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PARENTS' AND TEACHERS' ACCEPTABILITY OF TREATMENTS FOR
ATTENTION-DEFICIT/HYPERACTIVITY DISORDER: THE EFFECTS
OF PRESENTATION AND INFORMATION DELIVERY

by

Jason Donald Gage

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

2002

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ABSTRACT

Parents' and Teachers' Acceptability of Treatments for
Attention-Deficit/Hyperactivity Disorder: The Effects
of Presentation and Information Delivery

by

Jason Donald Gage, Doctor of Philosophy

Utah State University, 2002

Major Professor: Dr. Gretchen A. Gimpel
Department: Psychology

Attention-deficit/hyperactivity disorder (ADHD) is one of the most frequently diagnosed problems affecting school-age children. This disorder can cause significant problems for children who consequently need treatment. Consumers of interventions for ADHD have efficacious treatments to choose from, but such treatment may not be implemented appropriately and effectiveness may decrease. Viewing treatments as acceptable can affect treatment integrity and in turn increase effectiveness. Therefore, it is important that professionals understand how to increase the acceptability of treatments when first presenting treatment options to consumers. The primary purpose of this study was to determine if presenting parents and teachers with additional information about treatment options (behavioral therapy, medications, combination of both), beyond that of only providing treatment descriptions, would increase their

treatment acceptability. Results showed that providing a rationale for treatment increased parents' acceptability for treatments involving medications, but not for behavioral treatments. This effect for how treatments were presented was not found among teachers. The results also suggest that parents and teachers differ in how acceptable they viewed some of these treatments. While parents rated the behavioral intervention as more acceptable than teachers, teachers rated the combination intervention as more acceptable than did parents. The results also indicate that consumers, especially parents, viewed the acceptability of these three treatment options differently, but that these effects interact with the amount and kind of information that the practitioners present to them. Specifically among parents, those who only received a description of the interventions rated the behavioral intervention as more acceptable than the combination intervention. However, there was no longer a significant difference in acceptability ratings of these two treatment options when rationales were provided along with treatment descriptions.

(130 pages)

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Jason Donald Gage

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CHAPTER I

INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is one of the most frequently diagnosed problems affecting school-age children. This disorder has an estimated prevalence of 3%-5% with male:female ratios ranging from 4:1 to 9:1, depending on the setting (American Psychiatric Association, 1994). The effects of ADHD range from primary behavior problems such as hyperactivity, attention deficits, and impulsivity to secondary problems such as poor academic performance; conduct, social, and emotional difficulties; poor adaptive functioning; and problems with motor development (Barkley, 1998). Although the effects of ADHD range in severity, they almost always cause significant problems for the child, as well as others associated with the child. Therefore, treatment for ADHD is often necessary.

Upon diagnosis, parents are faced with several choices regarding the treatment of ADHD, the most common being psychostimulant medications, behavioral interventions, or the combination of both. The most frequently prescribed psychostimulant medication is Methylphenidate (Ritalin). Other commonly prescribed medications are Concerta and Adderall, while Cylert and Dexedrine are also prescribed, but less often. Home-based behavioral interventions usually include parent training in the appropriate use of reinforcement and discipline techniques, as well as self-modification techniques for children. In addition, school-based behavioral interventions are also used either separately or in conjunction with home-based interventions. Each treatment option has both pros and cons, which can influence parents' decisions regarding treatment.

Research indicates that regardless of the treatment used, the intervention is more likely to be effective if consumers, including teachers, view it as acceptable (Cross-Calvert & Johnston, 1990; Kazdin, 1980a, 1980b). Existing narrative reviews regarding treatment acceptability of behavioral interventions have identified numerous variables that influence ratings of treatment acceptability (Cross-Calvert & Johnston, 1990; Elliott, 1988; Reimers, Wacker, & Koepl, 1987). For instance, consumers generally rate positive treatments, which attempt to increase appropriate behaviors, as more acceptable than reductive treatments, such as time out or other punishment techniques. Furthermore, greater problem severity in children increases ratings of acceptability of behavioral interventions. However, limitations exist in the current literature base on treatment acceptability, particularly in relation to determining parents' and teachers' acceptability of interventions for ADHD specifically.

First, previous research has investigated a variety of factors related to treatment acceptability, but much of the previous research on acceptability of treatments has included children and college students as participants as well as parents and teachers. Therefore, not all results may generalize to parents and teachers. In particular, results may not generalize to fathers, as they have rarely been included as participants. Moreover, little research on acceptability includes investigations of acceptability ratings of medications or treatments that involve the combination of behavioral interventions and medications. Finally, little research focuses specifically on ADHD. Instead, research regarding acceptability typically focuses on general child behavior problems.

In addition to the variables examined in previous studies, one hypothesized

variable that could affect acceptability ratings is the way in which treatment options are presented. Cross-Calvert and McMahon (1987) indicated that the way in which information about behavioral interventions was presented to a child affected mothers' treatment acceptability ratings. However, this study did not examine these effects for the presentation of treatments involving medications. Moreover, the study did not examine the effects of presenting the treatments directly to parents or teachers. Currently, no empirical studies exist that have examined the relationship between how treatments for ADHD are presented to parents and teachers, and their acceptability ratings of those treatments. Examining this factor is important because altering the way in which treatments are presented to parents and teachers could change their acceptability level at the onset of treatment, thus potentially influencing the effectiveness of the treatment. Given the high prevalence of ADHD and its negative effects, providing effective treatment for ADHD is extremely important. Consequently, investigations regarding ways to increase acceptability and effectiveness of such treatments are needed.

