound production, though he was maintaining improved fluency across speaking situations at the most recent follow-up. A similar pattern was observed for S6, who also exhibited both stuttering and speech sound difficulties, as well as a positive family history of stuttering. Approximately 6 months following completion of the parent–child training program, S6 was enrolled in child-focused therapy for fluency and speech sound disorders. This treatment lasted roughly 4 months, and a follow-up evaluation 1-1/2 years after dismissal revealed normal speech fluency patterns.

In sum, observations following treatment and follow-up evaluations revealed that all 17 children demonstrated marked improvements in speech fluency. As expected, some children received only the parent-focused components of treatment; others required child-focused treatment to overcome their fluency (and, in some cases, voice or articulation) disorders. By the time of the follow-up evaluations, however, all had been dismissed from formal treatment for stuttering, though 1 child continued to receive treatment for a speech sound disorder and 1 continued to receive occasional refresher sessions to support maintenance of fluency.

Discussion

This preliminary study sought to examine the outcomes of a family-focused treatment approach for preschool children who stutter. The study consisted of (a) evaluations of children's fluency before and after treatment, (b) a questionnaire about parents' satisfaction with parent-focused components of treatment and the parents' judgments of children's fluency, and (c) long-term follow-up evaluations of children's fluency. Parent satisfaction was selected as a starting place for the treatment outcomes evaluation because of the important role that parents play in this and other treatment approaches for preschool children who stutter. Results indicated significant improvements in children's fluency following treatment and at the follow-up evaluation for all 17 participants. These observations were supported by parents' judgments that children were speaking more fluently across situations. Parents' responses to the satisfaction questionnaire revealed that parents were largely satisfied with the parent-focused components of treatment and that parents found the parent education and training components to be the most helpful parts of the program.

As such, data from this study provide support for the treatment program that was described in the first part of this article, and clinicians seeking to use an evidence-based approach to selecting treatment strategies can have some confidence that this treatment is worthwhile. Still, there are a number of limitations in the present study that may affect interpretation of the findings. Most of these limitations are due to the fairly restricted nature of this preliminary study, which sought to examine parents' opinions about various aspects of the treatment while providing basic information about children's fluency. Because it required a retrospective analysis of children who were enrolled in treatment, issues such as reliability and parent compliance with therapy procedures, which would have been closely examined in a prospective study, were not addressed. Clearly, these and other issues will deserve careful attention in future research on this treatment approach.

Another notable limitation is associated with the fact that many preschool children who stutter are likely to recover without treatment (e.g., Andrews & Harris, 1964; Mansson, 2000; Yairi & Ambrose, 1999). The high degree of natural recovery makes it difficult to know whether the improvements seen in this study were actually associated with the treatment. Following the procedures described by Yaruss et al. (1998), and risk guidelines

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presented by Yairi et al. (1996), an attempt was made, at the time of the initial evaluation, to recommend therapy only for those children who exhibited a significant risk for continuing to stutter. Specific risk factors that were considered included positive family history of stuttering, time since onset of stuttering of greater than 6 months, concomitant speech or language disorders, production of stutter-like disfluencies with tension or struggle, and others. All 17 of the children involved in this study exhibited at least one of these risk factors: Nine exhibited a positive family history of stuttering and 6 exhibited a concomitant speech or language disorder. Averaged across all participants, the frequency of stuttered disfluencies at the time of the initial evaluation was 16% (range: 8% to 28%), and the time from the onset of stuttering to the initial evaluation was 10.3 months (with 14 of the 17 children exhibiting a time since onset of at least 6 months). The presence of these risk factors suggests that these participants may have been unlikely to recover without treatment. Still, further research is needed to improve clinicians' ability to identify with greater certainty those children who are most likely to require treatment in order to overcome stuttering.

