TEACHER ACCEPTABILITY OF TREATMENTS FOR ADHD

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Abstract

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The acceptability of six treatments for children with Attention Deficit/Hyperactivity Disorder (ADHD) among elementary school teachers was examined. Teachers (N= 79) from elementary schools (Pre-K – 6) in Southeastern Ohio read a vignette describing a boy with symptoms typical of a child with combined type ADHD. Using the Intervention Rating Profile-10 (IRP-10) (Power, Hess, & Bennett, 1995), teachers rated the acceptability of three “promising” treatments for children with ADHD (peer tutoring, self-reinforcement, and social skills) as well as three evidence-based treatments, both psychosocial (daily report card and time-out), and pharmacological (stimulant medication). In addition, this study assessed the relation between teacher perceived efficacy for classroom management and treatment acceptability for each of the individual treatments. Results of a one-way repeated measures analysis of variance (ANOVA) demonstrated that the daily report card received the highest mean ratings and was rated significantly more acceptable than all other treatments except self-reinforcement strategy. Also, results showed that stimulant medication was rated significantly higher than time-out. Pearson’s correlations revealed teacher perceived efficacy was unrelated to ratings of acceptability for each of the six treatments.

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Overview

Attention Deficit/Hyperactivity Disorder (ADHD) is a commonly diagnosed childhood disorder that affects children across multiple domains of functioning and across multiple settings, including, and importantly, the classroom setting. This places teachers in a role where they are at the forefront of delivering care for children with ADHD. It is typical for teachers to participate in every stage of service delivery including detecting impairment and referring the child for an assessment, contributing to the assessment by providing behavioral observations and rating scales used in diagnosis, providing insight into treatment choices, and implementing interventions within the classroom.

While many treatments with a range of empirical support have been used to treat children with ADHD, only a few have substantial empirical support for their efficacy in reducing ADHD symptoms and associated impairments, and thus are considered “evidence-based” treatments. These evidence-based treatments include behavior modification, central nervous system stimulants or atomoxetine (Strattera), and the combination of behavior modification and central nervous system stimulants (DuPaul & Eckert, 1997; Pelham & Murphy, 1986; Pelham, Wheeler, & Chronis, 1998; Richters et al., 1995; Swanson, McBurnett, Christian, & Wigal, 1995). Importantly, however, there are limitations in these evidence-based treatments that have spurred the continued development of alternative forms of treatments for children with ADHD. Several “promising” treatments have been identified that have demonstrated support in improving the difficulties children with ADHD experience. Given that teachers play a critical role in
the treatment of ADHD, it is vital to explore teachers’ views of acceptability of various treatments used for children with this disorder in order to maximize adherence to and effectiveness of these treatments. Furthermore, development and dissemination of treatments, as well as consultation with teachers can also be improved upon by understanding teachers’ views of the acceptability of these treatments.

Several researchers have investigated teachers’ views on the acceptability of classroom-based treatments for children with behavioral difficulties, such as ADHD, and the factors associated with acceptability of these treatments. Researchers have suggested that future studies focus on understanding teachers’ perceptions of additional treatments, as well as other factors that may be involved in treatment acceptability. The purpose of this study was to expand the teacher treatment acceptability literature by: (1) including additional treatments unstudied in the area of treatment acceptability research (i.e., promising treatments) and; (2) assessing the relation between teacher perceived efficacy for classroom management and these individual treatments. These aims are considered within the specific context of children with ADHD.

**ADHD**

*Diagnostic Criteria*

Attention Deficit/Hyperactivity Disorder (ADHD) is a commonly diagnosed childhood disorder that affects approximately 3 to 7% of children (American Psychiatric Association (APA), 2000). As a result, ADHD is one of the most common presenting problems among children referred to mental health professionals (Barkley, 1998). The current diagnostic criteria for ADHD listed in the fourth edition of the Diagnostic and
Statistical Manual of Mental Disorders, Text-Revision (DSM-IV-TR; APA, 2000) requires that children display six or more symptoms of inattention and/or six or more symptoms of hyperactivity/impulsivity at developmentally inappropriate levels. In addition, the symptoms must have persisted for at least six months with some symptoms having been present before age seven and must result in significant impairment in social, academic, or occupational functioning. Inattentive symptoms include failure to give close attention to details which may result in careless mistakes, difficulty sustaining attention in tasks, inability to listen as well as expected, failure to follow through with assignments or instructions, difficulty with organization, avoidance of activities which may require sustained mental effort, misplacement of necessary items, distraction due to extraneous stimuli, and forgetfulness in daily activities (APA, 2000). Hyperactive and impulsive symptoms include tendency to fidget with hands or feet or squirm in seat, failure to remain seated in situations for which it is expected, tendency to run around and climb excessively (or restlessness) in inappropriate situations, difficulty playing or engaging in activities quietly, acting as if “driven by a motor” and always “on the go,” and tendency for excessive talking (APA, 2000). Some children experience predominantly inattentive symptoms, some experience predominantly hyperactive/impulsive symptoms, and some children display a combination of these symptoms. These symptom combinations are represented by three subtypes of ADHD: predominantly inattentive type, predominantly hyperactive-impulsive type, and combined type, respectively. Children with ADHD often experience short-term and long-term effects of this disorder, as it is known to persist and cause difficulties into adolescence and adulthood for many individuals (Mannuzza &
Klein, 1999). Given the chronicity of the disorder and the implications of the associated impairments, treatment for children with ADHD has been made a public health priority (NIMH Consensus Conference, 1998).

**Impairments**

Children with ADHD face difficulties in several areas of their lives including academic, social, and familial domains. In order for a diagnosis of ADHD to be made, some indication of impairment must be present in two or more settings (APA, 2000). Of the settings, it is often the classroom that presents the greatest challenge (Pfiffner & O’Leary, 1993). In fact, virtually all clinic-referred ADHD children have significant problems with their academic performance and achievement (Barkley, 1998). More specifically, children with ADHD have difficulty in completing independent seatwork, poor test performance, deficient study skills, disorganized notebooks, desks, and written reports, as well as trouble attending to lectures and group discussions (DuPaul & Stoner, 2003). Moreover, given these academic difficulties and problematic behaviors, it is not surprising that children with ADHD also often experience difficulties in their relationship with teachers and peers (e.g., Greene, Beszterczey, Katzenstein, Park, & Goring, 2002; Hinshaw, Zupan, Simmel, Nigg, & Melnick, 1997).

**Impairment in Academics.** Teachers and parents frequently report that children with ADHD underachieve academically compared to their classmates (Barkley, 1998). These reports have been confirmed in studies demonstrating that children with ADHD typically obtain significantly lower standardized achievement test scores than do comparable groups of typical children (e.g. Barkley, DuPaul, & McMurray, 1990).
Furthermore, even among other clinic-referred groups of children, those diagnosed with ADHD have been found to receive the poorest teacher ratings of academic competence on the Child Behavior Checklist (McConaughy, Achenbach, & Gent, 1988). Despite evidence of lower achievement, the range of intellectual functioning in groups of children with ADHD is similar to that obtained by the general population (Kaplan, Crawford, Dewey, & Fisher, 2000). Evidence for this intelligence/achievement discrepancy was found in approximately one out of every three children with ADHD across 17 studies (DuPaul & Stoner, 2003). Several studies have led investigators to conclude that children with an inattentive or combined type ADHD diagnosis show greater academic impairments relative to children diagnosed solely with the hyperactive/impulsive subtype (Gaub & Carlson, 1997; Lahey et al., 1994). Specifically, research shows those with an inattentive subtype have greater difficulties with memory retrieval and perceptual-motor speed and were more likely to be placed in classrooms for students with learning disabilities (i.e. 53%) when compared to children with combined type ADHD (i.e. 34%) (Barkley et al., 1990). These academic performance difficulties are often chronic and lead to poor outcomes as children with ADHD move throughout the school system. In fact, more than 50% of children diagnosed with ADHD have been retained at least once before they reached adolescence (Marhall, Hynd, Handerwerk, & Hall, 1997). Additionally, in adolescence, the high school drop out rate (10%) is higher for those with ADHD compared to peers (Barkley, Fisher, Edelbrock, & Smallish, 1990).

Impairment in Student-Teacher Relationships. In addition to academic underachievement, children with ADHD often experience impaired relationships with
their teachers. These children are stressful to teach as they create disruptions in the teaching process and require additional support (Greene et al., 2002). Thus, the negativity that children with ADHD elicit from teachers in the classroom has profound effects on teacher behavior. For example, research indicates that teachers possess a negative view of working with children with disruptive behavioral difficulties (Algozzine, 1980; Coleman & Gilliam, 1983) and teachers of students with emotional and behavioral disorders may be more likely to leave their jobs because of high stress levels and job dissatisfaction (Abelson, 1986; Lawrenson & McKinnon, 1982; Singh & Billingsley, 1996). Finally, general education elementary school teachers rated students with ADHD as significantly more stressful to teach than their classmates without ADHD (Greene et. al, 2002).

*Impairment in Peer Relationships.* Children with ADHD experience disturbed peer relationships within school settings as they often disrupt the learning of other students by interrupting class lessons, getting out of their seats, and/or talking to classmates during inappropriate times (DuPaul & Stoner, 2003). Interestingly, research has demonstrated that social rejection develops after minimal exposure to children with ADHD (Bickett & Milich, 1990) and is very persistent once established (Erhardt & Hinshaw, 1994). Sociometric measures reveal uniformly high rates of peer rejection for children displaying ADHD-related behaviors (e.g., Hinshaw et al., 1997; Hodgens, Cole, & Boldizar, 2000; Pelham & Bender, 1982). Not surprisingly, children with ADHD combined type have higher rates of peer rejection than children with inattentive features only, highlighting the negative impact of hyperactivity and impulsive behaviors (Carlson & Mann, 2000). Thus, the challenges of struggling with school work, impairment within
the teacher-student relationship, and social isolation from peers all contribute to difficulty in the school setting for children with ADHD.

*Role of Teacher*

Given that children with ADHD suffer impairment within the school setting, teachers are at the forefront of delivering care at every stage. This is logical as children spend a majority of their waking hours in the school setting within the care of teachers and school staff. A teacher may initially notice impairment, call attention to the difficulties, and initiate evaluation of a child’s struggles. Furthermore, teachers play a critical role in every phase of formal assessment and treatment of ADHD.

*Assessment.* In the past, assessments relied on information from a single informant (i.e., parents). However, the trend in assessment has moved to the use of multiple informants as each contributor provides unique information and the use of synthesizing the information from multiple sources has been shown to be superior to single informant reports (Achenbach, McConaughy, & Howell, 1987). Thus, to obtain a more comprehensive evaluation of a child, a behavioral assessment approach typically employs multiple methods of data collection across multiple informants and settings (Anastopoulos & Shelton, 2001; American Academy of Pediatrics (AAP), 2000; National Institute of Mental Health, 1998).

Teacher ratings used in assessing ADHD may provide additional information above and beyond that of parents. Studies have shown that teacher ratings have unique predictive validity in identifying the different subtypes of ADHD, beyond that provided by parent ratings (Loeber, Green, & Lahey, 1990; Power et al., 1998). In addition,
research has demonstrated that teachers’ reports predicted outcomes such as academic and behavioral problems, involvement in mental health services or professional help, suicidal behavior, or trouble with the police, equally well as, and in some circumstances, even somewhat better than parents’ reports (Verhulst, Koot, & Van der Ende, 1994).

_Treatment._ In addition, teachers can be critical to the success of treatment implementation in the classroom (Pfiifner & Barkley, 1998). Teacher contribution to treatment of children with ADHD may take several forms such as praise, corrective feedback, administration of rewards and consequences, use of time-out, communication with home, or modification to assignments. The most commonly used effective psychosocial interventions for children with ADHD in the classroom setting involve a high level of teacher involvement (Pfiifner & Barkley, 1998). Importantly, treatment for a child with ADHD should not be perceived as a “one size fits all” treatment format that assumes children with the same diagnosis or behavior profile require identical support needs (DuPaul & Eckert, 1997). Quite the contrary, treatment for children with ADHD should be tailored to address individual strengths and weaknesses. As the treatment plan is outlined and implemented, teachers are responsible for communication with several key players such as psychologists, physicians, and parents regarding the response to treatment, noticeable side effects, or adjustments to the treatment plan. Implementing treatment strategies, possessing an awareness and ability to manipulate the environment, gearing treatment in an individualized fashion, and communicating consistently and accurately with necessary parties require that a teacher be invested and active in treatment for the child.
Treatments for ADHD

Several reviews and meta-analyses have determined that treatment can be very efficacious for children and adolescents with mental health disorders (e.g., Weisz, Weiss, Han, Granger, & Morton, 1995). In order to determine which treatments are efficacious for specific disorders, the American Psychological Association (Task Force on Promotion and Dissemination of Psychological Procedures, 1995) has established guidelines to determine, which, if any treatments are considered to have sufficient empirical evidence to be categorized as an “evidence-based” treatments.

Criteria for determining evidence-based treatment status for child and adolescent disorders involves several criterion (see Lonigan, Elbert, & Johnson, 1998, for a full description of the criteria). In general, a particular treatment is considered meeting evidence-based status for a “well-established” intervention if there are at least two well-conducted group design studies, demonstrating that the treatment is superior to a pill placebo or alternative treatment, or equivalent to an already established treatment. Moreover, the treatment may be considered meeting evidence-based status if there is a large series of single case design studies (n > 9) that demonstrates effectiveness of the treatment compared to an alternative treatment.

Evidence-Based Treatments

There have been many proposed treatments for ADHD; however, only a few have substantial empirical support for their efficacy in reducing ADHD symptoms and associated impairments and thus are considered evidence-based treatments: central nervous system stimulants or atomoxetine (Strattera), behavior modification, and the
combination of stimulant medication and behavior modification (DuPaul & Eckert, 1997; Pelham & Murphy, 1986; Pelham et al., 1998; Richters et al., 1995; Swanson et al., 1995). The use of these treatments has also been recommended by the American Medical Association (Goldman, Genel, Bezmen, & Slanetz, 1998), the National Institutes of Health Consensus Conference Statement (1998), and the American Academy of Child and Adolescent Psychiatry (1998).

Medication is the current established treatment for ADHD and is considered the gold standard treatment in which other treatments are compared for the purpose of determining empirical worth (Task Force on Promotion and Dissemination of Psychological Procedures, 1995). Literature on the treatment of ADHD via stimulant medication spans decades and has been extensively reviewed multiple times (e.g., Barkley and Cunningham, 1978; Cole, 1969; Stevenson & Wolraich, 1989; Wilens & Biederman, 1992). In an attempt to synthesize this research across time, Swanson and colleagues (1993) produced a “review of reviews” which included 341 reviews with combined reference lists of over 9000 articles from 1966 to 1990 on this topic. Importantly, reviews were reliable over time reporting that that stimulant medication consistently demonstrated temporary management of the diagnostic symptoms of ADHD (i.e. decrease in inattention, impulsivity, and hyperactivity) with a 60-80% response rate. Agreement with this description of short-term effects was determined in 97% of relevant reviews. Also beneficial given high rates of comorbidity among ADHD diagnoses, the literature provides strong empirical support for stimulant pharmacotherapy’s effect on reducing associated features such as aggressive and defiant behaviors.
Recently, reviews indicate that the number of studies providing empirical support for pharmacological treatment for ADHD outweigh the number of studies providing empirical support for psychosocial treatment for ADHD, and that pharmacological treatment is effective for a majority of children with ADHD across multiple settings (Swanson et al., 1995). Both the scientific evidence and the media have also contributed to the dramatic increase in the use of medication for the treatment of ADHD (Reid & Maag, 1997). Recent commentary has addressed the impact of advertising by pharmaceutical companies who have flooded the market with persuasive emphasis on the use of stimulant medication for both children as well as adults (Coghill, 2005).

Psychosocial treatments have been developed, evaluated, and have been shown to be efficacious for the treatment of ADHD. The use of behavior modification as a treatment option for children with ADHD has a history dating back more than 25 years (e.g. O’Leary, Pelham, Rosenbaum, & Price, 1976) as it was used to treat disruptive, aggressive, and conduct disordered children prior to the widespread use of the ADHD diagnosis. Since this time, a rich literature describing the implementation and efficacy of behavior modification for the treatment of ADHD has developed. The use of traditional, outpatient based clinical behavior modification typically involves behavioral parent training and behavioral interventions in classroom settings via consultation with teachers. A detailed description of the efficacy of parent training is beyond the scope of this review, however, evidence supporting behavioral classroom interventions for children with ADHD will be described.
The use of behavior modification has been successfully implemented in the classroom setting for children with ADHD and has produced marked reductions in off-task and disruptive behavior as well as marked improvements in academic productivity (DuPaul & Eckert, 1997; Pelham, Schnedler, Bologna, & Contreras, 1980). In fact, Pelham and colleagues (1998) identified at least 23 studies supporting the efficacy of behavioral interventions in the classroom setting and consider behavioral interventions in this setting to more clearly meet criteria for well-established treatment than the use of parent training. In the classroom setting, it is often that therapists and/or consultants provide instruction, demonstration, and feedback for teachers to illicit and refine the use of evidence-based classroom management techniques. Consistent with behavioral parent training, teachers are taught to reinforce positive, pro-social behavior (using praise, token rewards, or daily report card) while providing negative consequences for inappropriate behavior (using planned ignoring, loss of privileges, or time out from positive reinforcement). Several behavioral treatment techniques have been found successful in school settings such as daily report cards, token reinforcement programs, response-cost procedures, and time-out from positive-reinforcement (DuPaul & Stoner, 2003). Each procedure as well as the responsibilities required by the teacher are presented below.