Purpose and Objectives

The purpose of this study was to evaluate the relationship between the way in which information regarding treatments for ADHD is delivered to parents and teachers and their ratings of treatment acceptability. The study first investigated whether presenting parents and teachers with a rationale for behavioral interventions, medications, and the combination of both would increase their acceptability ratings for

each respective treatment option beyond that of simply providing treatment descriptions. Second, the study investigated whether modeling behavioral interventions would increase participants' ratings of acceptability beyond that of providing descriptions and rationales. Finally, the study examined differences between the acceptability ratings of mothers and fathers as well as differences between parents and teachers.

Research Questions

The specific research questions addressed in this study were:

1. Which method of presenting the combined behavioral and psychostimulant medication treatment option to parents and teachers, produces the highest ratings of acceptability: (a) providing only a description; (b) providing a description and a rationale; or (c) providing a description, a rationale, and modeling components of the behavioral intervention? Do these acceptability ratings vary based on parents' gender?
2. Which method of presenting a behavioral intervention only to parents and teachers produces the highest ratings of acceptability: (a) providing only a description, (b) providing a description and a rationale, or (c) providing a description, a rationale, and modeling? Do these acceptability ratings vary based on parents' gender?
3. Which method of presenting the treatment option of psychostimulant medications only to parents and teachers produces the highest ratings of acceptability: (a) providing only a description, or (b) providing a description and a rationale? Do these acceptability ratings vary based on parents' gender?

4. Which treatment option (medication, behavioral intervention, or the combination of both) produces the highest ratings of acceptability for parents? Do these acceptability ratings vary based on parents' gender? Which treatment option produces the highest ratings of acceptability for teachers?

5. Do the acceptability ratings of parents and teachers differ significantly? Do these effects vary based on the type of information presented and/or the type of treatment?

CHAPTER II

REVIEW OF RELATED LITERATURE

Attention-Deficit/Hyperactivity Disorder

Definition of ADHD

According to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (APA, 1994), ADHD encompasses core symptoms of inattention, impulsivity, and/or hyperactivity. For diagnosis, at least six of nine symptoms must be present in the categories of inattention and/or hyperactivity-impulsivity. Diagnoses of either combined, predominantly inattentive, or predominantly hyperactive-impulsive types are made depending on the cluster of symptoms present. Furthermore, the symptoms must cause significant impairment for the individual and persist for at least 6 months, with some of these symptoms being present before the age of 7. Because the symptoms may be difficult to distinguish from age-appropriate behaviors in active children, the severity of the child's behaviors must be significantly greater than his/her peers' behaviors for the child to receive an ADHD diagnosis. Furthermore, the disorder must be differentiated from other disruptive behavior disorders, mental retardation, or any other mental disorder.

Symptoms of hyperactivity usually include running around, restlessness, fidgeting, and an inability to sit still. These problems can range from minor mishaps such as spilling drinks and knocking over objects to more serious accidents. For instance, impulsive children may run out into the street without looking for traffic, interrupt

others, and cut in front of others in line (Wicks-Nelson & Israel, 1991). Attention deficits can cause children to skip rapidly from one task to another and pay less attention to what others say. Barkley (1997b) attributed many of the symptoms displayed by children with ADHD, such as poor concentration and “off-task” behavior, to a “sustained attention” hypothesis, which states that these children can only maintain attention for a relatively short period of time. Barkley’s model suggests that four executive neuropsychological functions are hindered in people with ADHD: working memory; self-regulation of affect, motivation, and arousal; internalization of speech; and reconstitution or behavioral analysis and synthesis. Barkley indicates that deficits in these areas contribute to the overall lack of behavioral control exhibited among individuals with ADHD.

Although there have been numerous etiological theories postulated in the past, substantial research currently suggests ADHD is a neurobiological disorder and that understimulation in the prefrontal lobes of the brain is the most likely cause of ADHD (Barkley, 1997a). While genetic, biological, and environmental factors have all been found to contribute to the disorder, hereditary factors appear to play the largest role (Stern, 1995). Family studies, twin studies, and adoption studies all lend confirmation to the genetic contribution to ADHD. Kauffman (1993) found that ADHD is more prominent among biological relatives of children with the disorder than in the general population. Results from twin studies designed to determine the genetic contributions of ADHD have been quite variable, but most indicate that genetic factors are significant. For instance, Goodman and Stevenson (1989) found that 50% of the

variability associated with inattentive and hyperactive symptoms could be accounted for by genetic factors. Moreover, in one twin study that included a small sample size, Heffron, Martin, and Welsh (1984) demonstrated a monozygotic concordance rate of 100%. Giving a much more conservative estimate, Silver (1992) concluded that approximately 30% to 40% of children and adolescents with ADHD have inherited a familial pattern. More current research continues to point towards a strong genetic link. In a pair of studies, Sherman and colleagues (Sherman, Iacono, & McGue, 1997; Sherman, McGue, & Iacono, 1997) found monozygotic concordance rates of ADHD symptoms in males to be approximately 50% to 60%, while dizygotic rates were substantially smaller at approximately 30%. Although less research has been conducted with females, Eaves et al. (1997) conducted a large study that included boys and girls with ADHD. Similar concordance rates of approximately 70% were found for male and female monozygotic twins compared to approximately 35% for dizygotic twins.