If such research ultimately supports the efficacy of this treatment, there are several reasons that this approach may prove beneficial. First, the program has minimal requirements in terms of cost and clinician time. The average duration of treatment for all 17 participants was 12 sessions (SD = 12.3 sessions), with only 3 of the 17 participants (S2, S3, S6) requiring extended periods of treatment. (Note that this result compares favorably with the average duration of 12 sessions reported for the Lidcombe program; see Jones, Onslow, Harrison, & Packman, 2000). Second, the scheduling of both the parent-focused and child-focused components is flexible, a factor that may help clinicians who must deal with third-party reimbursement and minimal insurance coverage for therapy. Finally, because the majority of children in this study required only the parent-focused components of treatment to address their fluency disorder, conceptualizing treatment in terms of parent-focused and child-focused components may increase the efficiency of treatment for the subgroup of children who only need minor adjustments in their communication environment to achieve normal fluency.

OVERALL SUMMARY

This article has presented a detailed description of a family-focused treatment program for preschool children who stutter that is designed to help children improve their fluency while developing and maintaining healthy communication attitudes. The treatment includes parent-focused components that help parents modify their communication style to support the child's development of fluent speech and reduce their concerns about their child's stuttering, as well as child-focused components that help children improve their fluency and reduce their own concerns about stuttering. The article also presented a preliminary study examining outcomes of treatment for the first 17 children who received treatment with the second author as clinician. Results indicated that parents found the treatment to be valuable in helping them learn to use strategies that facilitate children's speech fluency. All 17 children demonstrated significant gains in their fluency, and all participants maintained these fluency gains at long-term follow-up. If further research supports these findings, this treatment approach may ultimately take its place alongside other empirically validated approaches for helping young children who stutter develop and maintain normally fluent speech. This study reflects just the beginnings of this endeavor; more work on the evaluation of treatment outcomes for this treatment approach will follow.

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APPENDIX A. STRESSOR INVENTORY

Personal, Interpersonal, and Communicative Stressor Inventory

Name of Person Completing This Form: _____

Relationship to Child _____ Date _____

When a young child stutters, parents often ask why their child is experiencing difficulties with talking. Usually, there is no single answer to this question. There are, however, a number of different factors that may be related to the development of stuttering. These factors (or *stressors)* can come both from within the child and from within the child's environment. Developing a better understanding of these stressors can help parents and speech therapists better understand a child's stuttering, and this can enhance success in therapy.

Please help us understand the factors that may affect your child's speech by checking the items that you feel apply to your child and your child's environment. Keep in mind that these factors do not *cause* stuttering—they simply contribute to your child's overall communication environment.

POSSIBLE STRESSORS WITHIN THE CHILD

____ Is sensitive (reacts strongly to life experiences).

____ Tends to be perfectionistic.

____ Becomes easily frustrated or upset.

____ Has an "intense" personality.

____ Is highly competitive with others.

____ Demonstrates performance anxiety or fears about speaking.

____ Becomes more disfluent when tired or ill.

____ Exhibits other speech and language or communication difficulties.

____ Has family members or other relatives who have stuttered or who currently stutter.
(Note: This item refers to the fact that stuttering runs in families, due to genetic factors)