*Daily Report Card (DRC).* The (DRC) is an evidence-based strategy in the treatment of ADHD within the classroom, with several studies documenting the positive effects of the DRC on academic and behavioral functioning of children with ADHD (Carlson, Pelham, Milich, & Dixon, 1992; Hoza, Pelham, Sams, & Carlson, 1992; Kelley & McCain, 1995; Pelham et al., 1993; Wells et al., 2000). One investigation of 5 children
with ADHD required teachers to evaluate student performance and send home a school note where parents implemented consequences on a daily basis (Kelly & McCain, 1995). Observations of child behavior showed improvement in on-task behavior and academic work completion in all participants. In addition, the DRC has been used in larger studies such as within intensive summer treatment programs (e.g. Pelham et al., 1993) or as part of the school intervention component in the psychosocial treatment arm of the Multimodal Treatment Study for ADHD (Wells et al., 2000). Although many large-scale studies do not parcel out the unique contributions of the DRC to the success of “psychosocial treatments,” they are the primary strategy used in these studies, which continue to document the success of psychosocial treatments. Importantly, several studies show that teachers prefer the DRC procedure when compared to other treatment options such as response cost techniques, classroom lottery, and stimulant medication (Pisecco, Huzinec, & Curtis, 2001; Power, Hess, & Bennett, 1995).

Developing and implementing a DRC involves several steps. Teachers, often in consultation with parents and a mental health professional, identify behaviors in need of improvement (e.g., reducing classroom rule violations, improving academic productivity). Next, they choose 2-4 target behaviors that are operationally defined (i.e., remaining in seat, completing math work) and decide upon the initial criteria the child must obtain to earn a reward (i.e. 60% of math work complete). The teacher should establish criteria so that the child experiences initial success. As the goals are met with success, the teacher then gradually alters the success criteria to make it more challenging, thus shaping the appropriate behaviors and reducing negative behaviors. Ideally, rewards
should be provided by parents via a home-based privilege system. A privilege system at home, implemented and encouraged by parents, increases motivation for the child.

However, rewards also can be provided at school by the classroom teacher or other school staff. While the DRC provides many benefits, it does require effort on the part of the teacher. On a daily basis, the teacher must monitor and track behavior, calculate the percentage of successful targets met, provide feedback to the child, and ensure that the child delivers the DRC to his or her parents. In addition, the teacher must monitor change in behavior over time to make appropriate modifications to the goal criteria and school-based rewards system. Thus, teacher investment is critical for intervention success.

*Token economy.* Behavior management systems that involve secondary reinforcers (i.e., token economies), which are exchanged for primary reinforcers (i.e., food, privileges), have been demonstrated as highly successful in promoting appropriate behavior within the classroom as well as an increase in academic productivity for children with ADHD (e.g., Ayllon, Layman, & Kandel, 1975; Reitman, Hupp, O’Callaghan, Gulley, & Northup, 2001; Reitman, Murphy, Hupp, & O’Callaghan, 2004; Robinson, Newby, & Ganzell, 1981; Sullivan & O’Leary, 1990). One earlier study (Sullivan & O’Leary, 1990) examined the effects of a reward and response cost token economy system with 10 children with academic and behavioral problems, ages 6-9. Results revealed that both positive and reductive components of the token economy had large and equivalent treatment effects. More recently, Reitman and colleagues (2004) used direct observation and teacher ratings to examine the effects of a token economy to reduce problematic behavior among preschool children in a Head Start classroom. When
compared to a baseline condition in which no behavior management program was used, direct observation and teacher ratings of child behavior revealed that individual and group contingency token economies were superior to a baseline condition in which no behavior management program was employed.

The advantage of a token economy system is that it allows teachers to reward the child immediately for a specific behavior. The teacher chooses target behaviors and generates a list of rewards or motivating activities that will engage the child in the token economy system. It is the responsibility of the teacher to operationally define the behaviors, use tokens when necessary, and to provide the rewards at the designated time or when the child has attained the goal. Furthermore, once the system begins, the teacher must monitor the child’s behavior and be ready to provide tokens for displaying target behaviors. The teacher must also keep track of the designated block of time (i.e., number of tokens earned in 1 hour) or the goal the child is trying to attain (i.e., 10 tokens). At the conclusion of a set amount of time or upon obtaining the goal, a child may “trade in” accumulated tokens or points for backup reinforcers. The teacher must be prepared to count tokens, supply rewards, and provide feedback to the child.

Teachers may like the use of a token economy as it allows them to immediately provide reinforcement for behaviors as soon as they occur. Moreover, this technique provides teachers with a tangible system for keeping track of appropriate behavior. However, the use of a token economy may be time-intensive, as it requires increased monitoring of the child, an awareness of the designated time periods, token counting, feedback, and a reward system. In addition, teachers may not be comfortable with
providing a special reward system for only one child in the class and may experience conflict from other students who are not included in the token economy system. To avoid this problem, token economy systems may be implemented in a classwide format. Although this removes the focus on an individual child, it does require more time and effort for the teacher.

*Response cost.* In contrast to Sullivan and O’Leary (1990), some studies have found that strategies consisting solely of positive reinforcement are not effective in maintaining appropriate levels of academic and social behavior in children diagnosed with ADHD (Piffner & O’Leary, 1993). In fact, several studies have demonstrated that mild penalties for inappropriate behavior are needed to produce and sustain change in behavior (Piffner & O’Leary, 1987; Piffner, O’Leary, Rosen, & Sanderson, 1985). The establishment of a token economy that concurrently employs using token reinforcement and response cost techniques (the loss or removal of privileges, points, or tokens) has been found to increase the levels of on-task behavior, seatwork, productivity, and academic accuracy of children with ADHD (DuPaul, Guevremont, & Barkley, 1992; Rapport, Murphy, & Bailey, 1980; Rapport, Murphy, Bailey, 1982). More recently, Carlson and colleagues (2000) examined the effects of reward and response cost on the performance and motivation of 40 children with ADHD and 40 controls recruited through a clinic-based study. Participants completed an arithmetic task under one of three (reward, response cost, and no contingency) conditions. The authors reported that response cost improved accuracy on the arithmetic task relative to reward and led to
higher motivation in the second half of the behavioral motivation measure for children with ADHD.

The response cost technique requires the teacher to remove tokens, points, or privileges due to inappropriate behavior. This technique often coincides with an opportunity to gain privileges, points, or tokens; therefore, teachers may feel that a response cost technique provides a balanced approach to managing behavior.

Furthermore, as previously mentioned for token economy techniques, response cost techniques may also be employed in a classwide format. Although only speculation, teachers may prefer this strategy in an effort to avoid singling out a particular child. However, research has demonstrated that teachers prefer positive treatments over negative treatments (e.g., Elliott, Witt, Galvin, & Peterson, 1984; Power et al., 1995). One reason for this could be that teachers often find that a student’s initial response to the removal of privileges, points, or tokens may intensify negative behavior and create additional conflicts between the teacher and child. In addition, if the choice were made to establish a response cost program for the entire class, it would likely increase additional time and effort for the teacher.

Time-out. A time-out from positive reinforcement (time-out) intervention involves restricting a child’s access to positive reinforcement upon the occurrence of predetermined behaviors. Time-out, a ubiquitous treatment in classroom settings, has been shown to improve the behavior of children with ADHD (Carlson et al., 1992; Hoza et al., 1992; Pelham et al., 1993; Fabiano et al., 2004). A recent study examined the effects of time-out on 71 children with ADHD during summer treatment programs at two
different sites (Fabiano et al., 2004). Three types of time-out (short: 5 minute; long: 15 minute; and escalating/de-escalating) were compared to no time-out. Overall results indicated that time-out is efficacious in reducing negative behavior for children with ADHD. More specifically, time-out conditions were superior to no time-out in reducing aggression, destruction of property, and repeated noncompliance in both classroom and recreational settings regardless of child age or parent report on oppositional or conduct problems. At a group level, analyses revealed that differing types of time-out were equally efficacious.

To be effective, the time out must be (1) implemented only when there is a reinforcing environment to be removed from; (2) implemented when the function of the child’s disruptive behavior is to gain teacher or peer attention, or to gain a tangible reinforcer; (3) implemented swiftly following a rule infraction; (4) applied with consistency, and (5) employed for the smallest amount of time (e.g., 1-5 minutes) that demonstrates improvement (DuPaul & Stoner, 2003). It is imperative to note that the length of time spent in time-out is not the effective factor, but rather the lack of reinforcement serves as the salient feature. Upon a violation, the teacher should calmly, but sternly, tell the child he or she has earned a time-out. Following this, the teacher should inform the child of the time-out location and the length of time that must be served. The teacher should choose a relatively unexciting and uneventful time-out location within the classroom where the behavior of the child may still be monitored from the view of the teacher. If, and after, the child has appropriately served the time-out, the
teacher may instruct the child to return to the prior activity. A general rule of thumb regarding the duration of a time-out is typically 1 minute for every year of age.

Teachers may find time-out is an effective way to remove a misbehaving child from an activity while reinforcing the behavior of children who are displaying appropriate behavior. Using other children in the classroom as models for competent behavior may promote improved behavior in the child who is having difficulty. In addition, teachers may find that providing respite for a misbehaving child may allow the child to calm down and reorient him/herself to what is being expected by the teacher. However, it is important to keep in mind that time-out is considered a punishment and the literature has consistently shown negative treatments to be less preferred by teachers (Elliott et al., 1984, Part I & II; Kutsick et al., 1991; Power et al., 1995; Witt, Martens, & Elliott, 1984).

*Promising Treatments*

Research has demonstrated that no one treatment has been shown to cure ADHD and no treatment in and of itself can effectively manage ADHD (Rapport, 1992). Further, the most acutely-potent treatments do not normalize behavior of all children with ADHD (Swanson et al, 2001) and there is no evidence to suggest that stimulant medication or behavior modification, administered in the short term, produce any long-term benefits for children with ADHD (Pelham et al., 1998). In fact, approximately 70% of children with ADHD show a positive response to stimulants, while the rest show either an iatrogenic response or no response (Swanson et al., 1995). Moreover, for children who do respond to medication and behavior modification, the response rate is variable across individuals
and settings (Coles et. al, in press; Pelham & Smith, 2000). Thus, it is not surprising that there is continued development of alternative treatments for children with ADHD.

Many alternative treatments do not meet full criteria to be considered “evidence-based,” as determined by recent initiatives (Task Force on Promotion and Dissemination of Psychological Procedures, 1995). However, several treatments have demonstrated some empirical support, although limited or inconsistent across studies. Many of these “promising treatments” have some empirical support for their use in improving symptoms or associated impairment in children with ADHD either as stand-alone treatments or as adjunctive treatments. For this review of the literature, “promising treatments” are those which meet the following criteria established by Waschbusch & Hill (2003): (1) At least one group design study that includes a no-treatment, placebo, and/or alternative treatment condition and that reports superior effects for the treatment of interest or (2) three to eight single-case design studies that compare a treatment with an alternative treatment or to a no-treatment condition and that report superior effects.

Promising classroom-based interventions include peer tutoring, self-reinforcement, computer-assisted instruction, and social skills.

Peer tutoring. Peer tutoring can be defined as any instructional strategy in which two students work together on an academic activity with one student providing assistance, instruction, and/or feedback to the other (Greenwood, Delquadri, and Carta, 2002). Various types of peer tutoring share many of the same characteristics including a one-to-one ratio between the “student” and “peer-teacher,” self-paced instruction determined by the “student,” continuous prompting of academic responding, and
frequent, immediate feedback about performance (Pfiffner & Barkley, 1998). Several studies have found that Classwide Peer Tutoring (CWPT), one particular type of peer tutoring, has been found to enhance mathematics, reading, and spelling skills of students of all achievement levels in addition to increases in on-task behavior and reduction in fidgeting (DuPaul & Henningson, 1993; Greenwood, Delquardi, & Carta, 1988; Greenwood et al., 2002). A school-based study evaluating the effects of CWPT on the academic performance and behavioral control of 19 first through fifth graders with ADHD showed that active engagement of students improved from an average of 21.6% to 82.3% following the implementation of CWPT (DuPaul, Ervin, Hook, & McGoey, 1998). These results demonstrate that peer-tutoring techniques improved both behavior and academic performance in children with ADHD.

Initially with CWPT, a teacher interested in incorporating a typical peer tutoring program should divide the class into pairs taking into consideration the strength of the students being paired together. A tutoring session may last 20-30 minutes, during which the teacher should monitor the tutoring and provide assistance if necessary. Teachers should also establish a point system where the tutor provides points for correct answers given by the tutee. Each tutorial pair then orally reports the number of points earned during the tutoring session. The teacher should also award bonus points to the tutorial pairs on a random interval basis if proper instructional procedures and behaviors are exhibited. Interestingly, earned points are not exchanged for backup reinforcers; rather, the pair with the most points at the end of the week is applauded by the class.
Teachers may find peer tutoring to be a nice alternative approach to teaching where students are able to obtain one-to-one attention while not necessarily needing direct attention from the teacher. In addition, teachers may believe this behavior modification strategy may align more with academic goals. However, teachers may find that peer tutoring requires a change in structure and environment of the classroom. Although students of all levels have been shown to improve from the use of peer tutoring (DuPaul et al., 1998), it may appear to the teacher that peer tutoring requires classroom changes for the sole purpose of attempting to meet the needs of a few individuals.

Self-reinforcement. Self-reinforcement is a self-management approach where children with ADHD not only monitor their behavior but also evaluate and reinforce their own performance (Barkley, 1989). Preliminary studies demonstrate that the combination of self-monitoring and self-reinforcement has been found to improve on-task behavior, academic accuracy, reading comprehension, and peer interactions for students with ADHD (e.g. Barkley, Copeland, & Sivage, 1980; Edwards, Salant, Howard, Brougher, & McLaughlin, 1995; Hinshaw, Henker, & Whalen, 1984; Hinshaw & Melnick, 1992). Barry and Messer (2003) examined the use of self-reinforcement among 5 children who were diagnosed with ADHD and were taking stimulant medication to reduce symptoms. The classroom teacher identified behavioral excesses and deficits in each of the students and provided operationally definitions for on-task behaviors (being seated and attention), disruptive behavior (physical behavior and loud noise), and academic performance (complete and correct with regard to assignments). Students were informed about their target behaviors and goals and self-reinforcement was modeled, practiced, and feedback
was given for the students. Although self-reinforcement strategies were utilized throughout the entire school day, a two-hour time period before lunch was designated for observations to be recorded. Students were provided verbal and written prompts from the blackboard and reinforcement was provided for accuracy of behavior and meeting goals. Prompts were faded over time and after one month of fading, behavioral goals had increased from 75% to 87.5% for on-task behaviors and completed assignments. Authors stated that students were still using medication throughout the study, but noted the combination of both self-reinforcement and stimulants likely provided the best outcomes. This is consistent with research indicating superior results from the combined effect of both psychosocial interventions and medication (e.g., Carlson et al., 1992; Pelham et al, 2000).

Self-reinforcement is a useful strategy for fading the use of a token economy as the goal of this strategy is to train the child to monitor his or her own behavior in the classroom, without constant feedback from the teacher. Initially, the use of this technique requires the teacher to use a token economy program and verbal feedback based on teacher ratings of student behavior during specific intervals in the classroom. The teacher provides points or tokens to be exchanged for backup reinforcers. Once the student exhibits behavioral and/or academic gains, the teacher trains the student to evaluate his or her own behavior. The student and teacher both track behaviors and the student is rewarded with bonus points if his or her ratings match the teacher’s ratings exactly. If a student’s ratings deviate from the teacher’s substantially, no points are earned for that interval. Over time, teacher ratings are faded and student ratings can be matched to
random “matching challenges.” The success of this self-reinforcing technique is the continued use of external reinforcers contingent upon accurate student ratings.

Teachers may be interested in implementing the use of self-reinforcement as it creates an opportunity to teach children with ADHD to be accountable for their behaviors. In addition, this strategy eventually provides relief for teachers who are consistently giving regular feedback to students, thus allowing teachers to devote more time to other students and classroom activities. Therefore, teachers may find that employing self-reinforcement may allow them additional time. However, this strategy requires the initial use of a token economy from which the self-reinforcement program can be developed. Teachers who are not interested in making an initial time investment, may not find this treatment acceptable. In addition, children with ADHD tend to demonstrate inflated self-perceptions regarding their academic and social competence (Owens & Hoza, 2003; Hoza et al, 2004). It may be speculated that teachers may feel that this tendency will keep children with ADHD from honestly or accurately being able to monitor their behavior.

**Computer-Assisted Instruction (CAI).** The use of computer-assisted instruction has been recommended for increasing on-task and work behaviors of children with ADHD. This strategy uses instructional features to aid students with ADHD to focus their attention on academic stimuli (Lillie, Hannun, & Stuck, 1989). CAI presents specific instructional objectives, provides highlighting of essential material, uses multiple sensory modalities, divides content into smaller pieces of information, and provides immediate feedback about accuracy (DuPaul & Stoner, 2003). A study exploring the effects of CAI
to improve math achievement in three students with ADHD in fourth through sixth grade using a multiple baseline design demonstrated that all three participants showed improvement in their performance in math probes (Ota & DuPaul, 2002). Similar findings have been reported in other studies (Torgenson & Young, 1983). Clarfield and Stoner (2005) recently examined a computerized program, Headsprout, a CAI for beginning reading instruction with 3 students in kindergarten and first grade. These children were identified as having ADHD and were at risk for reading difficulties based on teacher report and standardized assessment scores. Using behavioral observation and twice-weekly oral fluency tests, results showed that across the three students, the CAI produced both higher mean levels of oral reading fluency and greater rates of growth as compared to the baseline rates. Furthermore, the introduction of the CAI was followed by immediate decreases in the rate of off-task behavior relative to small group and independent reading work.

Teachers may find CAI to be useful for students with ADHD as it provides an opportunity for additional learning without the need for direct help from the teacher. CAI only requires that a teacher monitor the child while on the computer. However, this strategy may not be helpful for teachers or schools who may not have access to computers or the programs required for treatment implementation. In addition, although speculation, teachers may find that periodic use of computers by specific children may be disruptive to the class schedule and environment.