Developmental Course and Associated Problems

Although the prognosis for children with ADHD is variable, research indicates that approximately half have a good outcome by adulthood, completing school on schedule with acceptable grades consistent with family expectations. However, a large percentage of individuals continue to display at least some symptoms during adolescence and adulthood (Andreasen & Black, 1995; Barkley, Fischer, Edelbrock, & Smallish, 1990; Weiss & Hechman, 1993). Although hyperactive symptoms usually tend to subside with maturity, inattentive symptoms tend to persist into adulthood.

Consequently, a substantial portion of individuals with ADHD will continue to benefit from treatment even as adults.

In addition to the primary symptoms of ADHD, low achievement test scores, poor grades, grade retention in school, and placement in special educational programs suggest decreased academic performance in children with ADHD. Research indicates that the majority of children with ADHD underachieve in reading, spelling, and mathematics (Brock & Knapp, 1996; Cantwell, 1986; Casey, Rourke, & Del Dotto, 1996). Previous research also indicates that by high school, a significant portion of children with ADHD have repeated at least one grade or dropped out of school completely (Barkley, 1998). These comorbid learning difficulties not only present primary problems for children with ADHD, but may also exacerbate behavioral problems such as low motivation and self-concept and aggression and other externalizing problems.

Conduct and social problems are also commonly seen in children with ADHD. It is estimated that approximately 80% of children with ADHD display such problems (Whalen & Henker, 1985). Barkley (1998) reported that past studies have shown 54% to 67% of children with ADHD have met diagnostic criteria for oppositional defiant disorder (ODD), while 20% to 56% have met criteria for conduct disorder. Whalen and Henker summarized such problems in four ways. First, children with ADHD are bothersome, intractable, and socially awkward. They may even be unable to perform some of the ordinary demands of living, such as playing with acquaintances or going to a shopping mall, thus inhibiting their social development. Second, being socially busy

may put ADHD children at risk for negative interpersonal experiences since their peers may see them as “different” or “annoying.” Third, their aggression and tendency to display their aggression both verbally and physically may also put them at risk for being excluded by their peers. Finally, inappropriate social behavior may keep these children from meeting social expectations and the needs of others.

In addition to the comorbid conditions usually diagnosed in childhood, up to 44% of children with ADHD may also experience mood and substance use disorders that commonly begin to appear in adolescence (Barkley, 1998). Research indicates that children with ADHD are at increased risk for developing major depression, dysthymia, and other major affective disorders later in life (Biederman, Newcorn, & Sprich, 1991). Kaminer (1992) found that substance-use disorders tend to occur more often in children and adolescents with ADHD than in those without ADHD. The drugs most frequently used in adolescence consist of marijuana and alcohol (Bukstein, Brent, & Kaminer, 1989). However, Kaminer (1992) indicated that some adults with ADHD may also use cocaine for “self-medication” purposes. Given the wide array of adverse effects that can occur due to ADHD, treatment for the disorder is typically seen as necessary by parents and professionals.

Treatment Alternatives for ADHD

A variety of methods exist for the treatment of ADHD, including psychostimulant medications, behavior modification, and the combination of both. Weisz, Weiss, Alicke, and Klotz (1987) found that the average treated child functions better than 79% of untreated children. However, long-term changes in behavior cannot be obtained

without treatment adherence. Moreover, the treatment of ADHD may require the implementation of several different methods via a trial and error approach, because of the variation in success among individual children. Moreover, no single approach addresses all of the difficulties experienced by children with this disorder (Anastopoulos, DuPaul, & Barkley, 1991). Research regarding all treatment methods for ADHD has produced mixed results, thus justifying continued investigation regarding factors that influence the effectiveness of treatments.

Pharmacological treatments. Pharmacological treatments for ADHD include a growing variety of medications; however, psychostimulant medications are most commonly used. As mentioned earlier, it appears that certain areas of the brain may be understimulated in children with ADHD, causing them to continuously seek stimulation and be unable to inhibit inappropriate responses, which manifests as inattention and hyperactivity/impulsivity. Therefore, medications are used to stimulate these areas of the brain, thus decreasing the child's need to seek stimulation (DuPaul, Barkley, & Connor, 1998). These medications have emerged as the drugs of choice partly because a large percentage of treated children experience improvement in symptoms. Empirical studies have found that approximately 70% to 77% of school-age children responded to active medications as compared to only 20% to 29% to a placebo (Barkley, 1977; Gittelman, 1987; Greenhill, 1995; Jacobvitz, Srouge, Stewart, & Leffert, 1990; Klein & Wender, 1995; Schachar & Tannock, 1993; Wilens & Biederman, 1992). The MTA Cooperative Group (1999a) recently found that treatment via pharmacotherapy was extremely effective for children between the ages of 7 and 10, and even demonstrated

superior outcomes when compared to behavioral therapy. However, studies of adults with ADHD have shown more mixed results, indicating divergent efficacy rates of 23% to 75% (Mattes, Boswell, & Oliver, 1984; Spencer et al., 1995; Wender, Reimherr, & Wood, 1985). Nonetheless, recent studies continue to show promise for psychostimulants and other medications. For instance, Wilens et al. (1999) achieved a 50% efficacy rate among adults with ADHD using Pemoline, while an initial study of dexamphetamine also resulted in positive effects for adults with ADHD (Paterson, Douglas, Hallmayer, Hagan, & Krupenia, 1999). Moreover, double-blind studies examining the effects of antidepressants on adults with ADHD have shown positive results for both Desipramine (Wilens et al., 1996) and Tomoxetine (Spencer et al., 1998). Despite the positive outcomes associated with these medications, many of them have only demonstrated short-term effectiveness. Although relatively uncommon, some limitations and side effects are associated with psychostimulant use, such as insomnia, decreased appetite, stomachache, headache, and dizziness (Ahmann et al., 1993).