POSSIBLE STRESSORS WITHIN THE ENVIRONMENT

____ Experiences hectic daily routines at home or in other settings.

____ Faces intense sibling rivalry or competition for talking time.

____ Has limited opportunities for free time or quiet time.

____ Shares communication environment with others who talk fast or interrupt frequently.

____ Has experienced stressful life situations (e.g., divorce, death, etc.).

____ Experiences high expectations imposed by others (e.g., family members, teachers, etc.)

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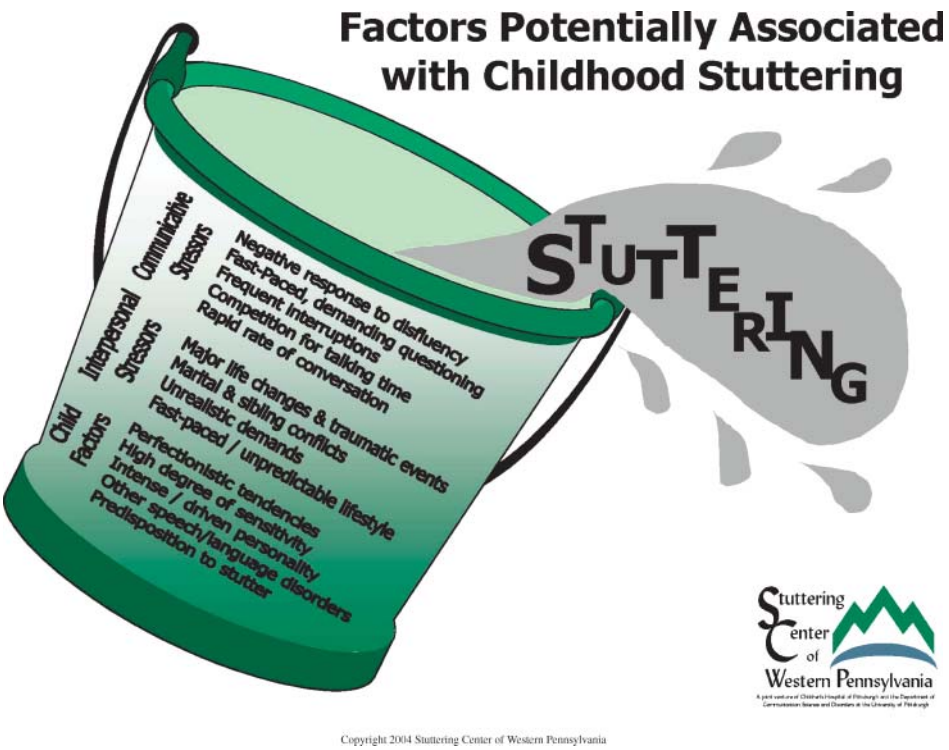
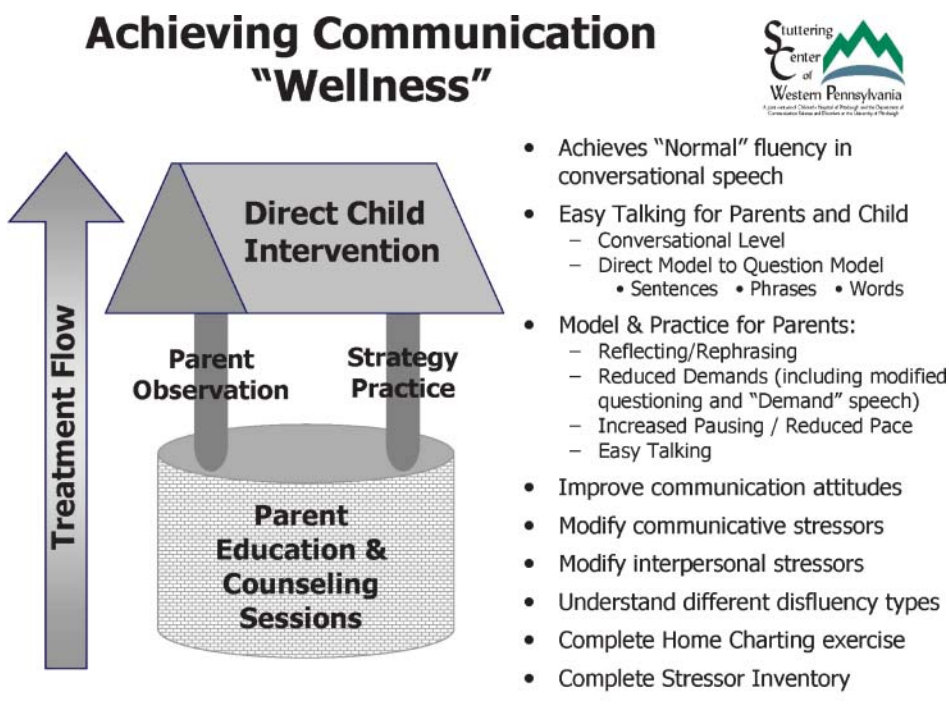
APPENDIX B. BUCKET ANALOGY