*Social skills.* Social skills programs involve children working together in groups, led by a teacher, to improve knowledge and use of social skills (e.g., helping, sharing,
communicating effectively, complimenting others, entering an ongoing conversation/group) through didactic instruction, group discussion, role-plays, coaching, contingency management, and homework (Pfiffner, 1996). This intervention has shown promise as one school-based study demonstrated that three boys with ADHD showed increases in positive, cooperative actions with peers using social skills in the context of conjoint behavioral consultation with parents and teachers (Colton & Sheridan, 1998). Additionally, social skills training may be considered a universal treatment as this technique can be used to address not only ADHD-related behaviors, but behaviors seen in children with subclinical symptoms, those diagnosed with ODD and CD, and the general population of students. This is supported by research indicating that teacher-led social skills training in a classroom format has been associated with significant improvements in the ability to generate social problem skills, the willingness of peers to interact with students, and reductions in physical-verbal aggression, transgression, impulsivity and hyperactivity when compared to control groups (Amish, Gesten, Smith, Clark, & Stark, 1988; Greenleaf, 1982; Ison, 2001; Knapczyk, 1988;). Therefore, because children with varying disruptive behavior disorders may improve from social skills training and the emphasis on positive behavior and character development by which all classroom children can benefit from, there has been a national push for the use of treatments that emphasize the teaching of these skills in the classroom (Satcher, 2000).

Implementing social skills into the classroom setting requires that the teacher designate approximately 15-20 minutes to the social skill training. First, the teacher should introduce the skill to the class in a brief, didactic manner. The topics teachers may
choose from include skills such as giving and accepting a compliment, learning appropriate ways of making complaints, apologizing, learning how to say no, asking favors appropriately, beginning, listening, and ending a conversation, interacting with adults, working cooperatively, helping, or sharing. After the teacher introduces the topic, he or she should model the skill for the class. Following this, the students should role-play the social skill. Teachers may also incorporate a short group game to allow students to practice the technique, which can be reviewed after the game. The teacher should then praise and reinforce the use of social skills throughout the day (Pfiffner, 1996). Because teachers spend six hours of the day with children, this provides multiple opportunities to reinforce the use of social skills.

Teachers may find social skills to be an acceptable treatment for children with ADHD for several reasons. First, this technique allows the inclusion of all children in the classroom whereby all students have the opportunity to gain from social skills. Moreover, with the national agenda being set for social and character development (Satcher, 2000), teachers may feel that social skills enables them to improve teaching standards and meet these expectations. However, the use of social skills does require teachers to fit a 20-minute session into their schedule, which teachers may find to be disruptive and inconvenient to their typical teaching process.

Treatment Acceptability

The focus of recent initiatives (Task Force on Promotion and Dissemination of Psychological Procedures, 1995) has placed emphasis for mental health professionals and educators to examine the efficacy of an intervention first before considering its use in
practice. However, studies and treatments which have demonstrated evidence-based criteria are often embedded into tightly controlled trials which may not generalize to the real world classroom setting and may not give consideration to adoption or sustainability of an intervention. Therefore, the demonstration of efficacy does not necessarily lead to consistent, positive results for all individuals. In fact, there is reason to believe that obtaining positive outcomes from treatment is multifaceted and requires consideration of several dimensions in addition to the effectiveness of an intervention. One such dimension is acceptability of the treatment by individuals involved in the treatment process.

Kazdin (1980) defined treatment acceptability as “judgments by laypersons, clients, and others of whether treatment procedures are appropriate, fair, and reasonable for the problem or the client.” He supported the notion that “treatments viewed by the public as more acceptable than others are more likely to be sought by potential consumers, initiated, and adhered to once they are initiated” (pg. 260). The positive relation between individuals’ ratings of acceptability of treatments and treatment referral, enrollment in treatment, implementation, and effectiveness has been documented by a number of researchers (Allinder & Oats, 1997; Arndorfer, Allen, Alijazireh, 1999; Corkum, Rimer, & Shachar, 1999; Kazdin, 2000; Mackenzie, Fite, & Bates, 2000; Martens, Kelly, & Diskin, 1996; Reimers, Wacker, Cooper, & DeRaad, 1992). While this positive relation has been demonstrated with other treatment providers (e.g. parents, physicians) for children with disruptive behavior disorders, it is important to note that the
exploration of this relation is still relatively new in the context of educators. Importantly, the few studies available documented this relation among teachers.

*Importance of Teachers’ Acceptability of Treatments*

The documentation of a positive relation between individuals’ ratings of acceptability of treatments and treatment referral, enrollment in treatment, implementation, and effectiveness has lead to the examination of this relation in the classroom setting. One study in particular examined the relation between treatment effectiveness and acceptability (Von Brock & Elliott, 1987). Using the Behavioral Intervention Rating Scale (BIRS), two hundred sixteen, regular and special education teachers rated one of three different classroom interventions (token economy, response cost, or time-out) with varying levels of effectiveness information including no information, consumer satisfaction information, and research-based outcome information. Factor analysis of the BIRS identified related (r = .79), but unique factors: an acceptability factor and an effectiveness factor. Furthermore, it was determined that when teachers viewed an intervention as less acceptable, they also rated it as less effective and vise versa. Thus, teachers may perceive that because an intervention is unacceptable, that it is also ineffective, which may or may not be the case. These results may have a profound impact on outcome and therefore provide important implications for those contributing to school-based mental health. For example, school-based consultants could promote either acceptability or effectiveness information when providing information to teachers (i.e., “Several teachers have mentioned they like this intervention” or “Many of your colleagues have found this to be a very effective technique”) to improve the
likelihood of teacher utilization and compliance, and ultimately positive outcomes in treatment.

Additionally, Martens and colleagues (1996) examined the relation between consultation procedures and acceptability, and acceptability and implementation of a classroom intervention. In this study, 61 regular and special education teachers who taught grades K-6, were divided into three experimental conditions: the foot in the door condition (FTID), the door in the face condition (DITF), and the control condition. Participants in the FITD condition were immediately asked to comply with a small initial request (generating 15 praise statements) prior to being asked to implement a classroom intervention for the following two consecutive school days. This intervention involved praising any student in their classroom for desired behavior during each of twelve 5-minute intervals and writing the students’ names on a recording sheet for one hour during the next two consecutive school days. In contrast, those in the DITF condition were asked to comply with a large initial request (volunteer for a follow up activity on instructional practices for 1 hour each day after school for a week) prior to being asked to implement the classroom intervention. Teachers in the control condition were only asked to implement the classroom intervention without any prior requests. Using the Intervention Rating Profile-15 (IRP-15) (Martens, Witt, Elliott, & Darveaux, 1985), participants rated the acceptability of the classroom intervention both after the experimental manipulation and after having attempted the intervention. Results of a one-way analysis of variance (ANOVA) showed no significant differences between the DITF condition and the FITD condition and no significant differences were found between the FITD condition and the
control condition in the pretreatment acceptability ratings. However, the DITF experimental condition resulted in significantly lower pretreatment acceptability ratings than the control group which suggests that type of consultation procedure has an influence on treatment acceptability ratings. In addition, authors were interested in determining whether intervention implementation was independent of group assignment (FITD or DITF) as compared to the control group. Results of a chi square analysis of forty teachers suggest that teachers in the DITF condition approached statistically significantly lower rates of compliance ($p = .057$) when asked to implement this intervention compared to the control group.

Authors concluded that differences in treatment acceptability were related to differences in implementation of the classroom behavior. This interpretation may have been too strong given that results did not meet stringent statistical criteria. However, this trend suggests a relation beyond chance, which may have been identified given a larger sample size. Importantly, analyses such as ANOVA and chi square cannot provide certainty that these constructs are causal of one another, nor can they confirm that mediators or moderators are not playing a role. However, the findings of this study suggest there is a likely a relation between acceptability and implementation which necessitates further examination.

Allinder and Oats (1997) examined acceptability of academic interventions (Curriculum-Based Measurement (CBM)) rather than the acceptability of behavioral treatments. CBM involves establishing goals for students to achieve in areas such as reading, spelling, or mathematics. As the student reaches or fails to meet the desired goal,
the teacher makes instructional changes and re-establishes the goals. In this particular study, twenty-one special education teachers each monitored two students, in grades three to six, in CBM for four months. After completing the CBM Acceptability Scale (CBM-AS) (Oats & Allinder, 1995), teachers responses were divided into high and low acceptability groups and were compared with regard to five measures of implementation (number of measurement points or CBM tests students took, ambitiousness of the goal set for the student, number of times the student goal was raised, number of times instructional changes were made, and timing of changes made) as well the amount of growth evidenced by their students in math. It was determined that treatment acceptability was found to influence adherence to the intervention protocol, as well as treatment effectiveness. Specifically, results from a multivariate analysis of variance (MANOVA) revealed that teachers who rated CBM as more acceptable implemented more CBM components with greater fidelity with regard to number of probes and level of ambitiousness, while number of times goals were raised approached significance. Not surprisingly, teachers who reported higher acceptability of CBM and thus greater fidelity to CBM, had students who improved their mathematics computation at a higher rate than other students. The study demonstrates the relation between treatment acceptability of a classroom-based intervention, implementation, fidelity to the intervention, and positive outcomes for students.

Given the positive relation between teachers’ ratings of acceptability of treatments and the eventual implementation and effectiveness of that treatment, there are several practical implications for school-based behavior modification interventions. First,
researchers and clinicians must use acceptability information provided by the consumer of the treatment (i.e., teachers) in order to refine the treatment to ensure acceptability, effectiveness, dissemination, and sustainability. For instance, low acceptability of a particular treatment may be related to the side effects of the treatment or the complexity of the treatment. If these aspects can be addressed to decrease side effects and complexity while maintaining the effectiveness of the treatment, presumably, acceptability will increase. This feedback process, which integrates consumer responses to enhance the overall quality of the treatment, leads to an improved treatment that can be disseminated to the consumer with increased confidence that the it will be well-received and often-used.

Second, individuals who are involved in consultation with teachers have a vested interest in the acceptability of treatments by teachers. Witt and Elliott (1985) found that consultants such as school psychologists often give recommendations for treatments that teachers find unacceptable or at least not very practical. Consultants should, as suggested by Reimers, Wacker, and Koepppl (1987), be knowledgeable of the acceptability of a variety of treatments that can be used by teachers. This understanding can lead the consultant to use different consultation procedures based on a teacher or a group of teachers’ acceptability of treatments. As Tingstrom (1989) recommends, consultants who are faced with low levels of acceptability for a treatment are faced with three alternatives. The treatment itself can be replaced with a more acceptable treatment. The treatment can be adapted to improve the acceptability of the treatment. Lastly, the preexisting level of acceptability for the treatment can be increased through education. Research on teachers’
acceptability of as many viable treatment options provides the consultant with practical knowledge prior to initiating consultation with a teacher.

Finally, understanding factors that are related to treatment acceptability is crucial. As researchers in this area have suggested (e.g., Power et al., 1995; Reimers et al., 1987; Vereb & DiPerna, 2004), it is important to go beyond the basic question of “How acceptable is a given treatment?” Rather, there must be a better understanding of factors related to the environment (e.g., type of classroom treatment that will be implemented), the targeted child (e.g., severity of child’s impairments), and the teacher (e.g., teaching experience) that may be associated with treatment acceptability. A better understanding of related factors enhances the process of development, refinement, dissemination, and consultation that are primary concerns for treatment developers and consultants.

In light of the findings regarding the importance of treatment acceptability, it is not surprising that researchers have investigated teachers’ acceptability of various treatments as well as factors associated with treatment acceptability. The following sections on teacher acceptability literature will focus on two areas. The first involves literature on teachers’ acceptability for treatments for disruptive behaviors in general, whereas the second section addresses teachers’ acceptability of treatments specifically designed for children with ADHD. In addition, each of these sections will be divided into two subsections. The first subsection will provide research regarding the acceptability of treatments, which includes characteristics of treatment (e.g. positive vs. negative). The second subsection will discuss influential factors (e.g. severity of child behavior) related to the acceptability of treatments.
It is important to note that initial research on treatment acceptability broadly explored teacher preferences for treatments for children with general behavioral difficulties. This meant that vignettes described children who may have displayed symptoms associated with multiple diagnoses such as ADHD, Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), or a Learning Disability (LD). Therefore empirical findings summarized in the next two subsections apply broadly to children with disruptive behavior problems, but are not specific to children with ADHD.

Acceptability of Treatments and Treatment Characteristics. One of the most extensively studied topics in the treatment acceptability literature has been the acceptability of positive treatments versus negative treatments (Elliott et al., 1984, Part I & II; Kutsick et al., 1991; Von Brock & Elliott, 1987; Witt et al., 1984). Researchers have noted a recurrent trend across studies with results showing that teachers tend to rate positive, pro-social treatments (i.e., praise, token economy) as significantly more acceptable than negative or punitive treatments (i.e., response cost, time-out) (Elliott et al., 1984, Part I & II; Kutsick et al., 1991; Witt et al., 1984). A study conducted by Elliott and colleagues (1984) serves as an exemplar study in this area of literature and was also the first to examine actual teacher participants rather than pre-service teachers. Reading one of nine case studies with one of three possible problem behaviors and one of three possible positive treatments, 71 teachers rated the acceptability of positive treatments (praise, home-based reinforcement, or token economy) using the Intervention Rating Profile (IRP-20) (Witt & Martens, 1983). Part II involved having participants rate the
acceptability of negative treatments (ignoring, response cost, and seclusion time-out) for one of nine cases using the IRP-20. The authors noted that across the experiments, positive interventions were rated as more acceptable than negative interventions for the same target behaviors. Although this has typically become a reliable finding across subsequent studies, it has often been the case that other variables have interacted with preference for type of treatment (positive and negative). These interactions will be discussed throughout this review.

The importance of time/complexity required for a teacher to implement a treatment is another important characteristic with regard to treatment acceptability (Elliott et al., 1984; Witt et al., 1984). A seminal study on this topic (Witt et al., 1984), examined the responses of 180 teachers, responsible for grades K-12, who rated three positive treatments (i.e., praise, home-based reinforcement, and token economy) and three reductive treatments (i.e., ignoring, response cost, and seclusion time-out) that varied in the amount of the time/complexity required to implement these treatments. Time required to implement the treatment was defined as low (less than 30 minutes per day; praise and ignoring); moderate (1 to 2 hours per day of preparation and 30 minutes to 1 hour to implement; home-based reinforcement and response cost); and high (2 hours of preparation and 1 hour to implement; token economy and seclusion time-out). Using the Intervention Rating Profile (IRP-20) (Witt & Martens, 1983) to determine acceptability, the most important finding revealed that teachers’ acceptability of classroom management techniques were influenced markedly by the amount of time needed to plan and implement interventions. Analysis of variance (ANOVA) showed that techniques
requiring high amounts of time to plan and implement were considered less acceptable to teachers than those requiring low to moderate amounts of time. In addition, Witt and colleagues (1984) found that time/complexity also varied with regard to whether treatments were positive or negative in nature. Specifically, when time and complexity of treatment were low, teachers endorsed positive treatments as more acceptable. However, as time and complexity became increasingly higher, reductive treatments were more preferred by teachers. Interestingly, no difference in acceptability of positive or negative treatments was found at the highest level of teacher time/complexity. Research by Elliott and colleagues (1984) complements that of Witt and colleagues (1984) as it revealed the moderating effect of time/complexity required by teachers as main effects of time/complexity were found among positive treatments (Part I) but were not detected among negative treatments (Part II). However, the results for both of these studies involving time/complexity must be qualified as it was also found that teachers preferred treatments that required less time unless the target behavior was considered severe; an important point that will be addressed in a later section.

Another study examining the acceptability of treatments (Schneider et al., 1992) attempted to explore the importance of theoretical orientation. Fifty-three regular and special education teachers who taught in typical and hospital school settings listened to an audiocassette on which one of two hypothetical cases was described (either a withdrawn or an aggressive child), followed by eight suggested interventions. Using the Treatment Evaluation Inventory (TEI) (Kazdin, 1980), teachers rated the acceptability of three social learning methods (coaching, social problem solving, modeling), two behavior
modification techniques (token reinforcement, time-out) and three traditional clinic treatments (family therapy, play therapy, and pharmacotherapy). It was proposed that expanding the number and theoretical diversity of treatments would provide insight into teachers’ preferences. Results of repeated measures ANOVAs showed that family therapy was considered more acceptable than all other treatments (except coaching) and pharmacotherapy was considered less acceptable than all other treatments. Although the authors failed to draw general conclusions regarding theoretical orientation, they noted that teachers’ preferences for family therapy might reflect an underlying belief that the etiology of these disorders lies within the family. Furthermore, it was suggested that the three most acceptable treatments (family therapy, social problem solving, and modeling), were all interventions that tend to require no additional classroom time or restructuring in the organization of the classroom. These findings provide further support for research by Witt and colleagues (1984) and Elliott and colleagues (1984) demonstrating that interventions with less time requirements are more preferred. These results may be useful for consultants as they describe the needs and treatments for children with behavioral difficulties. Being proactive in addressing the expectation that additional time and changes to the classroom are a necessary part of delivering optimal treatment may serve to clarify the role of the teacher.

Lastly, one study (Elliott, Turco, & Gresham, 1987) explored the preference of students, psychologists, and teachers with regard to three different types of group contingencies: interdependent, dependent, and independent. However, only teacher preference will be addressed as student and psychologist preference is beyond the scope
of this review. Forty-five teachers read a scenario which described students who were displaying disruptive behavior followed by a description of one of three group contingencies used to address the problem. Results of a repeated measures analysis of variance (MANOVA) showed that teachers preferred that group contingencies be established so that consequences for each individual are based upon the behavior either of the individual (independent group contingency) or of the behavior of the entire group (interdependent group contingency). It was determined that letting the behavior of a subset of a group (dependent group contingency) determine the consequences for the entire group was least preferred among teachers.