Despite the high percentage of children who experience improvement through the use of medications, a small percentage of children treated with medications do not show much improvement. In fact, research indicates that certain subgroups of children such as those under the age of 5 years (Barkley, 1989) and those with anxiety symptoms (Anastopoulos et al., 1991) may experience minimal improvements if any. Moreover, while most children who experience improvement do so in the areas of attentiveness, impulsivity, and hyperactivity, fewer experience improvements in the areas of mood and social functioning (Matson, 1993). Concerns can also arise about the possibility of

addiction to medications. Finally, in some cases, parents or schools who use medications as a “quick fix” may fail to address all of the manifested symptoms. Therefore, treatment plans should not solely involve medications, but rather medications should be combined with other treatments (DuPaul et al., 1998).

Home-based behavioral techniques. Behavioral interventions use basic operant principles (reinforcement and punishment) to promote appropriate behaviors and eliminate maladaptive behaviors. Therapists can teach parents to use these principles through parent-training. Creating appropriate parent-child interactions is the principal focus of parent training. Previous research indicates that parents of hyperactive children are generally more commanding, a parenting style commonly associated with less compliance overall (Barkley, 1985). Moreover, because anger and frustration may hinder effective interactions, anger management and relaxation training can be appropriate additions to parent training (Coker & Thyer, 1990; Hinshaw & Melnick, 1992). Therefore, the goal of parent training is to decrease the child’s inappropriate behaviors by decreasing maladaptive parent-child interactions.

Reinforcement strategies can consist of either verbal praise or tangible reinforcers. Parent-training programs that teach positive reinforcement often encourage parents to pay attention to their child’s good behavior and reinforce such behavior immediately and consistently. Discipline techniques typically involve a response-cost format. For younger children, time-out is a commonly used method of discipline. Time-out consists of having the child sit in a chair or other isolated place, during which time the child does not receive any attention from the parents or others. Other discipline strategies

consist of losing privileges for inappropriate behavior and grounding the child from leisure activities. Anastopoulos, Smith, and Wien (1998) have suggested using these strategies as a backup to time-out. These strategies can also be employed as a primary form of discipline with older children who do not respond as well to time-out.

Barkley (1987) noted three reasons for the involvement of parents and the use of parent training in treating ADHD. First, training parents helps facilitate the generalization of desired behaviors to more settings. Given that parents typically administer most of the praise and punishment for their children's behavior across various settings (e.g., at home, in public, while visiting friends/family), involving them in parent training can lead to more consistent forms of praise and punishment. By involving parents, children are not only subjected to the behavior modification techniques in session, but also in the other settings in which their parents are present. Second, because pharmacological interventions do not always produce consistent effects, parents must know alternative strategies for dealing with children's behaviors. Third, parent training addresses issues that accompany stress and frustration often experienced by parents of children with ADHD. Training parents to recognize the source of this stress and frustration and deal with it appropriately should also aid in increasing positive parent-child interactions.

In a review of home-based behavioral interventions for ADHD, Hinshaw, Klein, and Abikoff (1998) reported results from 11 empirical studies, which indicate positive results regarding primary and secondary manifestations of ADHD. This review indicates that behavioral interventions have demonstrated superior effects to placebos

and comparable effects to medications. Additionally, Pelham, Wheeler, and Chronis (1998) concluded from their review of the literature that behavioral parent training programs do meet the APA Division 12 Task Force Criteria of being “probably efficacious” treatments for ADHD. In addition, home-based behavioral interventions have demonstrated superior effects compared to most other psychosocial interventions. For instance, Pelham et al. found that studies regarding cognitive therapies and play therapy have not demonstrated efficacious results and consequently do not meet criteria as “well-established” or even “probably efficacious.”

School-based interventions. Behavioral school-based interventions use similar operant principles as parent training, and should involve targeting and clearly defining appropriate and inappropriate behaviors related to adaptive functioning, academic performance, transitioning, and on-task behavior. As with parent training, teachers provide positive consequences for appropriate behaviors and negative consequences for inappropriate behaviors. Pfiffner and Barkley (1998) suggested that teachers should provide rules and instructions to children with ADHD in a clear and brief manner using multiple modes of presentation. Likewise, they should administer positive incentives and negative consequences swiftly, briefly, and frequently, and with a high magnitude of power. Pelham and Hinshaw (1992) indicated that school-based interventions that enlist the use of direct contingencies in the classroom are more effective than interventions that have more delayed contingencies (e.g., home-based daily report card). Therefore, children should receive in-class tangible rewards (e.g., tokens, stickers) for engaging in appropriate behaviors, and either lose rewards or receive other in-class

discipline (e.g., time-out) when engaging in inappropriate behaviors. Teachers can administer positive rewards in the form complex token programs, which include the entire class, or they can give children individual reinforcement, such as praise or tangible reinforcers. In addition, teachers can reinforce children through strategic attention in which they only attend to a child's appropriate behavior. However, teachers may have difficulty with strategic attention, since they have to attend to a variety of tasks and children, and inappropriate behaviors tend to more naturally capture one's attention. However, teachers can use several reminder strategies to enhance their adherence with strategic attention. For instance, Edwards, Salant, Howard, Broughter, and McLaughlin (1995) used a tape-recorded tone at fixed intervals in order to remind teachers to scan the room for appropriate or inappropriate behavior.