APPENDIX C. COMMUNICATION WELLNESS ANALOGY



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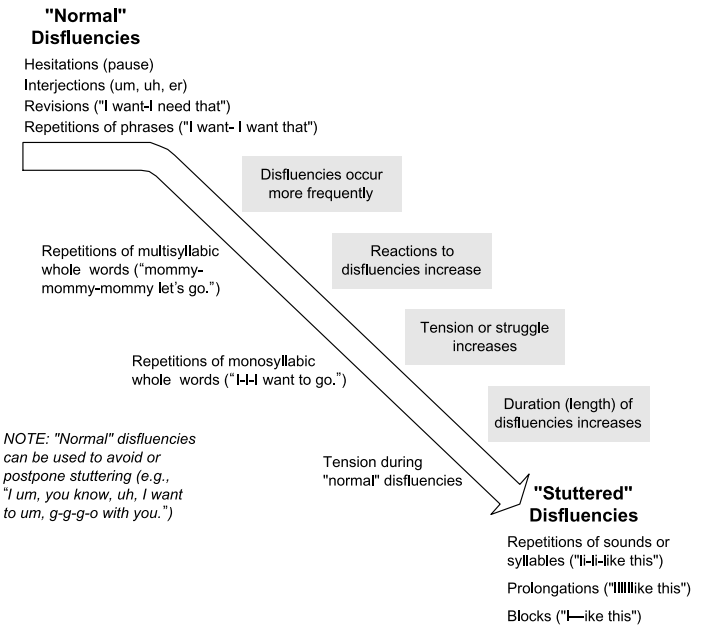
APPENDIX D. DIFFERENT TYPES OF DISFLUENCIES



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APPENDIX E. HOME CHARTING EXERCISE

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HOME CHARTING EXERCISE

With whom was the child speaking?	What was the child's *message*?	What types of disfluencies were observed?	Was the child aware of the disfluencies?	What was the listener's reaction?	What was the child's reaction?	Describe the speaking situation.

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APPENDIX F. TREATMENT SATISFACTION QUESTIONNAIRE

Child's Name _____ Person completing form _____
Child's Date of Birth ___/___/___ Today's Date ___/___/___

Please answer the following questions regarding the parent training sessions.

1. The parent training sessions helped to increase my knowledge of stuttering.

A. To a high degree B. To a moderate degree C. To a minimal degree D. Not sure

2. The "Stressor Inventory" helped identify inter- and intra-personal stressors that may have been contributing to my child's stuttering.

A. To a high degree B. To a moderate degree C. To a minimal degree D. Not sure

3. The home charting was useful in identifying types of disfluencies and reactions to my child's stuttering

A. To a high degree B. To a moderate degree C. To a minimal degree D. Not sure

4. Videotaping sessions was useful to review strategies targeted during clinical sessions

A. To a high degree B. To a moderate degree C. To a minimal degree D. Not sure

5. Use of wireless system was useful in providing on-line feedback during clinical sessions

A. To a high degree B. To a moderate degree C. To a minimal degree D. Not sure

6. Please rate your overall level of satisfaction with the parent training sessions.

A. Not satisfied B. Moderately satisfied C. Very satisfied

7. *Prior to* the parent training sessions, describe how often your child was able to talk *without* stuttering:

At Home	At School	In New Situations
Always	Always	Always
Almost Always	Almost Always	Almost Always
Sometimes	Sometimes	Sometimes
Rarely	Rarely	Rarely
Never	Never	Never

8. *Following completion of* the parent training sessions, describe how often your child was able to talk *without* stuttering:

At Home	At School	In New Situations
Always	Always	Always
Almost Always	Almost Always	Almost Always
Sometimes	Sometimes	Sometimes
Rarely	Rarely	Rarely
Never	Never	Never

9. Please describe how your child's stuttering has changed since completion of the parent training sessions. Please describe your child's current level of speech fluency.

10. Please describe any changes you would like to see made to the parent training sessions.

11. Please take a few moments to describe your feelings and concerns regarding your child's stuttering. Begin by describing your initial reactions as you became aware of your child's stuttering and how these feelings/concerns have changed over time.

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