*Factors Influencing Treatment Acceptability.* Several studies have examined severity of behavior in determining the acceptability of treatments for children with behavioral difficulties. In a study by Martens and colleagues (1985), 54 regular and special education teachers used the Intervention Rating Profile (IRP-15) (Witt et al., 1984) to rate acceptability for two treatments for children with both mild (daydreaming) and severe (fighting) behavior. Analysis of Variance (ANOVA) showed a significant main effect indicating that interventions were rated more acceptable when behavior was more severe. The main effect of severity has been found in other studies, however, it is often moderated by other factors such as time/complexity of treatment (Elliott et al., 1984, Part II; Witt et al., 1984), teacher experience (Witt & Robbins, 1985, Part I), and type of interventionist (Witt & Robbins, 1985, Part II).

Inconsistencies across studies that have failed to find the effect of severity may likely be a product of varying methodologies among studies. In particular, researchers
who operationally defined severity of child behavior as mild (day dreaming), moderate (obscene language), and severe (destruction of property) found significant effects of severity (Elliot et al., 1984, Part I; Martens et al., 1985; Witt et al., 1984; Witt & Robbins, 1985, Part I & II). However, when researchers defined severity via alternative methods such as the number of disruptive students in the classroom (i.e. 2 students, half, or all) (Elliott et al., 1987) or how much time the teacher lost due to addressing inappropriate behavior (i.e. 20 vs. 90 minutes) (Kutsick et al., 1991), they were unable to detect “severity of behavior” as a significant variable. Regardless of the varying results, these studies have important implications for consultants. If research shows that teachers find interventions to be more acceptable when applied to behavior problems of greater severity, teachers may avoid addressing problematic behavior in its early stages or in mild cases, when in fact the problematic behaviors may be more modifiable. Therefore, it may be critical for consultants to discuss this with teachers during the consultation process. Helping teachers to recognize the value of prevention and early intervention may save teachers time and effort in the future as well as address problem behaviors before they escalate to more severe levels.

Some studies have examined teacher-related factors such as teachers’ years of experience and its relation to acceptability ratings (Von Brock & Elliott, 1987; Witt, Moe, Gutkin, & Andrews, 1984; Witt & Robbins, 1985, Part I & II). Witt, Moe et al. (1984) examined the responses of 112 regular and special education teachers, responsible for grades K-8, who read a case descriptions of a fifth grade boy with varying degrees of misbehavior. Teachers used the Intervention Rating Profile (IRP-20) (Witt & Martens,
1983) to rate the same treatment (staying in for recess). Results from an analysis of covariance (ANCOVA) showed that teachers with less experience found interventions to be more acceptable than their more experienced colleagues. These findings have been supported in other literature (Witt & Robbins, 1985, Part I & II) where teachers with less experience rated all interventions as more acceptable than teachers in the high experience group. Although some researchers have noted this response set based on years of experience, not all studies have found it to be an influential variable (Von Brock & Elliott, 1987).

Results from Witt, Moe et al. (1984) also indicated that the use of jargon, or the way in which treatments are described to teachers may have an important relation to acceptability ratings. Three varying written descriptions for the same intervention (requiring a child stay in from recess) were given to all teachers. The behavioral description used words that emphasized that staying in from recess was a contingent application of punishment for the explicit purpose of controlling a child’s inappropriate behavior. Additionally, the child was required to read a book or work with the teacher during this time to learn more appropriate skills and habits. The humanistic description stressed the purpose of staying in at recess was to help the child understand and express his feelings in more appropriate ways by reading a book about feelings or discussing it with the teacher. The pragmatic description presented staying in at recess as a “logical consequence” of inappropriate behavior. The requirement of reading the book or working with the teacher was focused on how to behave more appropriately. It was demonstrated that treatments described as pragmatic were rated as more acceptable than those
described as being humanistic or behavioral in nature. Following the study, authors concluded that although the focus of the study was on jargon as it influenced teacher acceptability, it was impossible to separate the effects of preferences for the jargon used to describe the model of human behavior from actual preference teachers may have for the model itself. Thus, teachers may have preferences for underlying assumptions of varying theoretical orientations. However, this study has important implications for researchers, clinicians, and consultants involved with dissemination, transportability, and training of interventions. These results suggest that it would behoove individuals in these positions to consider factors beyond actual efficacy and effectiveness of treatments when marketing or “selling” interventions. Treatments presented and introduced in a manner that are consistent with a teacher’s way of thinking may result in an increase in acceptability for the intervention, thus increasing the likelihood of treatment integrity and positive outcomes.

Some studies have explored the influence of who should be providing the treatment (Martens et al., 1985; Witt & Robbins, 1985, Part II). In the previously described study by Martens and colleagues (1985), teachers rated two different treatment options for a child with varying levels of behavior severity. One treatment required the child to be sent to the principal’s office during recess time whereas the other treatment option involved a response cost intervention implemented directly by the teacher. Analyses of variance (ANOVAs) revealed that interventions implemented directly by the teacher were rated as more acceptable even if they take more time. These findings were also supported by another study (Witt & Robbins, 1985, Part II) where authors also found
that teachers rated staying in at recess more acceptable when they enforced the treatment as opposed to the principal. Although this supports earlier literature indicating that classroom teachers prefer interventions that require direct teacher involvement (Algozzine, Ysseldyke, Christenson, & Thurlow, 1982), it should be noted that this study is inconsistent with the time/complexity effects found in other studies (Elliott et al., 1984; Witt et al., 1984). In contrast, those studies would suggest direct teacher involvement would be more timely and complex, thus making it less acceptable. However, in interpreting these results, it may be important to consider that perhaps teachers did not want to involve the principal in discipline issues that arise in the classroom setting. It may be possible that teachers would like to be perceived as competent in the eyes of a supervisor (i.e., principal) and will avoid decisions that require more work or the involvement on the part of that individual. For example, Schneider and colleagues (1992), found the three most preferred interventions involved family therapy, social problem solving and modeling, all of which occur outside the classroom by someone other than the teacher. This supports the idea that perhaps teachers are more comfortable with handing over these behavior issues to mental health professionals, but are not necessarily comfortable with allowing other school staff having to step in and show involvement as demonstrated by the results found in these two studies.

Most, if not all of the researchers represented in this review of teacher’s preferences and factors related to the acceptability of treatments for children with disruptive behaviors have noted a common limitation in this area of literature. The use of vignettes to describe children and the method of measuring acceptability has created
studies which are analog in nature. In an attempt to avoid the sole use of a classic vignette, one study (Martens et al., 1985) varied the mode in which the misbehavior of a fifth grade boy was presented to teachers through written descriptions as well as a videotape case presentation. Results showed no statistical difference between varying modes of case presentation. Although researchers may feel more confident in the use of written vignettes, authors of many studies (i.e. Elliott et al., 1987; Witt, Moe et al., 1984; Witt et al., 1984) have encouraged the scientific community to link this literature base to treatment implementation or consultation settings in order to ensure ecological validity.

In summary, several factors are influential to teacher’s acceptability of interventions. Broadly stated, teachers tend to prefer positive over negative treatments, treatments which require less time and complexity, and treatments in which consequences are contingent upon actions of the individual or the actions of the class as a whole. In addition, teachers also take into account the severity of the child’s behavior, wherein treatments are considered more acceptable for the child if the behavior is more severe rather than mild in nature. Research has also demonstrated that teachers with less experience tend to find interventions to be more acceptable than their more experienced counterparts. Furthermore, when interventions are described as pragmatic, or practical, they are found to be more acceptable than when they are described as humanistic or behavioral. In addition, it appears that teachers prefer to implement treatment as opposed to having the principal intervene with discipline, however some literature suggests that teachers may also have preferences for interventions which occur outside of the classroom, perhaps those implemented by a mental health professional. Although general
conclusions can be made by identifying consistent findings across studies, it is critical to note that the presence of interactions among studies suggest that teacher preferences and factors related to acceptability are likely multifaceted and require cautious interpretation. In addition, studies reviewed here regarding teacher acceptability of treatments for disruptive behaviors are quite dated with the vast majority of studies being referenced two decades ago. It may be that in recent years, researchers in this area of literature have moved into more specific areas of study, such as examining treatment acceptability for a specific diagnosis.

*Teacher Treatment Acceptability for ADHD*

More recently, researchers have begun to explore treatment acceptability for specific childhood disorders, such as ADHD. However, to date, only four studies have examined the acceptability of different types of treatments specifically for children with ADHD as well as factors related to the acceptability of those treatments (Epstein, Matson, Repp, & Helsel, 1986; Pisecco et al., 2001; Power et al., 1995; Vereb & DiPerna, 2004). The targeted research is particularly important as studies have demonstrated that teachers’ view students with ADHD as legitimate concern in their classrooms (Hawkins, Martin, Blanchard, & Brady, 1991), possess a negative view of working with children with disruptive behavioral difficulties (Algozzine, 1980; Coleman & Gilliam, 1983), and find it stressful to teach children with ADHD (Greene et al., 2002). Empirical findings summarized in the next two subsections are organized by acceptability of treatments and treatment characteristics followed by influential factors related to acceptability of treatments to be used for children with ADHD.
Acceptability of Treatments and Treatment Characteristics. The first study on teacher acceptability of ADHD treatments assessed the acceptability of various treatments (Epstein et al., 1986). Using the Treatment Evaluation Inventory (TEI; Kazdin, 1980), 89 regular and special education teachers, were asked to evaluate medication, behavior modification, counseling, special education programming, and affective education after reading a vignette describing a child with ADHD. Affective education was described as a twice-weekly program where the child received a curriculum designed to improve “affective skills.” Analysis of variance (ANOVA) results revealed that teachers significantly preferred all psychosocial treatments over medication and significantly preferred special education programming over behavior modification.

Another study (Power et al., 1995) assessed the acceptability of behavioral and pharmacological interventions specific to the treatment of ADHD. Authors asked 147 elementary and middle school regular education teachers to read vignettes that described three interventions for a child with ADHD. The first condition, a daily report card (DRC), involved the teacher rating the child’s behavior twice per day. The second condition consisted of a response cost (RC) technique with school-based consequences. At the elementary level, this involved the teacher removing a point from the child each time an unwanted behavior occurred. At the middle school level, teachers were asked to apply the intervention to a class period rather than an entire day and backup reinforcers were provided weekly instead of daily. The third treatment condition was the use of stimulant medication, methylphenidate (MPH) that required the teacher to complete a brief checklist each day for 20 days to monitor drug effectiveness.
Following the rating of the three individual treatments using the Intervention Rating Profile (IRP-10), teachers were then asked to rate which of five individual and combined treatment approaches they perceived as most acceptable and which they viewed as least acceptable. The five treatment approaches included DRC alone, RC alone, MPH alone, DRC plus MPH, and RC plus MPH. Results comparing the three individual treatments supported previous findings in the disruptive behavior treatment acceptability literature in that teachers prefer positive treatments over negative treatments (Elliott et al., 1984, Part I & II; Kutsick et al., 1991; Witt et al., 1984). Specifically, it was found that DRC was more acceptable than both RC and MPH. Although RC was rated higher than MPH, it was not rated significantly more acceptable than MPH. This is important, as this finding suggests that behavioral interventions are not consistently found more acceptable than medication. One reason for this finding may be that teachers found RC to be time intensive, therefore having an impact on ratings. In addition, some previous studies comparing pharmacological and behavior interventions may not have described the child as having been diagnosed with ADHD, as was the case with this study. For example, although Epstein and colleagues (1986) described symptoms of ADHD, authors also included comorbid symptomatology (physically abusive and learning challenges) and extraneous descriptions of the family (abandoned by parents, foster home). This may have deterred teachers from finding pharmacological interventions acceptable due to the presence of these additional environmental factors.

Lastly Powers et. al (1995) hypothesized that interventions combining pharmacological and behavioral interventions would be rated as more acceptable than
pharmacological interventions alone. This was confirmed as results of a series of $\chi^2$ analyses showed that among the five treatment approaches, DRC plus MPH combined was most acceptable and MPH alone was least acceptable. Interestingly, the use of combined treatments has often resulted in maximal behavioral improvements over the single effect of medication alone or behavioral treatments alone (e.g., Carlson et al., 1992; Pelham et al., 2000).

Results showing that teachers rated the DRC as the most preferred intervention for children with ADHD was confirmed in an additional study (Pisecco et al., 2001). Using the Behavioral Intervention Rating Scale (BIRS; Elliott & Von Brock Treuting, 1991), 159 elementary school teachers were asked to rate acceptability for four interventions for children with ADHD: daily report card (DRC), response cost (RCT), stimulant medication (Ritalin), and classroom lottery (CL). Each teacher was randomly assigned to read one of six conditions described by vignettes by which child characteristics varied in terms of sex (Jonathon or Jane) as well as by ADHD subtype (ADHD-Combined Type, ADHD-Predominantly Hyperactive-Impulsive Type, and ADHD-Predominantly Inattentive Type). Results involving the effects of sex and ADHD subtype will be addressed in the subsequent section regarding the influence of factors on acceptability ratings. Consistent with Power et al. (1995), repeated measures multivariate analysis of variance (ANOVA) indicated that the DRC was the most preferred intervention and was considered to be more acceptable, effective, and quicker to produce change than other behavioral strategies. This finding was consistent across sexes. Interestingly, when compared to medication, the DRC was rated as more acceptable and
as effective and timely as medication. Authors of this study concluded that perhaps there is a misperception in assuming that teachers are pushing for the use of medication for children with ADHD in their classrooms.

*Factors Influencing Treatment Acceptability.* The three studies described above also explored the impact of other important factors on acceptability ratings for treatments used for children with ADHD. For example, Epstein and colleagues (1986) examined teacher status and its relation to acceptability ratings. Results showed that special education teachers and regular classroom teachers did not differ in their ratings of acceptability for alternative treatments.

As detailed earlier, Pisecco and colleagues (2001) addressed acceptability, effectiveness, and expediency of the daily report card (DRC), response cost (RCT), stimulant medication (Ritalin), and classroom lottery (CL) by varying vignettes to depict the function of two potentially important child factors: sex (Jonathon or Jane) and ADHD subtype (ADHD-Combined Type, ADHD-Predominantly Hyperactive-Impulsive Type, and ADHD-Predominantly Inattentive Type). In addition to the results presented earlier, significant sex interactions were detected indicating that the DRC was considered more acceptable and likely to work more quickly for girls than for boys. In addition, teachers rated RCT to be more acceptable, effective, and likely to produce change more quickly for girls than boys. Furthermore, it was found that medication was rated more acceptable and likely to work more rapidly for boys than girls. Interestingly, all interactions involving subtype were not significant. Findings in this study support the idea that treatment acceptability is not just a function of whether or not a treatment is effective, but
rather treatment worth is based on a variety of factors. In the case of this particular study, sex of child with ADHD was an important variable in determining acceptability of treatments.

In addition to teacher preferences for treatments, Power and colleagues (1995) explored teachers’ level of ADHD knowledge and years of teaching experience to determine the relation between these factors and treatment acceptability. It was reported that both of these factors were not significantly correlated with acceptability ratings for pharmacological or behavioral interventions for children with ADHD. The failure to detect a relation between ADHD knowledge and acceptability of treatments for ADHD was unexpected and may be due to a restricted variance on the ADHD Knowledge Scale that may have created a reduction in magnitude of the correlation. In addition, a lack of findings regarding years of teaching experience contradicts results from previous research conducted by Witt, Moe et al. (1984) and Witt and Robbins (1985, Part I & II). One interpretation of these results could be that methodologically, Power and colleagues (1995) were specifically examining ADHD behaviors but failed to match that level of specificity with regard to years of experience. Failure to discriminate between years of experience in general versus years of experience teaching children with ADHD could be considered a limitation in that particular study. However, Pisecco and colleagues (2001) also reported that years of experience failed to impact acceptability scores.

The most recent study regarding treatment acceptability for ADHD treatments explored several teacher variables such as knowledge of ADHD, knowledge of ADHD treatments, teaching experience with ADHD, and training in ADHD (Vereb & DiPerna,
This study included 47 regular and special education elementary school teachers, grades K-6, who rated the acceptability of different approaches to treatment that included the general terms of “medication” and “behavior management.” Teachers used the Knowledge of ADHD Rating Evaluation (KARE), a measure created by Vereb and DiPerna, to determine teacher knowledge of these factors as well as acceptability for these two general treatments. Unlike previous studies, which have provided participants with a written vignette of a child with ADHD, these teachers were told to consider a student or students in their class with an ADHD diagnosis when completing the measure. The purpose of this research was to explore the relations between the acceptability of these two treatments and teacher factors. Furthermore, this study attempted to improve upon the Power et al. (1995) study in several ways. First, this study included the separation of what Power and colleagues (1995) described as “knowledge” into the two areas of knowledge of ADHD and knowledge of treatments for ADHD. In addition, they addressed a potential limitation regarding years of teaching experience as used in the Power et al. study by further refining years of experience to be defined specifically as years of teaching experience with children with ADHD. Uniquely, this study was the first to assess the relation between training and ADHD and treatment acceptability. Results demonstrated that behavior management acceptability was only marginally, positively related to both knowledge of ADHD ($r = .27$) and knowledge of treatments for ADHD ($r = .28$). However, there was a positive relation identified between behavior management acceptability and ADHD training ($r = .34$). No relation was found between behavior management acceptability and teaching experience with ADHD ($r = .06$). In regards to
medication acceptability, results showed a positive, significant relation with knowledge of ADHD \((r = .37)\) and a negative significant relation with knowledge of treatments for ADHD \((r = -.32)\). Medication acceptability also showed positive, significant correlations with both ADHD training \((r = .31)\) and teaching experience with ADHD \((r = .40)\). Overall, although Vereb and DiPerna (2004) provided a unique contribution to the literature by examining several new factors, it should be noted that this study differed from others looking specifically at ADHD (Epstein et al., 1986; Pisecco et al., 2001; Power et al., 1995). For example, teachers in this study did not read a vignette but rather were asked to think of a child they know and teachers provided acceptability ratings for vague treatment descriptions as opposed to having specific treatments to consider. These methodological differences require careful interpretation and may limit the ability to compare this study to other studies in this specific area.