Teachers can administer negative consequences through reprimands, response cost, time-outs, or suspensions. However, teachers should administer some of these consequences differently than parents would in the home. For instance, teachers can perform time-out by removing the child from the classroom or simply from an area of reinforcement (e.g., where other children are participating in fun activities). Also, the teacher can remove reinforcing materials. With regard to suspensions, Pfiffner and Barkley (1998) recommended in-school suspensions and warned against suspending children when parents do not have appropriate management skills.

Along with the training of teachers, some cognitive-behavioral training approaches have been used in school settings to teach children to monitor and reinforce their own behaviors (Bloomquist, August, & Ostrander, 1991; Braswell et al., 1997;

Meichenbaum & Goodman, 1971). Self-monitoring first involves learning to recognize the difference between appropriate and inappropriate behaviors. Some children may not understand what behaviors are appropriate. Therefore, learning to observe and record appropriate behaviors is an essential first step. Children first learn how to do this by trying to rating their behaviors and comparing those ratings to teacher ratings as a way of measuring accuracy. Because the child's teachers or parents may not always be available to immediately reinforce the child for demonstrating appropriate behaviors, self-monitoring allows for additional reinforcement of appropriate behaviors, even when an adult is not present. Instructing children to self-reinforce can potentially increase the overall effectiveness of an intervention program. One example of self-reinforcement includes a token reinforcement system in which the child gives him or herself a token each time he/she engages in an appropriate behavior (Barkley, 1989). This strategy provides children with the ability to consistently reinforce appropriate behaviors. Unfortunately, recent research has not found these strategies to significantly add to the overall effectiveness of school-based behavioral programs (Bloomquist et al., 1991; Braswell et al., 1997).

Behavioral interventions in the classroom have demonstrated positive effects on both academic and behavioral functioning in children with ADHD. In a pair of studies regarding a summer treatment program, researchers found that an intensive behavioral modification program that was implemented in a classroom setting improved disruptive behavior and compliance among boys with ADHD (Carlson, Pelham, Milich, & Dixon, 1992; Pelham et al., 1993). Additionally, Wolrach, Drummond, Salomon, O'Brie, and

Sivage (1978) had previously found similar effects for a classroom behavior management program used with boys who displayed hyperactivity, but were not diagnosed with ADHD. Pfiffner and Barkley (1998) indicated that school-based behavioral interventions can provide an effective adjunct to parent training. In fact a recent meta-analysis of school-based interventions for ADHD revealed effect sizes of approximately .60 for between-subject designs and 1.00 for within-subject designs (DuPaul & Eckert, 1997). Moreover, school-based interventions are often necessary to promote academic improvement in children with ADHD. However, DuPaul and Eckert suggested that collaboration needs to exist between teachers and parents (school and home) for the school-based interventions to work optimally. Based on the research that exists, Pelham et al. (1998) did find such interventions to be "well established" with regard to treatment efficacy. Therefore, school-based interventions appear to be a viable option for treating children with ADHD.

Combined approaches. Previous empirical investigations have found significant positive results for a wide variety of behavioral interventions, most of which included some form training parents in contingency management principles (Abikoff, 1991; Barkley, 1987, 1989; Coker & Thyer, 1990; Hembree-Kigin & McNeil, 1995; Hinshaw & Melnick, 1992; Prior & Griffin, 1985). Research also indicates that adjuncts to parent training, such as social skills training (Pelham et al., 1988), consultations with teachers (Horn, Ialongo, Greenberg, Packard, & Smith-Winberry, 1990; Pelham et al., 1988; Pfiffner & O'Leary, 1993), and school-based contingency management (Pfiffner & Barkley, 1998) can yield effective results. However, these strategies are generally

not as effective in changing home behaviors if used without the addition of parent training. All behavioral interventions also involve some shortcomings. First, many of these programs are costly and labor intensive. They require hours of therapy for both children with ADHD and their parents. Second, just as medications do not work effectively for all children, neither do behavioral interventions. Therefore, because no single treatment has addressed all of the difficulties experienced by children with this disorder, it seems rational to use treatment approaches that combine medications and behavioral interventions.

The current belief regarding ADHD is that it stems from biological components; however, symptoms can clearly be exacerbated by environmental components. This complex nature of ADHD supports the idea of combining treatments. While stimulants have been found to primarily affect children's abilities to attend and decrease hyperactivity, behavioral modification techniques have been found to also affect related behaviors such as defiance and other conduct problems (Brown, Borden, & Clingerman, 1985). However, sometimes changes in children's behaviors cannot be made without the precursors of increased attention and decreased hyperactivity created through the use of medications. Although psychostimulant medications often produce better short-term effects than behavioral interventions, long-term effects have not been adequately studied. Therefore, combined treatments, which include behavioral interventions and medications, may provide a greater longevity of relief (DuPaul et al., 1998), and can provide beneficial effects for a greater number of symptoms.