In conclusion, teachers considering treatments for children with ADHD generally tend to prefer positive treatments over negative treatments. In regards to psychosocial treatments versus medication, the results are equivocal. However, results have consistently demonstrated that the DRC is strongly and consistently rated more acceptable by teachers over all other treatments. Research has also showed that characteristics of the child with ADHD may affect ratings. While subtype of ADHD made no difference, researchers were able to demonstrate that the sex of the child interacts with treatment preference. In determining treatments, it has been reported that the status of the teacher, such as regular education teacher versus special education teacher, does not impact ratings. Further exploration of teacher factors found that in some
studies knowledge of ADHD was not significantly related to acceptability ratings. However, when knowledge of ADHD and knowledge of ADHD treatments were separated, significant results did exist, specifically in their relation to medication acceptability, while only marginally related to acceptability of behavior management. Furthermore, researchers were also able to identify relations between training in ADHD and both behavioral management and medication acceptability. It appeared that teaching experience in ADHD was positively related to medication acceptability. However, most studies looking specifically at ADHD failed to find a relation between years of experience and acceptability ratings. Even as researchers separated out years of teaching children with ADHD from years of experience in general, it failed to correlate with behavior management acceptability. One interpretation of these results may be that prevalence of this disorder (3-7% of children, APA; 2000) should be given consideration whereby there may be no difference between the two constructs as teachers may instruct a child with ADHD every year.

Studies exploring acceptability ratings for ADHD treatments for children consistently documented the importance of teacher factors. In fact, both Powers and colleagues (1995) and Vereb and DiPerna (2004) call for future research to continue the exploration of additional teacher factors which may serve as important predictors in the acceptability of treatments for ADHD. One such factor may be teacher perceived efficacy.
Teacher Perceived Efficacy

Teacher efficacy has been defined as “the extent to which the teacher believes he or she has the capacity to affect student performance” (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977, p. 137), or as “teachers’ belief or conviction that they can influence how well students learn, even those who may be difficult or unmotivated” (Guskey & Passaro, 1994, p. 4). Two dominating theories established by Rotter (1966) and Bandura (1977) have guided research in this area. The initial concept of teacher efficacy was grounded in Rotter’s social learning theory of internal versus external control. Teacher efficacy was separated into two factors labeled general teaching efficacy and personal teaching efficacy. The first factor extends beyond the individual ability of a single teacher but rather examines the individual’s perception of the ability of teachers in general to override any environmental or background factors that students may present with (e.g. whether or not education is emphasized in the home, poverty, school violence) and have the ability to elicit and influence motivation and student learning. The latter factor corresponds with how much teaching power or impact an individual teacher feels he or she has the ability to teach, train, and overcome obstacles and its impact on student learning. Thus, personal teaching efficacy is more specific and individualized than a belief about what teachers in general can achieve.

In addition to Rotter’s contribution, Bandura’s social cognitive theory provides another conceptualization of teacher efficacy. Bandura (1997) described perceived self-efficacy as, “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Thus, self efficacy beliefs influence
thought patterns and emotions that enable actions in which people put forth significant effort in pursuit of goals, persist despite any adversity, rebound from temporary setbacks, and exert some control over events that affect their lives (Bandura, 1986, 1993, 1996, 1997). It is important to note that the notion of self-efficacy pertains to perception of competence rather than actual level of competence. This is a defining feature as it is possible for individuals to over- or underestimate his or her actual abilities. Belief in the estimation of ability may also impact an individual’s course of action and influence how well they use the skills possessed.

While a plethora of research has established the construct of teacher perceived efficacy, there has been considerable confusion and debate regarding its structure and meaning. In response to the conceptual difficulties and with previous literature as a foundation, a newer understanding of teacher perceived efficacy has surfaced. Recent contributions posit that teacher perceived efficacy is context specific such that teachers do not feel equally efficacious for all teaching situations (Tschannen-Moran, Hoy, & Hoy, 1998). For example, teachers may feel efficacious when teaching particular subjects for certain students. Therefore, specificity for the construct of perceived teacher efficacy requires that the context and teaching task be taken into consideration.

Teachers’ sense of efficacy has been shown to be related to a multitude of important educational variables. Several studies have demonstrated its relation to valuable student outcomes such as achievement (Armor et al., 1976; Ashton & Webb, 1986; Ross, 1992), motivation (Midgley, Feldlaufer, & Eccles, 1989), and students’ own sense of efficacy (Anderson, Greene, & Loewen, 1988). Teachers’ self efficacy has also
been shown to be related to critical teacher variables such as teachers’ professional
commitment (Coladarci, 1992), enthusiasm (Allinder, 1994; Guskey, 1984), teacher
absenteeism (Imants & Van Zoelen, 1995), and teacher stress and burnout (Brissie,
Importantly, teachers’ efficacy beliefs are related to their behavior in the classroom.
Teachers with higher efficacy tend to demonstrate greater levels of planning and
organization (Allinder, 1994), are more open to new ideas and are willing to experiment
with new methods that may be inclined to better meet the needs of their students (Berman
et al., 1977; Guskey, 1988; Stein & Wang, 1988), tend to be less critical of students when
they make errors (Ashton & Webb, 1986), are willing to work longer with a student who
is struggling (Gibson & Dembo, 1984), and are less inclined to refer a difficult student to
special education (Meijer & Foster, 1988; Podell & Soodak, 1993).

Clearly, the construct of teacher perceived efficacy has been a fruitful predictor in
the field of education. Given the strong relation between teacher perceived efficacy and
valuable teacher variables and student outcomes, it is critical to understand when it is
most malleable and what factors may influence its improvement. This information is
constructive for consultants or those who train and educate teachers. In regard to
malleability, it appears that efficacy beliefs are relatively stable even when teachers were
exposed to seminars or workshops which target new teaching methods (Ross, 1994).
Despite this, research has demonstrated that teachers are most likely to rigorously
examine factors contributing to their efficacy beliefs when tasks are novel, when change
has taken place within the person or the task that affect performance, or when the task is
salient or important to the individual (Gist & Mitchell, 1992). First, it is critical to recognize that in the midst of change, the development of teacher efficacy appears to be curvilinear (Ross, 1994; Stein & Wang, 1988). Initially, the need for change as well as its implementation has a negative affect on teachers’ personal efficacy. However, as increased skill sets flourish, efficacy may increase. Because of this, it is vital for teachers to see evidence of increased student learning before new, higher efficacy beliefs begin to develop.

Consultants should be aware that efficacy may be challenging to inflate as teachers are asked to implement new methods while teaching standards and expectations of teachers continue to rise. Breaking down large tasks allows the teacher to focus on a manageable subset of skills. Furthermore, challenging teachers’ prior beliefs regarding behavior and intelligence as being fixed, rather than as a flexible factor, can have a positive affect on efficacy (Ross, 1995). In addition, principals and supervisors can also contribute to increased efficacy by recognizing and describing teacher behaviors as factors that are under teachers’ control. When those supervisors acknowledge teachers’ capabilities, teachers will begin to make the internal attributions for success, ultimately enhancing self-efficacy (Tschannen-Moran et al., 1998). Likewise, making a connection between specific teacher behaviors and positive student outcomes may also lead to more rapid ownership of positive teacher behavior and enhanced perceived efficacy. Furthermore, efficacy may be increased by addressing other school-level variables such as collaboration among adults (Chester & Beaudin, 1996; Rosenholtz, 1989), coaching
(Ross, 1992), allowing teacher participation in decision making (Newmann, Rutter, & Smith, 1989), and improving the health of the school climate (Hoy & Woolfolk, 1993).

Limitations of Previous Work

Although the results of the studies on teacher acceptability of treatments for ADHD provide an important foundation for our understanding in this area, it is necessary to explore limitations in these studies. First, previous studies have only examined traditional treatments which are considered “evidence-based,” such as stimulant medication and behavior modification (Pisecco et al., 2001; Power et al., 1995; Vereb & DiPerna, 2004). This limitation warrants research that explores teacher acceptability for promising treatments, an unstudied aspect in this area of research. In fact, Reimers and colleagues (1987), suggest that researchers should catalog acceptability of a wide range of interventions to increase overall efficiency of the consultation process. Furthermore, if results suggest promising treatments are acceptable among teachers, this status may prompt the scientific community to conduct other studies, which can be used to further determine the effectiveness of these strategies in the classroom for children with ADHD.

Second, descriptions of treatments in previous studies have been problematic as they have often been vague, outdated, and overly broad and make interpretation difficult (Epstein et al., 1986; Vereb & DiPerna, 2004). These limitations warrant research that assesses teachers’ acceptability of accurately-described and updated evidence-based and promising approaches to behavior modification and stimulant medication for children with ADHD. In some cases, treatments have been described in vague terms such as “medication” and “behavior management” Vereb & DiPerna, 2004). In addition, although
Epstein and colleagues (1986) included more than what are now considered evidence-based treatments, the descriptions of the treatments may qualify the obtained results. For example, in their study, behavior modification treatment was described as the use of an edible reinforcer presented if the student did not exhibit the unwanted behavior for 30 consecutive minutes. While edible reinforcers and the 30 minute time schedule may have been typically used previously for children with ADHD, this type of behavioral technique is rarely used currently and is not consistent with classroom procedures considered to be well-established (e.g., DRC, response-cost). Furthermore, the special education programming treatment was described as a self-contained classroom setting where a program emphasizing pre-academic skills and behavioral self-control would be developed. The narrative for this treatment includes the use of “behavior self-control” which most likely represents the use of several behavioral strategies within the setting. Thus, the treatment conditions evaluated in this study were both outdated and overly broad making results from this study difficult to interpret.

Furthermore, prior research on teachers’ perspectives on treatments for children identified with ADHD have addressed the role of important factors such as knowledge of ADHD, knowledge of ADHD treatments, training in ADHD, sex of child, subtype of ADHD, years of teaching experience, and more specifically years of experience teaching children with ADHD (Pisecco et al., 2001; Power et al., 1995; Vereb & DiPerna, 2004). While these factors have been a valuable contribution to the literature, researchers have called upon attempts to further understand other factors that may be involved in treatment acceptability (Power et. al, 1995; Vereb & DiPerna, 2004). The exploration of additional
factors should be incorporated into future studies examining teacher acceptability of treatments for children with ADHD.

**Purpose of Study**

In order to address the limitations described above, this study examined teachers’ acceptability of promising treatments as well as evidence-based treatments for children with ADHD. In addition, this study also attempted to understand the relation between teacher perceived efficacy of classroom management and teachers’ acceptability of these individual treatments. The specific aims and hypotheses of this study included:

**Aim 1:** This study examined teachers’ acceptability of promising psychosocial treatments (peer tutoring, self-reinforcement, social skills) as well as evidence-based treatments, both behavior modification techniques (daily report card and time-out) and pharmacological (stimulant medication) for children with ADHD.

**Hypothesis 1:** Based on support from previous literature (Elliott et al., 1984, Part I & II; Kutsick et al., 1991; Power et al., 1995; Witt et al., 1984), it was expected that positive treatments would be rated as significantly more acceptable than negative treatments. Therefore, planned comparisons were used to contrast all individual positive treatments (e.g., daily report card) with the sole, negative treatment (time-out).

**Hypothesis 2:** In addition, it was predicted that because all promising treatments are positive treatments, they would be rated as more acceptable than the negative, evidence-based treatment (time-out). The planned comparisons described above also answered this question.
**Hypothesis 3:** Consistent with findings from previous studies (Pisecco et al., 2001; Power et al., 1995), it was hypothesized that the daily report card would be the most acceptable treatment (i.e. significantly more acceptable than all other treatments). Planned comparisons examining contrasts between the daily report card and all other individual treatments were used to answer this research question.

**Hypothesis 4:** Among the promising treatments, it was expected that both social skills and peer tutoring would have significantly higher ratings than the self-reinforcement strategy. Due to the national push for emphasis on character development and the promotion of positive social behaviors (Satcher, 2000), teachers may feel that they have the opportunity to meet these teaching standards for the entire class while concurrently addressing impairments of children with ADHD. Therefore, it was believed that social skills would have the highest acceptability ratings. Peer tutoring may also be seen as beneficial for the entire class; however it appears to be more complex than social skills. Thus, it was thought that the acceptability for peer tutoring would fall between the ratings for social skills and the self-reinforcement strategy. It was hypothesized that self-reinforcement would be the least preferred of the promising treatments as it appears to require the most complexity and also requires that teacher time be directed solely to the student with ADHD. Planned comparisons examining the contrasts between these three treatments provided results for this hypothesis.

**Hypothesis 5:** Lastly, consistent with studies by Epstein et al. (1986), Pisecco et al. (2001), and Power et al. (1995) it was anticipated that stimulant medication would be
rated no higher than negative psychosocial treatments (i.e. time-out). Again, a planned comparison examining stimulant medication and time-out answered this question.

Aim 2: This study also assessed the relation between perceived teacher efficacy of classroom management and treatment acceptability for each treatment being considered. It was thought that if a relation between teacher perceived efficacy and acceptability of treatments for children with ADHD did exist, then targeting and improving teacher efficacy may be a viable strategy for consultants.

Hypothesis 6: Given that teachers with greater perceived efficacy tend to be more committed, more open to new ideas and strategies, more willing to work with a difficult child, and more likely to engage in planning and organizing, it was hypothesized that greater perceived teaching efficacy for classroom management would be significantly, positively related to acceptability of daily report card, time-out, peer tutoring, self-reinforcement, and social skills all of which require commitment, planning, and organization on the part of the teacher.

Hypothesis 7: Furthermore, it was also expected that there would be a significant, negative relation between teacher perceived efficacy for classroom management and stimulant medication. Teacher perceived efficacy was correlated with each individual treatment sum score to provide results for Hypothesis 6 and 7.

Method

Participants

Participants were 79 teachers of grades Pre-K through 6th grade, from 7 elementary schools in Southeastern Ohio (see Table 1 for demographics). The overall
response rate for all seven schools was 52%. Response rates for each school can be viewed below in Table 2. Teachers were asked to report the number of students they have taught who had a formal diagnosis of ADHD as well as the number of years they have taught students who had a formal diagnosis of ADHD (see Table 3).

Table 1.

*Teacher Demographics*

<table>
<thead>
<tr>
<th></th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>11 (14%)</td>
</tr>
<tr>
<td>Bachelor’s +</td>
<td>15 (19%)</td>
</tr>
<tr>
<td>Master’s</td>
<td>40 (51%)</td>
</tr>
<tr>
<td>Master’s +</td>
<td>13 (16%)</td>
</tr>
<tr>
<td>Doctorate</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Certification</strong></td>
<td></td>
</tr>
<tr>
<td>Regular Education Only</td>
<td>61 (77%)</td>
</tr>
<tr>
<td>Special Education Only</td>
<td>8 (11%)</td>
</tr>
<tr>
<td>Both</td>
<td>9 (10%)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (2%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>4 (5%)</td>
</tr>
<tr>
<td>Females</td>
<td>75 (95%)</td>
</tr>
</tbody>
</table>
Continued: Table 1

Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>78</td>
<td>99%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1%</td>
</tr>
</tbody>
</table>

Age (M, SD) 40.75 (11.78)

Years of Experience (M, SD) 14.14 (9.89)

Note: N = 79

Table 2.

In-Service Attendance and Survey Response Rates by In-service and School

<table>
<thead>
<tr>
<th>School</th>
<th>Total Teachers in School Building</th>
<th>In-service Attendance</th>
<th>Response Rate at the In-Service</th>
<th>Response Rate for Entire School</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29</td>
<td>10 (34.5 %)</td>
<td>10 (100 %)</td>
<td>10 (34.5 %)</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>13 (92.8 %)</td>
<td>13 (100 %)</td>
<td>13 (92.8 %)</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>6 (66.7 %)</td>
<td>6 (100 %)</td>
<td>6 (66.7 %)</td>
</tr>
<tr>
<td>4</td>
<td>21</td>
<td>14 (57.1 %)</td>
<td>14 (100 %)</td>
<td>18 (85.7 %)</td>
</tr>
<tr>
<td>5</td>
<td>45</td>
<td>4 (8.9 %)</td>
<td>4 (100 %)</td>
<td>6 (13.3 %)</td>
</tr>
<tr>
<td>6</td>
<td>16</td>
<td>12 (75.0 %)</td>
<td>12 (100 %)</td>
<td>12 (75.0 %)</td>
</tr>
<tr>
<td>7</td>
<td>18</td>
<td>14 (77.8 %)</td>
<td>14 (100 %)</td>
<td>14 (77.8 %)</td>
</tr>
</tbody>
</table>
Table 3.

*Teacher Interactions With ADHD Students*

<table>
<thead>
<tr>
<th>Number of Students Taught With Formal ADHD Dx</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>16 (20.3%)</td>
</tr>
<tr>
<td>5-10</td>
<td>17 (21.5%)</td>
</tr>
<tr>
<td>11-20</td>
<td>16 (20.3%)</td>
</tr>
<tr>
<td>21-30</td>
<td>8 (10.1%)</td>
</tr>
<tr>
<td>31-40</td>
<td>4 (5.1%)</td>
</tr>
<tr>
<td>41-75</td>
<td>4 (5.1%)</td>
</tr>
<tr>
<td>Too Many</td>
<td>10 (12.7%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Years Teaching Students With Formal ADHD Dx</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every Year</td>
<td>1 (1.3%)</td>
</tr>
<tr>
<td>0-4</td>
<td>28 (35.4%)</td>
</tr>
<tr>
<td>5-10</td>
<td>22 (27.9%)</td>
</tr>
<tr>
<td>11-20</td>
<td>12 (15.2%)</td>
</tr>
<tr>
<td>21-30</td>
<td>5 (6.3%)</td>
</tr>
<tr>
<td>Many/Several</td>
<td>5 (6.3%)</td>
</tr>
</tbody>
</table>

*Note.* N = 79; Students Taught With Formal ADHD Dx (4 (5.1 %) no response); Years Teaching Students with Formal ADHD Dx (6 (7.6 %) no response)
Measures

Demographics questionnaire. This questionnaire obtained information regarding highest level of education, grade level, years of teaching experience, classification (regular or special education), age, ethnicity, and gender (see Appendix A).