Much of the past research on combined treatments has revealed mixed results. Brown et al. (1985) reviewed 30 studies, which investigated the effectiveness of combined approaches and found that results varied based on numerous treatment, population, and symptom variables. Their conclusions indicate that the large number of ways in which the combination of these variables can differ makes the predication of effectiveness difficult. However, a recent study by the MTA Cooperative Group (1999a) found that a combined treatment consisting of behavioral intervention and medication produced superior effects to a behavioral intervention alone in reducing core ADHD symptoms. Although the combined approach did not produce superior effects compared to medication alone, lower doses of medication were needed in the combined group as compared to the medication-only group to produce similar gains. Therefore, this research suggests that a combined approach may be advantageous to using medication alone. However, variability still exists and the MTA Cooperative Group (1999b) also found numerous mediators and moderators that affected the outcomes of treatment approaches for ADHD. For instance, they found that the inclusion of behavioral therapy became more important in treating individuals with ADHD when they also had comorbid problems such as anxiety. They also found that treatment acceptance/attendance served as an important mediator of treatment, especially among medication treatments. Therefore, this variability in effectiveness among all treatment modalities warrants further exploration as to what variables can help predict effectiveness. One variable that may help increase treatment effectiveness is treatment acceptability.

Treatment Acceptability

Treatment acceptability is one factor that has been discovered to be a significant component in increasing treatment adherence (Cross-Calvert & Johnson, 1990; Kazdin, 1980a, 1980b, 1986; Rosenberg & Raynes, 1976; Tarnowski, Simonian, Bekeny, & Park, 1992). Kazdin (1980a) referred to treatment acceptability as a judgment of a treatment procedure by non-professionals, laypersons, clients, and other potential consumers of the treatment. Furthermore, Kazdin (1980a, 1980b) addressed two main factors concerning the importance of treatment acceptability studies. First, psychologists and consumers may view the acceptability of treatments differently. Although a treatment approach may be seen as viable and acceptable to a psychologist, if it is not seen in the same light by consumers, adherence will likely decrease. Second, variables such as time and side effects may affect consumers' use of particular treatments. Identifying these variables may help psychologists select more efficient treatment methods. Treatments with high acceptability correlate with greater client compliance and motivation, positive behavior changes, treatment satisfaction, and lower dropout rates (Cross-Calvert & Johnston, 1990). Finally, research indicates that numerous variables affect the treatment acceptability ratings of parents, teachers, children, and other potential consumers.

Summary of Previous Reviews

Three previous integrated reviews on treatment acceptability were found, all of which analyzed the acceptability of behavioral interventions only. Reimers et al. (1987)

examined 18 experimental studies published from 1980 to 1986. Among the 18 studies examined, only one (Frentz & Kelly, 1986) involved mothers as participants; none of the studies that were reviewed involved fathers. The other 17 studies involved teachers, children with behavior problems, and undergraduate college students as participants. The majority of the reviewed articles were analog studies, in which the independent variables usually consisted of variations in the described behavioral interventions, such as positive reinforcement versus time-out. All of the studies, with the exception of one, measured acceptability via either the Treatment Evaluation Inventory (TEI) or the Intervention Rating Profile (IRP).

Reimers et al. (1987) concluded that five factors affect consumers' acceptability of behavioral interventions. These factors include: (a) problem severity, (b) time, (c) treatment modality, (d) perceived effectiveness, and (e) understanding of treatments. Four of the studies reviewed concluded that in general, increases in severity of the disorder portrayed in the case history of the child produced more acceptable ratings of all behavioral interventions. However, Reimers et al. found a negative relationship between the amount of time needed to implement the treatment, and treatment acceptability ratings in five studies. A third finding revealed from seven studies demonstrated that positive treatments, such as reinforcement strategies, were more acceptable than reductive treatments, such as time-out. Furthermore, a small number of studies ($n = 3$) indicated a direct relationship between participants' ratings of effectiveness and acceptability. This finding suggests that despite the actual efficacy of treatments, parents' and teachers' perceptions of effectiveness affect their acceptability

of treatment options. Participants' ratings of acceptability were also influenced by their accurate knowledge of the treatment and alternative interventions. Reimers et al. concluded that improving acceptability might be possible by increasing consumers' knowledge of treatments through education.

In reviewing the treatment acceptability research from 1980 to 1987, Elliott (1988) examined 20 experimental studies regarding treatment acceptability of behavioral interventions. Of these 20 studies, 17 were the same studies reviewed by Reimers et al. (1987). The other three were studies published after Reimers et al. Once again, only one study (Frentz & Kelly, 1986) involved mothers and none of the studies that were reviewed involved fathers. From these results, Elliott formulated four beliefs regarding acceptability research. First, acceptability research quantifies consumers' and clients' evaluations of treatments. Second, important child, teacher, and psychologist variables all influence acceptability. These include severity of the child's problem, time required to implement the intervention, and the use of psychological jargon. Third, just as Reimers et al. discovered, Elliott found that consumers generally evaluate positive treatments as more acceptable than reductive treatments. Finally, Elliott indicated that a positive relationship between pretreatment acceptability and perceived treatment effectiveness exists.

Despite the numerous factors reported in these reviews, only one factor (severity of the child's symptomology) was found to affect mothers' ratings of acceptability. The other factors were not investigated with mothers as participants. Therefore, it is unclear from these reviews whether or not the results of the other studies generalize to parents,

who are usually the most important individuals associated with the decisions regarding treatment for children with ADHD and behavior problems.