Intervention Rating Profile-10 (IRP-10). (Power et al., 1995): The IRP-10 is a shortened version of the Intervention Rating Profile-15 (IRP-15) (Martens et al., 1985). The IRP-15 is a measure that assesses teachers’ acceptability of individual treatments. Items on the IRP-15 are rated on a 6-point Likert scale that ranges from 1 (“Strongly Disagree”) to 6 (“Strongly Agree”). Ratings for each question are summed to yield a total score reflecting a single dimension of acceptability. Higher scores indicated higher acceptability of that treatment. The IRP-15 has been reported to possess a high degree of internal reliability ranging from .88 to .98 across studies (Freer & Watson, 1999; Martens et al., 1985; Marten & Meller, 1989). Furthermore, Martens and colleagues (1985) found good criterion validity of .86 between the IRP-15 and the Evaluative subscale of the Semantic Differential, a measure which allows participants to indicate their position on an item by placing a mark in one of seven spaces between bipolar adjectives (SD; Osgood, Suci, & Tennenbaum, 1957). The IRP-15 also effectively discriminated between a variety of interventions. An abbreviated version, the IRP-10, has been used to evaluate acceptability between various treatments and was still found to maintain a high level of internal consistency with alpha coefficients ranging from .95 to .97 (Power et al., 1995). This version was employed to evaluate the acceptability of treatments for ADHD in this study. Total scores on this scale range from 10 to 60. Because teachers completed an
acceptability measure for each treatment description, alpha coefficients were computed separately for each treatment description. These ranged from .95 to .97. See Appendix B for the vignette description of the child, a description of each treatment rated, and the IRP-10 rating scale.

*Teachers’ Sense of Efficacy Scale.* (Tschannen-Moran & Hoy, 2001): This 24-item teacher efficacy scale consists of three subscales: efficacy for instructional strategies (8 items), efficacy for classroom management (8 items), and efficacy for student engagement (8 items). This measure has demonstrated an overall reliability of .94 and the internal reliabilities for each subscale were .91 for instruction, .90 for management, and .87 for engagement. Intercorrelations between the subscales of instruction, management, and engagement were .60, .70, and .58, respectively. This measure has also established construct validity with the Rand Items as well as the 10-item adaptation of the Gibson and Dembo Teacher Efficacy Scale, which assesses personal and general teaching efficacy (Hoy & Woolfolk, 1993). For the purpose of this study, only the 8-item classroom management efficacy subscale was used (see Appendix C). Scores on this scale range from 8 to 72. The alpha coefficient for the classroom management scale used for this study was .94, indicating a high level of internal consistency.

*Procedure*

Surveys were administered to teachers in a group format during the first half hour of a teacher in-service training (held on different days at different schools, prior to the 2005-2006 school year). In-service attendance for each school can be viewed in Table 2. All teachers attending the in-services agreed to participate. For those teachers who were
not in attendance, surveys were distributed via their school mailboxes. Envelopes with pre-paid postage were included with the survey to allow for responses to be mailed. In addition, the principal of one school took extra surveys and personally inquired about participation in this study with teachers who were absent from the in-service. Despite attempts to include those who did not attend an in-service, the mailing method failed to increase response rate substantially.

Teachers were given the option to participate and were assured that their responses would be kept anonymous and confidential. Participating teachers were provided with a packet containing a description of the study on a passive consent form (see Appendix D). Calculation of an identification number and completion of the survey implied consent. After guiding teachers through the passive consent form and the calculation of identification numbers, teachers were asked to complete the remainder of the packet independently. They first read a description of a child diagnosed as having ADHD who was experiencing behavioral problems that interfered with his learning, the learning of others, and created stress for the teacher (see Appendix B). Teachers were asked to read about six strategies that may be used to change the behavior of a child like the one described in the vignette. Participants read the descriptions of the six strategies and rated the acceptability of each keeping in mind the child in the vignette (see Appendix B). The order of the six treatments were counterbalanced across all participants. Next, teachers completed the demographics questionnaire (see Appendix A) followed by the teacher efficacy questionnaire (see Appendix C). Each teacher received a $5 Wal-Mart Gift Card following completion of the packet.
Results

Teacher Acceptability of Treatments for ADHD

Aim 1 examined teachers’ acceptability of promising psychosocial treatments (peer tutoring, self-reinforcement, social skills) as well as evidence-based treatments, both behavior modification techniques (daily report card and time-out) and pharmacological (stimulant medication) for children with ADHD. Descriptive statistics reflecting average teachers’ acceptability ratings for each type of treatment are shown in Table 4. The results for Aim 1 were examined using a one-way (Treatment Type) repeated measures analysis of variance (ANOVA). Type of intervention was a repeated measures variable because each teacher completed acceptability ratings for all six treatments. Only planned comparisons were conducted, therefore p-values were not adjusted. Planned comparisons can be viewed in Table 5. Correlations between each treatment acceptability rating can be found in Appendix E.
Table 4.

Descriptive Statistics for Treatment Acceptability Ratings

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Report Card</td>
<td>46.46</td>
<td>8.35</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td>Self-reinforcement</td>
<td>45.53</td>
<td>9.37</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td>Social Skills</td>
<td>43.32</td>
<td>9.98</td>
<td>14</td>
<td>60</td>
</tr>
<tr>
<td>Peer Tutoring</td>
<td>38.92</td>
<td>10.72</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Stimulant Medication</td>
<td>37.78</td>
<td>9.53</td>
<td>10</td>
<td>59</td>
</tr>
<tr>
<td>Time-out</td>
<td>34.85</td>
<td>11.47</td>
<td>10</td>
<td>59</td>
</tr>
</tbody>
</table>

Note: Higher scores indicate higher acceptability.

Omnibus results indicated that significant differences existed among teacher acceptability ratings of the treatments $[(F (5,74) = 16.212, p < .001)]$. Because response rates showed high variability across schools, analyses were examined without School 1 (34.5%), without School 5 (13.3%), and without both School 1 and 5 to ensure that results were not influenced by the low response rates at these schools. Results did not differ when School 1, School 5, or both were excluded. Thus, data from these schools were included in all analyses.

Using contrasts, planned comparisons revealed that as hypothesized, positive psychosocial treatments were rated more acceptable than negative psychosocial
treatments as the daily report card \((p < .001)\), self-reinforcement \((p < .001)\), social skills \((p < .001)\), and peer tutoring \((p < .01)\) were all rated significantly more acceptable than time-out. In addition, an overall average of positive treatments was computed and a contrast comparing it to time-out also confirmed that positive treatments are more acceptable than negative treatments \((p < .001)\). These results also support the expectation that given their positive nature, all promising treatments were rated higher than time-out. As expected, the daily report card received the highest mean rating among the treatments and was rated significantly higher than all the others except for self-reinforcement strategy, which is a promising treatment.

Among promising treatments, it was anticipated that social skills would receive the highest mean ratings and that social skills and peer tutoring would be rated higher than the self-reinforcement strategy. On the contrary, results showed that the self-reinforcement strategy received the highest mean rating among the promising treatments and was rated significantly higher than peer tutoring \((p < .001)\), although not significantly higher than social skills.

Furthermore, it was hypothesized that time-out, which is considered a negative psychosocial treatment, would be rated equal to or higher than stimulant medication. However, teachers found time-out to be the least acceptable among these treatments for children with ADHD with the lowest mean rating. In fact, results showed that time-out was rated significantly lower than stimulant medication \((p < .05)\).
Table 5.

Planned Comparisons and p-values for Aim 1

<table>
<thead>
<tr>
<th>Planned Comparisons</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Report Card vs. Time-out</td>
<td>p &lt; .001***</td>
</tr>
<tr>
<td>Self-reinforcement vs. Time-out</td>
<td>p &lt; .001***</td>
</tr>
<tr>
<td>Social Skills vs. Time-out</td>
<td>p &lt; .001***</td>
</tr>
<tr>
<td>Peer Tutoring vs. Time-Out</td>
<td>p &lt; .01**</td>
</tr>
<tr>
<td>Avg. of Positive Txs vs. Time-Out</td>
<td>p &lt; .001***</td>
</tr>
<tr>
<td>Self-reinforcement vs. Peer Tutoring</td>
<td>p &lt; .001***</td>
</tr>
<tr>
<td>Self-reinforcement vs. Social Skills</td>
<td>p &lt; .09</td>
</tr>
<tr>
<td>Social Skills vs. Peer Tutoring</td>
<td>p &lt; .01**</td>
</tr>
<tr>
<td>Time-out vs. Stimulant Medication</td>
<td>p &lt; .05*</td>
</tr>
</tbody>
</table>

Note: * p < .05; ** p < .01; *** p < .001

Relations Between Teacher Perceived Efficacy and Treatment Acceptability Ratings

Aim 2 examined the relations between teacher perceived efficacy of classroom management and ratings of treatment acceptability for each of the six treatments. Descriptive statistics reflecting teachers’ perceived efficacy are shown in Table 6. Correlations between efficacy of classroom management and all treatment acceptability ratings can be found in Table 7.
Table 6.

Descriptive Statistics for Teacher Perceived Efficacy

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Perceived Efficacy (Classroom Management)</td>
<td>60.14</td>
<td>8.42</td>
<td>33</td>
<td>72</td>
</tr>
</tbody>
</table>

Although it was hypothesized that greater teacher perceived efficacy of classroom management would be significantly, positively related to the acceptability of psychosocial treatments, results of Pearson’s Product-Moment correlations, showed that no significant relations existed. Furthermore, although it was expected that there would be a significant, negative relation between teacher perceived efficacy of classroom management and stimulant medication, correlations revealed no significant association. Again, because response rate showed high variability across schools, correlations were run without School 1 (34.4%), without School 5 (13.3%), and without both School 1 and 5 to ensure that results were not influenced by the low response rates at these schools. Results remained consistent when School 1, School 5, or both were excluded.
Table 7.

*Correlations between Teacher Perceived Efficacy (Classroom Management) and Treatment Acceptability Ratings*

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Perceived Teacher Efficacy Pearson’s $r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Report Card</td>
<td>-.16</td>
</tr>
<tr>
<td>Self-reinforcement</td>
<td>.14</td>
</tr>
<tr>
<td>Social Skills</td>
<td>.08</td>
</tr>
<tr>
<td>Peer Tutoring</td>
<td>.07</td>
</tr>
<tr>
<td>Time-out</td>
<td>-.14</td>
</tr>
<tr>
<td>Stimulant Medication</td>
<td>-.08</td>
</tr>
</tbody>
</table>

*Note: * $p < .05$; ** $p < .01$; *** $p < .001$*

Discussion

This study examined teachers’ acceptability of evidence-based treatments, as well as the unstudied acceptability of promising treatments for children with ADHD. In addition, the relation between teacher perceived efficacy of classroom management and teachers’ acceptability of these individual treatments was explored. Findings were parallel with previous literature as results showed that positive treatments and the daily report card were found to receive the highest ratings. However, results from this study uniquely indicate that promising treatments are considered as acceptable, and in some
cases more acceptable, than evidence-based treatments for children with ADHD in the classroom setting. Specifically, data suggest that the self-reinforcement strategy was well-received among teachers as it was rated as high as the daily report card. Surprisingly, results indicated teacher perceived efficacy for classroom management was unrelated to any of the acceptability ratings for the six treatments. Interpretation of the results, as well as a discussion regarding study limitations are provided below. Lastly, implications and future directions regarding teacher acceptability of treatments for ADHD are presented.

Positive Treatments

Results indicated that as hypothesized, positive psychosocial treatments were rated by elementary school teachers as more acceptable for children with ADHD than was the negative, psychosocial treatment examined in this study. Specifically, the daily report card, self-reinforcement strategy, social skills, and peer tutoring were all rated as significantly more acceptable than time-out. This suggests that teachers prefer interventions that reinforce competent, pro-social behaviors as opposed to treatments in which the teacher responds to inappropriate behavior with an adverse consequence. This finding is consistent with extant literature on the acceptability of treatments for children with general disruptive behavior problems in that teachers prefer positive treatments over punitive strategies in their classrooms (Elliott et al., 1984, Part I & II; Kutsick et al., 1991; Witt et al., 1984). In addition, the results of this study also parallel previous literature, which examined classroom strategies specifically for children with ADHD (Power et al., 1995). Not surprisingly, because the promising treatments examined in this
study are positive treatments, they were found to be more acceptable than the negative treatment. It is possible that focusing on competence and skill building through these promising treatments provides a higher likelihood for acceptability relative to other treatments. Therefore, this study, as well as others, overwhelmingly suggest that positive, pro-social treatments, will likely be found more acceptable for use in the classroom.

**Promising Treatments**

Uniquely, this study examined teacher acceptability of promising treatments for children with ADHD. Importantly, results of this study indicated that promising treatments are as, and in some cases more, acceptable than evidence-based treatments and thus show potential for utilization by teachers. Among promising treatments, it was expected that social skills would have the highest ratings followed by peer tutoring and then self-reinforcement. Surprisingly, self-reinforcement and social skills were equally acceptable and significantly higher than peer tutoring.

One interpretation of these findings may be that participants felt peer tutoring failed to address the behavioral difficulties of the child in the vignette. Specifically, teachers may have felt that because this strategy focused on academic improvement, it would not address the inappropriate behavior. Indeed, among all three intervention descriptions, peer tutoring was the only treatment which specifically targeted academic difficulties. The lower acceptability ratings for peer tutoring were unexpected given that the child with ADHD in this study was described as earning passing grades, but was performing below his potential in most subjects. Perhaps his passing grades kept teachers from feeling an academic component of treatment was necessary. Alternatively, social
skills and self-reinforcement placed emphasis on promoting pro-social and appropriate behavior in the classroom setting, which teachers may have felt better addressed the needs of this child with ADHD. Furthermore, lower ratings of peer tutoring could suggest that although teachers may recognize academic impairments among children with ADHD, they may prioritize improvements in classroom behavior given its proximal relation to teacher stress (Greene et al., 2002).

Although speculative, it is possible that teachers felt peer tutoring would be an inconvenience to their classroom structure and environment. Dividing the class into pairs based on academic strength and monitoring tutoring may interfere with typical seating arrangements as well as a teacher’s instructional style. Although students of all levels have been shown to improve from the use of peer tutoring (DuPaul et al., 1998), teachers may have thought that peer tutoring would involve significant classroom changes to address the needs of only a few individuals. In contrast to peer tutoring, it is likely that self-reinforcement and social skills would likely not alter classroom structure and instructional style.

*Daily Report Card*

Among the six treatments, it was hypothesized that the daily report card would be rated as the most acceptable classroom treatment for children with ADHD. As expected, the daily report card received the highest rating, which is consistent with the results from other studies (Pisecco et al., 2001; Power et al., 1995). Power and colleagues (1995) found acceptability ratings for the daily report card to be higher than response cost and stimulant medication while Pisecco and colleagues (2001) found the daily report card to
be more acceptable than response cost, classroom lottery, and medication. Moreover, because the IRP-10 was used to measure acceptability of treatments in this study as well as those studied by Power et al. (1995), ratings across these studies can be directly compared. The mean for the daily report card in this study ($M = 46.5; SD = 8.35$) was not statistically different from that found by Power and colleagues (1995) ($M = 44.4; SD = 10.3$). Participants ($N = 147$) in the study by Power et al. (1995) were located in a middle class, suburban area whereas participants ($N = 79$) in this study were located in a rural, underserved area. Importantly, these differences in study location and participant characteristics provide support for the generalizability of the findings regarding the daily report card.

Examining the treatment description may be important to understanding why the daily report card continues to be rated highly acceptable among teachers. Given teachers’ continued preference for pro-social treatments, it is likely that the opportunity for children to earn rewards is appealing. Moreover, this intervention provides a unique goal in its effort to bridge communication between school and home. Because research has demonstrated that teachers value an intervention which facilitates teacher-parent communication (Pisecco, Huzinec, Curtis, & Mathews, 1999), it is not surprising that they consistently rate the daily report card as being the most acceptable treatment. Another interpretation may be that it is also likely that teachers perceive the daily report card as an opportunity to share the burden of managing or changing child behavior. Teachers may expect that parents will be responsive to the daily report card sent home every evening. Not only does this help teachers in shaping child behaviors, but also the
partnership and responsiveness of the parent likely validates and supports the teacher’s experience of that child.

**Self-Reinforcement**

Although Power et al. (1995) and Pisecco et al. (2001) reported that the daily report card was significantly higher than all other treatments compared, this study was unable to draw the same conclusion. Interestingly, with the introduction of promising treatments, the acceptability rating of self-reinforcement strategy was not statistically different than that of the daily report card. Given that the daily report card has been consistently rated higher than other pharmacological and psychosocial evidence-based treatments, the high level of acceptability for self-reinforcement treatment is noteworthy.

Examining the written description of self-reinforcement strategy reveals several important elements that may help explain the high ratings for this intervention. These elements include: 1) a positive strategy where teachers are provided the opportunity to reward the child; 2) a shared burden of changing child behavior by shifting responsibility to the child; 3) and the potential sustainability of this intervention over time.

First, this intervention is described as a positive treatment where teachers reward competent behavior and reinforce accuracy if the student’s behavior ratings match that of the teacher. Although teachers fully monitor behavior in the beginning of treatment, eventually the child begins to monitor his or her behavior. Over time, the teacher compares the student’s ratings to his or her own in a “match challenge” and provides rewards for accuracy. In addition to the reinforcing nature of this intervention, teachers may have found it equally important that this strategy does not penalize failure for
accuracy in the “match challenge.” Therefore, teachers may be attracted to the reinforcing role this positive treatment allows them to play.

Similar to the daily report card, it may be conjectured that self-reinforcement enables teachers to share the burden of changing child behavior. However, research suggests that teachers may be particular about who they would like to share treatment responsibility with and the manner in which it is shared. For example, some studies demonstrated that teachers tend to prefer interventions that require direct teacher involvement as opposed to handing over discipline responsibilities to other school professionals such as the principal (e.g., Algozzine et al., 1982; Martens et al., 1985).