In a third review of acceptability research (Cross-Calvert & Johnston, 1990), three studies included mothers as participants in ratings of acceptability; once again, none of the studies included fathers. The results of this review suggest four main variables affect treatment acceptability. First, participants' knowledge and perceived effectiveness of the proposed intervention, alternate interventions, and the interventionist were found to have positive relationships with treatment acceptability. Second, greater amounts of perceived side effects, complexity of the intervention, and time involvement were found to have negative relationships with treatment acceptability. Third, this review noted that 16 studies indicated that greater severity of the child's behavior problems lead to higher acceptability ratings. Fourth, greater knowledge of and experience with social learning principles was associated with greater acceptability of behavioral interventions among teachers. Finally, in one reviewed study, the rationale given for treatment use was also associated with differences in acceptability ratings (Witt, Moe, Gutkin, & Andrews, 1984). This study applied three scenarios for why a misbehaving child should stay in class during recess. A pragmatic description described the purpose of this punishment as "logical consequence"; a behavioral description described it as a "contingent application of punishment"; a humanistic description described it as an opportunity for the child to express his/her feelings with the teacher. The pragmatic description was rated as more acceptable than either the behavioral or humanistic descriptions of the same treatment.

Among the treatment acceptability studies that included mothers, four factors were examined with respect to acceptability ratings. As with the two previous reviews, higher problem severity was found to lead to higher acceptability ratings for reductive behavioral treatments (Frentz & Kelly, 1986). Furthermore, Cross-Calvert and McMahon (1987) examined the mode of presentation (whether or not a rationale and modeling was presented along with the description of the treatment), and found that although providing a rationale for the behavioral intervention increased acceptability, providing a model actually decreased acceptability ratings. Treatment modality and the socioeconomic status (SES) of mothers were both found to affect acceptability ratings as well (Heffer & Kelly, 1987). Positive behavioral interventions were rated as more acceptable than reductive interventions. Mothers from low SES backgrounds rated medications as more acceptable, but behavioral treatments as less acceptable than mothers from high SES backgrounds. Heffer and Kelly found that ethnicity did not affect ratings of acceptability. All of these studies included mothers of children without significant behavioral problems. Therefore, with the exception of the differences related to mothers' SES, these differences in acceptability ratings were all based on the described differences in the problem severity of a hypothetical child and the treatments presented.

The three reviews summarized provide helpful information regarding the ways in which participants' acceptability ratings of behavioral interventions have been influenced. However, these reviews possess some critical limitations. Although these three reviews summarize a variety of factors that affect acceptability ratings of

behavioral interventions, not all of these factors have been demonstrated to affect the ratings of parents and teachers. Although it may seem logical to assume that the pertinent factors discovered among ratings of college students may generalize to parents and teachers, there is no literature to suggest that this would necessarily be true. Moreover, the three reviews do not represent a comprehensive sample of the acceptability literature for behavioral interventions. Currently, approximately 21 studies have measured treatment acceptability ratings of parents and/or teachers only, 13 of which were included in at least one review. In addition, no reviews exist that focus on the acceptability ratings of medications or treatments that involve the combination of behavioral interventions and medications. Safer, Zito, and Fine (1996) recently estimated that approximately 1.5 million children annually begin using stimulants for behavior management. Therefore, literature regarding acceptability for medications is likely just as important as that regarding behavioral interventions.

Factors That Affect Acceptability

The results of previous reviews regarding the acceptability of behavioral interventions, as well as the relevant literature published since these reviews regarding medications and behavioral interventions, suggest that at least eight factors affect the acceptability ratings of parents and/or teachers. The following summaries of these eight factors combine the literature previously reviewed with the more current literature to provide a comprehensive review of what is currently known about factors that affect the acceptability of interventions for ADHD.

Presentation of treatment. Only one study previously discussed investigated differences in mothers' acceptability ratings based on how the treatment was presented to their children (Cross-Calvert & McMahon, 1987). This study suggests that providing a rationale to the child for parent-training increases mothers' acceptability ratings, but that providing a rationale and modeling the treatment to the child decreases mothers' acceptability ratings. However, this study did not examine the effects of rationale for medications or the combination of behavioral treatment and medications. Moreover, no studies have examined the effects of providing a rationale and modeling directly to the parents.

Treatment modality. In the case of treatment modality, all eight studies that were found that investigated differences among behavioral interventions, medications, and/or the combination of both (Heffer & Kelly, 1987; Miller & Kelly, 1992; Powers, Hess, & Bennett, 1995; Reimers, Wacker, & Cooper, 1991; Reimers, Wacker, Cooper, & De Raad, 1992; Tarnowski, Simonian, Park, & Bekeny, 1992; Wilson & Jennings, 1996; Witt, Elliott, & Martens, 1984) indicated that behavioral interventions alone were rated as more acceptable than any treatment involving the use of medications. Six of the eight studies compared behavioral interventions alone to medications alone. The effect sizes from these studies suggest a large difference between the acceptability ratings of the two treatment modalities for parents, but a small effect for teachers. However, as would be expected, when the combination of behavioral interventions and medications was compared with one or the other alone, the difference for parents become smaller. Two studies (Tarnowski, Simonian, Park, & Bekeny, 1992; Wilson & Jennings, 1996)

demonstrated that when combined treatments are compared to behavioral interventions or medications alone, the mean acceptability difference is smaller than when single modalities are compared.