Importantly, self-reinforcement allows the teacher to remain in control of treatment and does not require handing off treatment responsibility to another professional. However, the entire burden of treatment is not placed upon the teacher, but rather is shared by the child who begins to learn how to observe, monitor, and reinforce his or her own behavior. Furthermore, the burden of treatment, shared by the teacher and child, is consistent with literature which suggests that teachers find it important to promote student responsibility (Pisecco et al., 1999).

Lastly, although the literature suggests that benefits fail to maintain after treatment is withdrawn (Chronis et al., 2004), one interpretation of these findings may be that teachers have identified self-reinforcement as a strategy which has potential to increase student independence and sustainability of effects. If the teacher feels that his or her participation is the sole reason for improvement, he or she may feel the effects of treatment are only temporary. This may be concerning for teachers given their
involvement usually ends at the completion of the school year. However, self-reinforcement allows the child to become more aware of his or her behavior and offers the student the ability to monitor these actions. Although the child will eventually leave the care of that particular teacher, he or she may have the gained a skill set which can be taken to the next classroom following year. In the event that future teachers fail to participate in the child’s treatment, there may still be hope that some treatment gains will not be lost as the added awareness and ability to self-monitor behavior may carry over into the next school year.

**Stimulant Medication**

Additionally, it was hypothesized that stimulant medication would be rated no higher than negative, psychosocial treatments. Contrary to this expectation, stimulant medication was rated significantly higher than the negative psychosocial treatment (i.e. time-out). In fact, time-out was rated significantly lower than all other treatments. The finding that stimulant medication failed to be rated the least acceptable treatment was surprising, given that previous literature has never shown stimulant medication to be significantly more acceptable than any negative, psychosocial treatment (Epstein et al., 1986; Power et al., 1995).

Examination of stimulant medication relative to other treatments across studies may provide a useful interpretation of this current finding. Specifically, there appears to be a pattern of increased acceptability of stimulant medication among teachers over time. Four studies, spanning 20 years, indicate that stimulant medication improved in rank from significantly lower than all psychosocial treatments (Epstein et al., 1986), to as
acceptable (not significantly different than) as a negative psychosocial treatment (response cost) (Pisecco et al., 2001; Power et al., 1995), to significantly more acceptable than a positive psychosocial treatment (classroom lottery) (Pisecco et al., 2001), to as acceptable (not statistically different than) as a positive psychosocial treatment (peer tutoring) and significantly more acceptable than a negative psychosocial treatment (time-out) in this current study.

This trend most likely parallels the proliferation of ADHD in the media and increased documentation regarding the effectiveness of stimulant medication for ADHD, both which have continued to amplify over time (e.g., Coghill, 1995; Reid & Maag, 1997). With increased exposure, it is likely that ADHD has become more commonly discussed and accepted among the public. Furthermore, research has continued to show few side effects of stimulant medication, and pharmaceutical companies have persisted in creating and promoting novel ways for treatment administration (i.e. extended release). Collectively, increased exposure to ADHD through either media or training may be the reason for increased stimulant medication acceptability found in this study.

Importantly, this apparent trend in increased acceptability of stimulant medication over time is supported further by research which has demonstrated that what teachers know about ADHD is positively and significantly related to medication acceptability (Vereb & DiPerna, 2004). As teachers become more knowledgeable of ADHD and its treatment for children, it is possible that teachers may only be comfortable with stimulant medication when an ADHD diagnosis occurs with little or no alternative environmental reasons for a child’s behavior. The extant literature of treatment acceptability for children
with ADHD provides some support for this interpretation. For example, Epstein and colleagues (1986) described a child with ADHD in their vignette as also having a poor family life and being part of a foster family. This extraneous information may have led teachers to consider other alternative reasons for the child’s behavior. Therefore, in this situation, stimulant medication would not be rated as high for this child. In fact, results from that study showed that stimulant medication was rated the lowest treatment. Alternatively, the vignette used by Power et al. (1995), Pisecco and colleagues (2001), and this study described a child with combined type ADHD symptoms and impairment without the inclusion of those additional family factors. Results from these studies showed improved acceptability of stimulant medication particularly in the absence of other contributing environmental factors.

**Teacher Perceived Efficacy**

Unique to the literature, this study assessed the relation between teacher perceived efficacy of classroom management and treatment acceptability for each of the six treatments. Teacher perceived efficacy was a critical construct to examine because higher teacher efficacy beliefs have been found to relate to many, valuable educational variables. Because effective treatments for ADHD in the classroom setting require an active commitment of time and effort, it was thought that teachers with higher perceived efficacy for classroom management would find psychosocial treatments more acceptable. Therefore, it was hypothesized that greater teacher perceived efficacy would be significantly, positively related to acceptability of daily report card, time-out, peer tutoring, self-reinforcement, and social skills, all of which require commitment, planning,
and organization on the part of the teacher. Furthermore, it was hypothesized that teacher efficacy would be negatively related to stimulant medication given that stimulant mediation requires little to no support from the classroom teacher during the school day. Therefore, it was believed that teachers with low efficacy, those who may not feel competent or efficacious in managing classroom behavior, would not find treatments which require teacher effort and competence to be acceptable.

Unexpectedly, the observed correlations between teacher perceived efficacy of classroom management and treatment acceptability ratings for the six treatments indicated no statistically significant relations among them. These results were very surprising given that teacher efficacy has been associated with several key teacher and student variables. Despite high levels of internal consistency among all measures, teacher perceived efficacy failed to show relations with any of the treatments examined. Potential reasons for these findings are addressed in the limitations below.

**Limitations**

Results of this study must be considered in light of its limitations. First, the sample consisted solely of Caucasian teachers who were employed in rural elementary schools. Additionally, female teachers were the dominant source of information for the survey. Therefore, findings may not generalize to other settings and populations (i.e. ethnically diverse teachers in urban settings).

Recruitment for this study occurred during in-services for teachers prior to the start of the school year. Notably, the in-service occurred as a part of a larger program, which promoted psychosocial treatment for children with academic and behavioral
challenges in school. Furthermore, teachers were not required to attend the service. Thus, it is possible that teachers not in attendance are individuals who are uninterested in learning about psychosocial treatments and who do not support their use in the classroom. An attempt was made to collect data from teachers not in attendance, however, few responded. Had more individuals who were absent from the in-service been included in the sample, they may have rated treatments differently than those who were in attendance and did complete the survey. Because of this limitation, acceptability ratings may be somewhat inflated.

A lack of relations between teacher perceived efficacy of classroom management and acceptability of the six treatments may be due to limitations in the timing of this study as well as the measurement of teacher efficacy. For example, because teachers completed this survey prior to the school year, the fact that teachers were not currently addressing classroom management of children with ADHD may have influenced their acceptability of treatments as well as their ability to accurately measure their perceived efficacy. Although recent literature has suggested that efficacy is specific to context (Tschannen-Moran, Hoy, & Hoy, 1998), other studies have found relations using broader measures of efficacy (e.g. Imants & Van Zoelen, 1995; Ross, 1992). It may be the case that the behavior management subscale of efficacy was too specific and led to no relations between teacher perceived efficacy and acceptability of treatments.

The last and most important limitation to this study involved the use of an analog design to depict a child with combined type ADHD. Although the use of a vignette provided internal validity, allowed for less complex data collection, and was consistent
with the assessment of treatment acceptability in previous studies, this methodology limits the utility and generalizability of these results. Concern for this issue has been repeatedly identified by researchers in this area (e.g. Elliott et al., 1984; Epstein et al., 1986; Kutsick et al., 1991; Pisecco et al., 2001; Power et al., 1995; Witt et al., 1984; Witt, Moe et al., 1984). Thus, results from this study may not be representative of teachers’ true acceptability of treatments when faced with an actual child in their classroom and the decision regarding which treatments they find acceptable for that child.

Implications and Future Directions

Teacher acceptability of treatments is a valuable construct worthy of exploration as previous literature has demonstrated its influence on both behavioral and academic outcomes of students within the classroom setting. Notably, studies have demonstrated that teacher acceptability of treatment is related to effectiveness (VonBrock & Elliott, 1987) and possibly implementation of classroom interventions (Martens et al., 1996) as well as influential in determining adherence to intervention protocol and student outcomes (Allinder & Oats, 1997).

Given that that research has demonstrated that differing levels of treatment acceptability has direct impact on student outcomes, treatment acceptability must be given extensive consideration in determination of appropriate treatments. In particular, teacher acceptability of treatments plays a critical role in classroom-based interventions for children with ADHD. The results of this study have significant implications and suggestions for future directions for researchers and clinicians invested in classroom-based interventions for children with ADHD.
Factors. Although this study failed to find a relation between teacher perceived
efficacy for classroom management and acceptability ratings for any of the six
treatments, factors related to teacher acceptability of treatments must continued to be
explored. Teacher efficacy may be worthwhile to examine more broadly, however other
factors such as teacher stress, teacher burn-out, and perceived support from principals,
colleagues, and parents may be important constructs to explore. Additionally, researchers
should look beyond identifying factors related to acceptability and explore whether these
factors are related to the integrity with which teachers implement interventions for
students with ADHD (Vereb & DiPerna, 2004).

Evaluating promising treatments. Findings from this study have direct
implications for promising treatments as results demonstrate significant acceptability and
potential for utilization among teachers. Although these interventions were rated as, and
in some cases more, acceptable than evidence-based treatments, status among the
scientific community still remains “promising” with limited empirical support
(Waschbusch & Hill, 2003).

Understandably, there has been a strong push for the use of evidence-based
treatments in an effort to strive for optimal gains as well as consistency and
accountability among professionals. However, ample evidence suggests that efficacy is
not always sufficient in arriving at desired outcomes. For example, although stimulant
medication has been extensively studied, has demonstrated consistent, positive outcomes,
and is considered the “gold standard” treatment for ADHD, it may not be considered
acceptable among caregivers. For example, in a two-site study examining stimulant
medication alone to multimodal treatment, 21% of 1,216 parents who called to inquire about the study declined further participation because they did not want medication for their child (Hechtman & Abikoff, 1995). In addition, results from the current study showed that teachers rated most treatments for children with ADHD more acceptable than stimulant medication. Furthermore, even among evidence-based treatments, no treatment in and of itself has been found to effectively manage ADHD (Rapport, 1992), normalize behavior of all children with ADHD (Swanson et al, 2001), or produce long-term benefits for children with ADHD (Pelham et al., 1998).

Given that children with ADHD have multiple impairments and no evidence exists to suggest that well-established treatments address all the needs of children with ADHD, the search for effective treatments must continue. Therefore, despite limited empirical support, researchers and clinicians must be aware that promising treatments have demonstrated acceptability among teachers and remain open to further examination and use of promising treatments.

Importantly, more rigorous studies of promising treatments must be conducted to allow for systematic review to better determine whether they meet evidence-based treatment status. To date, few studies, with a limited number of participants, have examined promising treatments for children with ADHD (Waschbusch & Hill, 2003). The results of this study demonstrate that promising treatments have evidenced acceptability among teachers; therefore, researchers must conduct more rigorous examination of these interventions for children with ADHD.
Refining promising treatments. Though results from this study indicate that promising treatments for children with ADHD demonstrate significant acceptability and potential for utilization among teachers, these interventions must be critically analyzed and refined to further ensure effectiveness, dissemination, and sustainability. In doing so, the acceptability of promising treatments must be considered in light of possible strengths and weaknesses associated with the treatments. For example, although this study demonstrated that self-reinforcement was acceptable relative to other treatments and several elements of self-reinforcement support this level of acceptability by teachers, a discussion of possible limitations associated with self-reinforcement is warranted.

Although previous literature has demonstrated that self-reinforcement can be effective for children with ADHD (Barkley et al., 1980; Barry & Messer, 2003; Edwards et al., 1995; Hinshaw et al., 1984; Hinshaw & Melnick, 1992), questions remain regarding its generalizability for all children with ADHD. First, it must be recognized that the cognitive ability required for a child to monitor and track behavior may not be intact for younger children. In addition, the skills necessary for self-reinforcement also require at least some cognitive maturity, which may not be developed yet in very young children. Lastly, this treatment may demonstrate limited capacity for children with ADHD who may tend to be poor self-reporters and underestimate their deficiencies (Owens & Hoza, 2003; Hoza et al, 2004). Thus, although acceptable, self-reinforcement may involve components which limit its effectiveness for certain children with ADHD. Lastly, potential hypothesis about limitations (i.e. less interested in the academic component; required cognitive ability) as well as strengths associated with some
promising treatments (i.e. positive in nature; sharing the burden of treatment) allow researchers and clinicians to communicate and act on treatment refinement. Importantly, evaluating strengths and weaknesses of all treatments, both evidence-based and promising, will likely be beneficial to all treatments, regardless of empirical status.

Consultation. Results from this study also offer important implications for those who serve to consult teachers. A critical piece to effective teacher consultation is promoting and obtaining teacher “buy in” of strategies aimed to improve classroom management and teacher-student relationships (Sheridan, Kratochwill, & Bergan, 1996). Although being able to engage and sustain teachers in the treatment process can be challenging, “buy in” is critical as it likely increases the likelihood that children with ADHD will have consistent treatment in the classroom. However, several areas of literature suggest that “buy in” and behavior change, commonly expected of teachers by consultants, may be promoted by means other than increasing teacher knowledge of treatments. Importantly, the results from this study provide beneficial implications for those consulting with teachers regarding treatments for ADHD.

Consultants often serve as the catalyst by which mental health interventions are implemented within the school system. Typically, consultation is an indirect service delivery model because the consultant provides services to the consultee rather than directly to those who need mental health intervention. For consultants invested in improved outcomes for children with ADHD, teachers will be a primary focus of appropriate treatment intervention for the child. A critical piece to effective teacher consultation is initiating and sustaining “buy in” when approaching teachers with
strategies aimed to improve classroom management, academics, and teacher-student relationships. Thus, successful consultation with teachers sets the stage for positive outcomes for students with ADHD. However, getting teachers to engage in treatment and change their own behavior is particularly difficult, as teachers may feel treatment is not their responsibility, is too time-intensive, fails to fit with the structure of their classroom, as well as many other reasons. Thus, consultants strive to obtain willing attitudes from teachers regarding treatment.

Many areas of psychology, as well as marketing, have demonstrated that attitudes and preferences influence behavior (e.g., Fishbein & Ajzen, 1975). Although attitudes can be developed through limited experience or preconceived notion, these cognitions are not easily altered through conventional persuasion once established (Swann, Pelham, & Chidester, 1988). A common strategy used to modify attitudes and elicit behavior change involves increasing knowledge or providing facts about an issue. Although a seemingly appropriate strategy, social psychology literature suggests that although some individuals can be persuaded when they rely on experience and knowledge to form their attitudes, others will not use the same process when adopting beliefs (Petty & Cacioppo, 1986). In fact, marketing research has concluded that tactics such as enhancing knowledge has little or no impact on behavior (Bickman, 1972; Finger, 1994; Geller, 1981; Geller, Erickson, & Buttram, 1983). These findings may be alarming for consultants who have solely relied upon these strategies to initiate and sustain “buy in” and behavior change among teachers. Therefore, it is pivotal for consultants to recognize that one approach for “selling strategies,” as well as providing knowledge or a rationale for the use of behavior
management interventions will be likely be insufficient in producing behavior change in all teachers. Rather, they must be able to approach consultation without the assumption that teachers must be “educated” about effective interventions. Thus, consultants may benefit from consideration of teachers’ acceptability of treatments.

Findings from this study have direct implications for consultation with teachers regarding treatments for children with ADHD. The results from this study allow consultants to approach teachers with treatments shown to demonstrate teacher approval rather than those less desired by teachers. Specifically, this study provides further evidence that teachers are more welcoming of positive treatments. Therefore, in the initial stages of rapport building and consultation with teachers, it may behoove consultants to first introduce pro-social treatments as a first line approach to treatment for students with ADHD.

Moreover, the acceptability of promising treatments found in this study is also encouraging for consultants. Notably, consultants may promote promising treatments with increased confidence as results indicate that teachers may be as willing to accept promising treatments into their classrooms as much as they currently accept evidence-based treatments. This potentially provides consultants with a larger list of treatments to offer teachers and an increased probability of success for children with ADHD. In particular, the high acceptability of the self-reinforcement strategy found in this study should encourage consultants to suggest its use in the classroom. Importantly, if teachers are informed that long-term goals for treatment involve handing over the bulk of behavior monitoring to the student, they may be more likely to initially engage in the treatment
process. Thus, consultants may explain treatment this way to persuade teachers to “buy into” the daily report card, token economies, or other behavioral management tools necessary at earlier points in the treatment process.

Importantly, although consultants have the choice to first introduce strategies which align with teachers’ preferences, there may be danger in only promoting treatments that are already well-received. For example, despite teachers’ high acceptability of positive treatments, several studies have demonstrated that mild penalties for inappropriate behavior are needed to produce and sustain change in behavior (Piffner & O’Leary, 1987; Piffner et al, 1985). This suggests positive treatments alone are often insufficient and that some degree of penalty or removal of privilege is necessary for children’s behavior to improve sufficiently. Thus, if initial attempts for teacher “buy in” include using acceptable treatments, at some point the consultant must bridge the gap between acceptable treatments and those which are less attractive to teachers.

Moving from analog to natural settings. Exploring new areas of research, such as teacher acceptability of promising treatments for children with ADHD, requires that initial research be conducted in an orderly fashion. The use of analog research designs allows researchers to do so by using tightly controlled conditions and larger samples than can be expected with studies designed in natural settings. Consistent with the design of previous treatment acceptability studies, this study used a vignette to provide an initial understanding of teachers’ acceptability of promising treatments for children with ADHD. Additionally, this study design allowed examination of promising treatments relative to evidence-based treatments. Therefore, this study served as a first step toward
how promising treatments may be used to advance outcomes for children with ADHD in the classroom setting.

The next step in the research process requires the need to assess the ecological validity of findings from this study as well as others in the treatment acceptability literature. Quite clearly, researchers in this area have acknowledged this limitation and have identified the need to adjust study designs from tightly controlled analog conditions to natural settings (e.g. Pisecco et al., 2001; Power et al., 1995). Although this is a critical next step in the treatment acceptability literature, it is not a unique request for the mental health community as closing the gap between efficacy and effectiveness of treatments has become a national priority (e.g. New Freedom Commission on Mental Health, 2003).

Consistent with previous conceptualizations regarding the concurrent consideration and use of basic and applied research (Stokes, 1997), Atkins, Frazier, and Cappella (2006) make a similar recommendation that efficacy and effectiveness research must be examined in tandem. Furthermore, they discuss the value of using hybrid research models; those which tolerate complexity (i.e. “noise”) and use it to better inform methods and studies. For mental health service, this allows studies, and ultimately treatments, to be informed by and addressed through the realities of settings (e.g., Chorpita, 2002; Southam-Gerow, 2004) such as classrooms within the school environment. For treatment acceptability literature, the application of this kind of model would encourage investigators to apply findings based on vignettes to discover if results from analog studies are consistent with levels of acceptability assessed in natural settings. In addition, no previous study has examined the relation between teacher acceptability of
treatments for children with ADHD as it relates to perceived and actual implementation and student outcomes. Therefore, it is recommended that future researchers apply a hybrid approach to this area of research by concurrently linking the literature base from analog work with data produced from the natural school environment.

In conclusion, increased demands within the school environment (e.g. No Child Left Behind Act, 2001) have placed a high degree of accountability on teachers for the social, emotional, and academic functioning of students. With regard to mental health care, teachers remain at the forefront of providing care through identifying impairment and providing treatment in the classroom setting. Thus, the importance of which interventions teachers find acceptable and which they are willing to incorporate into their classrooms is invaluable. If researchers and consultants continue to push treatments which have been shown to be efficacious but are beyond what teachers are capable of implementing over the course of the school day, mental health needs of children will continue to be unmet in the classroom. We can no longer afford to create treatments in a vacuum and hope they will demonstrate success upon introduction to the classroom. Rather, treatments must be developed with the context of the classroom setting with the guidance and assurance of those who are expected to implement them. Teacher acceptability of treatments is a critical component for mental health success in children. Therefore, the results of this study serve as feedback from teachers and thus should be considered a catalyst for further examination of treatments identified as promising for children with ADHD.
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of the variables associated with treatment acceptability and their relation to 
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Appendix A

DEMOGRAPHICS QUESTIONNAIRE

1. Age_______
2. Gender (please circle): Male Female
3. Ethnicity (please circle):
   White/Non-Hispanic    African American/Black Non-Hispanic    American Indian/Alaskan Native
   Hispanic            Asian/Asian-American             Other (specify) ______________
4. How many years of total teaching experience do you have?_______
5. What grade level(s) do you currently teach? ________________
6. What is your highest level of education?
   ____Bachelor’s Degree   ____Bachelor's plus some credits towards Master’s
   ____Master’s Degree ___Master’s plus some credits towards Doctorate ___ Doctorate
7. What is your current certification? ___General Education ___Special Education (Please check both if appropriate.)
8. If both, how many years have you been certified in general education? ____ Special education? _________
9. During your teaching career, how many students have you taught with a formal diagnosis of ADHD? ________
10. How many years have you had at least one student formally diagnosed with ADHD in your class? ______
11. The Youth Experiencing Success in School (Y.E.S.S). Program began during the 2002-2003 school year. How many years have you worked with the Y.E.S.S. Program? ________________
12. Before each school year, Dr. Owens provides a Y.E.S.S. Program in-service for teachers. How many Y.E.S.S. Program in-services have you attended? ________________
13. In the context of the Y.E.S.S. program, how many different students you have worked with? ____
14. In the context of the Y.E.S.S. program, how many different clinicians have you worked with? ___
Appendix B

INTERVENTION STRATEGIES

Below is a description of a child who is experiencing behavioral problems that interfere with his learning and the learning of others, and that create stress for the teacher. Please read this description.

Child Description

John often does not follow the teacher’s instructions or classroom rules. He has difficulty starting assignments and fails to complete assignments virtually every day. He is earning passing grades, but he seems to be performing below his potential in most subjects. At times, he gets out of his seat when he shouldn’t and when seated he fidgets and squirms quite a bit. Several times per day, John causes a disruption in class by making comments out of turn and by making inappropriate noises. In the lunchroom, he tends to be loud and to play roughly and he gets teased more than most of his peers. Professionals outside the school have determined that he has Attention Deficit Hyperactivity Disorder (ADHD).

Imagine that John is a student in your classroom. On the following pages you will read about six strategies that may be used to change the behavior of a child like John. After you read about each strategy, you will be asked a series of questions. When you are finished answering one set of questions, go on to the next until you have completed a questionnaire for each of the six interventions.
The Daily Report Card (DRC): The teacher identifies 2-4 specific behaviors that John needs to improve (e.g., work completion, raises hand to speak), clearly defines these behaviors for him, and decides what criteria he must meet in order to have a "successful DRC" and earn a reward (e.g., 70% complete, 3 interruptions). The teacher monitors and tracks his behaviors, provides verbal feedback on a daily basis, fills out the DRC indicating whether John has met his goals, gives John the report card to take home to his parents, and makes sure that DRC success is met with a reward for him either at home or at school. The teacher gradually changes the DRC to make it more challenging as John’s behavior improves.

Please answer the questions in reference to using the Daily Report Card (DRC) for John.

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<th>Strongly Disagree</th>
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<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
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<tbody>
<tr>
<td>1. This would be an acceptable intervention for John’s school</td>
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<td>2. This intervention should prove effective in changing John's</td>
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<td>3. I would suggest the use of this intervention to other teachers.</td>
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<td>4. John's school problems are severe enough to warrant use of</td>
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<td>5. Most teachers would find this intervention suitable for a</td>
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<td>child with characteristics similar to John.</td>
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<td>6. This intervention would not result in negative side effects</td>
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<td>for John.</td>
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<td>7. This intervention is a fair way to handle John's school</td>
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<td>difficulties.</td>
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<td>8. This intervention is a reasonable for John.</td>
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<tr>
<td>9. I liked the procedure used in this intervention.</td>
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<td>10. Overall, this intervention would be beneficial for John.</td>
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I would use this intervention in my classroom.

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<th>Strongly Disagree</th>
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<th>Agree</th>
<th>Strongly Agree</th>
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How much effort would this intervention require of you?

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<th>No Effort</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>A Great Deal Of Effort</th>
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</table>
**Time-out (TO):** Time-out involves removing John from an enjoyable activity or one that includes the rest of the class because he has displayed an inappropriate or negative behavior (e.g., aggression, disrespect to the teacher). Upon the violation, the teacher tells John that he has earned a time-out. The teacher informs him of the time-out location and length of time that must be served. The teacher keeps an eye on John's behavior from a distance and then instructs him to return to the prior activity after he has served his time-out appropriately.

Please answer the questions in reference to using the Time-out (TO) for John.

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<th>Strongly Disagree</th>
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<td>1. This would be an acceptable intervention for John’s school difficulties.</td>
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<td>2. This intervention should prove effective in changing John's school problems.</td>
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<td>3. I would suggest the use of this intervention to other teachers.</td>
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<td>4. John's school problems are severe enough to warrant use of this intervention.</td>
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<td>5. Most teachers would find this intervention suitable for a child with characteristics similar to John.</td>
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<td>6. This intervention would not result in negative side effects for John.</td>
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<td>7. This intervention is a fair way to handle John's school difficulties.</td>
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<td>8. This intervention is a reasonable for John.</td>
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<td>9. I liked the procedure used in this intervention.</td>
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<td>10. Overall, this intervention would be beneficial for John.</td>
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<td>I would use this intervention in my classroom.</td>
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_How much effort would this intervention require of you?_

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**Stimulant Medication (SM):** This medication (Ritalin) is used to improve John's attention span and work completion as well as reduce his impulsivity and classroom disruptiveness. The medicine is given before school by John’s parents and at lunch by the school nurse. During a trial of medication which lasts 20 days, the teacher completes a 5-item rating scale at the end of each day in order to determine the effectiveness of the medication. Also, the teacher is asked to inform parents if they notice any changes in health status (e.g., complains of stomachaches) or mood while John is on medication. Once the correct dose is decided, the teacher completes a brief questionnaire once a month to determine whether the medication is having the intended effect.

Please answer the questions in reference to using **Stimulant Medication (SM) for John.**

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<th>Question</th>
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<td>1. This would be an acceptable intervention for John’s school difficulties.</td>
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<td>2. This intervention should prove effective in changing John's school problems.</td>
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<td>3. I would suggest the use of this intervention to other teachers.</td>
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<td>4. John's school problems are severe enough to warrant use of this intervention.</td>
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<td>5. Most teachers would find this intervention suitable for a child with characteristics similar to John.</td>
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<td>6. This intervention would not result in negative side effects for John.</td>
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<td>7. This intervention is a fair way to handle John's school difficulties.</td>
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<td>8. This intervention is a reasonable for John.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. I liked the procedure used in this intervention.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10. Overall, this intervention would be beneficial for John.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would use this intervention in my classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

*How much effort would this intervention require of you?*

<table>
<thead>
<tr>
<th>Level of Effort</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Effort</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>A Great Deal Of Effort</td>
</tr>
</tbody>
</table>
Peer Tutoring (PT): PT allows John to receive one-on-one instruction on an academic activity with another student (who is typically a higher achieving student). The higher achieving student provides assistance, instruction, and/or feedback to John as they work together. In the context of PT, the teacher divides the class into pairs, taking into consideration the academic strength of the students being paired. The teacher should monitor the tutoring, provide reinforcement for pairs of students who are following directions, and working appropriately. PT sessions typically last 20-30 minutes.

Please answer the questions in reference to using the Peer Tutoring (PT) for John.

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This would be an acceptable intervention for John’s school difficulties.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. This intervention should prove effective in changing John's school problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. I would suggest the use of this intervention to other teachers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. John's school problems are severe enough to warrant use of this intervention.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. Most teachers would find this intervention suitable for a child with characteristics similar to John.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6. This intervention would not result in negative side effects for John.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7. This intervention is a fair way to handle John's school difficulties.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8. This intervention is a reasonable for John.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. I liked the procedure used in this intervention.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10. Overall, this intervention would be beneficial for John.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

How much effort would this intervention require of you?

<table>
<thead>
<tr>
<th>Effort</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Effort</td>
<td>1</td>
</tr>
<tr>
<td>A Great Deal Of Effort</td>
<td>5</td>
</tr>
</tbody>
</table>

I would use this intervention in my classroom. | Strongly Disagree | Disagree | Slightly Disagree | Slightly Agree | Agree | Strongly Agree |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Self-Reinforcement (SR): SR can be used to gradually fade out a behavior program in which the teacher has initially been providing John with points, tokens, or rewards for good behavior or removing these items when he displays inappropriate behavior. SR requires teaching John to observe and monitor his own behavior and to evaluate and reinforce his own performance. Both the teacher and John track his behavior and he is rewarded for good behavior with bonus points if his ratings match the teacher's ratings exactly. Over time, the teacher ratings are faded except for periodic "matching challenges" which encourages John to rate his behavior accurately. The teacher continues to reward John for good behavior and accurate ratings throughout the remainder of the treatment.

Please answer the questions in reference to using **Self-Reinforcement (SR) for John.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This would be an acceptable intervention for John’s school difficulties.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. This intervention should prove effective in changing John's school problems.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>3. I would suggest the use of this intervention to other teachers.</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. John's school problems are severe enough to warrant use of this intervention.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
</tr>
<tr>
<td>5. Most teachers would find this intervention suitable for a child with characteristics similar to John.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6. This intervention would not result in negative side effects for John.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7. This intervention is a fair way to handle John's school difficulties.</td>
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<tr>
<td>8. This intervention is a reasonable for John.</td>
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<td>9. I liked the procedure used in this intervention.</td>
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<td>10. Overall, this intervention would be beneficial for John.</td>
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</table>

<table>
<thead>
<tr>
<th>I would use this intervention in my classroom.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*How much effort* would this intervention require of you?

<table>
<thead>
<tr>
<th>1 2 3 4 5 6</th>
<th>No Effort</th>
<th>A Great Deal Of Effort</th>
</tr>
</thead>
</table>
Social Skills (SS): In Social skills instruction in the classroom setting, the teacher designates approximately 20 minutes to the social skill lesson. First, the teacher introduces the skill to the entire class in a brief manner. The topics teachers may choose from include skills such as giving and accepting a compliment, learning appropriate ways of making complaints, apologizing, learning how to say no, asking favors appropriately, beginning, listening, and ending a conversation, working cooperatively, helping, or sharing. The teacher models the skill for the class. Then students, including John, role-play the social skill. Teachers may also incorporate a short group game to allow students to practice the technique. Throughout the day, the teacher praises and reinforces students for using social skills outside of the 20 minute social skills lesson.

Please answer the questions in reference to using the **Social Skills (SS) for John.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<tr>
<td>1. This would be an acceptable intervention for John’s school difficulties.</td>
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<td>2. This intervention should prove effective in changing John's school problems.</td>
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<td>5. Most teachers would find this intervention suitable for a child with characteristics similar to John.</td>
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<td>6. This intervention would not result in negative side effects for John.</td>
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</tr>
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</tr>
<tr>
<td>8. This intervention is a reasonable for John.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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</tr>
<tr>
<td>9. I liked the procedure used in this intervention.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
</tr>
<tr>
<td>10. Overall, this intervention would be beneficial for John.</td>
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<td>3</td>
<td>4</td>
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<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would use this intervention in my classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**How much effort would this intervention require of you?**

<table>
<thead>
<tr>
<th>No Effort</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Great Deal Of Effort</td>
<td>5</td>
</tr>
</tbody>
</table>
## Appendix C

### OHIO STATE TEACHER EFFICACY SCALE

Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below.

<table>
<thead>
<tr>
<th>Teachers' Beliefs</th>
<th>Nothing</th>
<th>Very Little</th>
<th>Some Influence</th>
<th>Quite A Bit</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How much can you do to control disruptive behavior in the classroom?</td>
<td>1 2 3</td>
<td>4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. How much can you do to get children to follow classroom rules?</td>
<td>1 2 3</td>
<td>4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. How much can you do to calm a student who is disruptive or noisy?</td>
<td>1 2 3</td>
<td>4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. How well can you establish a classroom management system with each group of students?</td>
<td>1 2 3</td>
<td>4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. How well can you keep a few problem students from ruining an entire lesson?</td>
<td>1 2 3</td>
<td>4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. How well can you respond to defiant students?</td>
<td>1 2 3</td>
<td>4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. To what extent can you make your expectation clear about student behavior?</td>
<td>1 2 3</td>
<td>4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. How well can you establish routines to keep activities running smoothly?</td>
<td>1 2 3</td>
<td>4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D

INFORMED CONSENT TO PARTICIPATE

Investigators: Erin L. Girio, B.A., Principal Investigator, Clinical Psychology Graduate Student, Ohio University
                Julie S. Owens, Ph.D., Faculty Sponsor, Assistant Professor of Psychology, Ohio University

Study Title: “Teacher Perceptions of Treatments for ADHD Part I”
Study Site: Department of Psychology, Ohio University

What is the purpose of this project? The purpose of this study is to better understand teachers’ preferences for treatments for children with Attention Deficit/Hyperactivity (ADHD) disorder. Participation should take approximately 20 minutes.

What are the potential risks or discomforts? There are virtually no risks involved with participation in this study. A potential discomfort for teachers may involve the inconvenience associated with taking time to complete the questionnaires.

What are the benefits? There are no anticipated benefits to participants in this study. However, accurate and honest responses are important to the purpose of the study. The intention is to use what is learned from this study to help intervention consultants and psychologists to better meet the needs of both teachers and students. These results will help us better understand matching interventions to teachers’ preferences to help improve student behavior as well as reduce teacher stress.

How will I be compensated for my participation? By agreeing to participate in this study, participants will receive a $5 Wal-Mart Gift Card following completion.

How will information be kept private? You will not be asked to provide your name or any identifying information. Data will be gathered in an anonymous manner and therefore, no one can link the information you provide to you. Overall results of this study will be shared with teachers and schools at a group level.

Who can I contact if I have questions? Participants who have questions regarding this study may contact Erin L. Girio (eg324704@ohio.edu) or Julie Owens, Ph.D. (owensj@ohio.edu) at (740) 597-2925. Participants with questions regarding rights as a research participant may contact Jo Ellen Sherow, Director of Research Compliance, Ohio University, (740) 593-0664.

Your participation in this study is voluntary. Your completion of this survey implies that you have given your consent to participate. Thank you for your time!!
Appendix E

CORRELATIONS AMONG TREATMENT ACCEPTABILITY RATINGS

<table>
<thead>
<tr>
<th></th>
<th>DRC</th>
<th>SR</th>
<th>SS</th>
<th>PT</th>
<th>SM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Report Card</td>
<td>-</td>
<td>.47***</td>
<td>.24*</td>
<td>.06</td>
<td>.28*</td>
<td>.24*</td>
</tr>
<tr>
<td>Self-Reinforcement</td>
<td>.47***</td>
<td>-</td>
<td>.31**</td>
<td>.19</td>
<td>.04</td>
<td>.20</td>
</tr>
<tr>
<td>Social Skills</td>
<td>.24*</td>
<td>.31**</td>
<td>-</td>
<td>.43***</td>
<td>-.20</td>
<td>.13</td>
</tr>
<tr>
<td>Peer Tutoring</td>
<td>.06</td>
<td>.19</td>
<td>.43***</td>
<td>-</td>
<td>-.10</td>
<td>.30**</td>
</tr>
<tr>
<td>Stimulant Medication</td>
<td>.28*</td>
<td>.04</td>
<td>-.20</td>
<td>-.10</td>
<td>-</td>
<td>.41***</td>
</tr>
<tr>
<td>Time-Out</td>
<td>.24*</td>
<td>.20</td>
<td>.13</td>
<td>.30**</td>
<td>.41***</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note: N = 79; * p < .05; ** p < .01; *** p < .001*