Further comparisons were made to investigate differences between positive and reductive behavioral treatments (Heffer & Kelly, 1987; Miller & Kelly, 1992; Reimers et al., 1991, 1992). Comparisons among both parents and teachers indicate small to moderate effects with all studies indicating that positive treatments are rated as more acceptable than reductive treatments.

Complexity of the intervention. The complexity of the intervention was only investigated among teachers. Three studies (Elliott, Witt, Glavin, & Peterson, 1984; Witt & Martens, 1983; Witt et al., 1984) examined how the difficulty of and the amount of time needed to implement the treatment affected teachers' acceptability ratings. This research indicates that these variables have negative relationships with acceptability ratings.

Gender of the parent. One study (Miller & Kelly, 1992) indicated that gender of the parent affects acceptability rating in that mothers rate behavioral interventions as more acceptable than fathers, but rate medications as less acceptable than fathers. Thus there appears to be an interaction effect between treatment modality and parent gender. This study also indicated that a significant interaction between problem severity and parent gender exists. Fathers rated behavioral interventions as less acceptable for more severe behavior problems than less severe behavior problems, and rated medications as more acceptable for more severe behavior problems than less severe behavior problems.

Mothers rated both interventions as more acceptable for more severe behavior problems.

Problem severity. Nine studies investigated how severity of behavior problems displayed by a child affects acceptability ratings. Five studies that included teachers all indicated small, but positive effects among acceptability ratings of behavioral interventions and the severity of the child's problem. However, among the four studies that included parents, variability exists among the study designs and between the results obtained from ratings of behavioral interventions and medications. For instance, one study compared the ratings of parents who read a case vignette regarding a child with a high level of behavior problems to parents who read about a child with a low level of behavior problems (Frentz & Kelly, 1986). The other three studies (Miller & Kelly, 1992; Reimers et al., 1991, 1992) compared ratings of parents who have a child with high levels of behavior problems to parents of a child without behavior problems. With respect to behavioral interventions, Frentz and Kelly found that when hypothetically described, more severe behavior problems lead to more acceptable ratings of reductive behavioral treatment. However, this study did not investigate effects for positive treatments. Among the other three studies, one found that more severe child behavior problems lead to more acceptable ratings of behavioral interventions by parents. However, two studies found that more severe child behavior problems lead to less acceptable ratings of behavioral interventions by parents. In regards to the three studies investigating medications, all indicated that a higher severity of problems leads to higher acceptability ratings.

At least two factors could account for this variability in the results of problem severity as it applies to ratings of behavioral interventions among parents. First, it appears that parents' ratings may differ with respect to problem severity when this applies to their own children versus a hypothetical child. Second, as indicated previously, Miller and Kelly (1992) found a significant interaction between problem severity and parent gender, which may at least partially account for the mixed results, since the study by Frentz and Kelly (1986) involved only mothers, while the other three involved both mothers and fathers.

Socioeconomic status. Two studies yielded mixed results regarding the effects of parents' SES. One study (Heffer & Kelly, 1987) suggested that the SES of parents affects acceptability ratings, in that lower SES mothers rated medications as more acceptable and behavioral interventions as less acceptable than middle-upper SES mothers. Another study (Tarnowski, Simonian, Bekeny, & Park, 1992) did not find any statistically significant effects for SES on acceptability ratings of mothers. These mixed results may be accounted for by the ways in which SES was measured. While Heffer and Kelly measured SES using monetary income level only, Tarnowski and colleagues used Hollingshead's four-factor index, which considers occupation, educational attainment, and marital status, but does not directly take into account income level. Therefore, factors such as the educational attainment and marital status of parents may have contributed to the difference in results.

Parents' experience with treatments. Two studies suggest that parents' experience with medications and behavioral interventions affect their ratings of acceptability.

These effects are also correlated with treatment satisfaction and effectiveness of the treatment following their use of the treatment. Moreover, there appears to be an interaction effect between experience with behavioral treatments and problem severity. In one study, parents of children with ADHD rated medications as more acceptable after experience with the treatment (Johnston & Fine, 1993). However, positive correlations between satisfaction and effectiveness indicate that experiencing treatment does not independently improve parents' acceptability ratings. Instead, as parents of children with ADHD have more experience with medications, they also become more satisfied with medications. Reimers et al. (1992) found that the collapsed acceptability ratings of both medications and behavioral interventions decreased after 6 months of exposure. However, this study indicated that behavioral intervention acceptability ratings increased among parents who had children with low problem severity, and decreased among parents who had children with high problem severity. Only 75% of parents who began the study participated in the 6-month follow-up evaluation; however, the study did not indicate attrition rates for high- and low-severity groups independently.

Teaching experience. Two studies investigated the effect of teachers' level of teaching experience on acceptability ratings. Witt and Robbins (1985) found a positive relationship between elementary, middle, and high school teachers' experience and their acceptability ratings of behavioral interventions. However, Powers et al. (1995) found a moderately negative relationship between elementary and middle school teachers' experience and their acceptability ratings of medications. This study did not include high school teachers as participants.

Conclusions

The effects of ADHD create a significant negative impact on children with the disorder, as well as others around them. Although psychostimulant medications and behavioral interventions have been found to be efficacious treatments for children with ADHD, the effectiveness of these treatments varies depending upon numerous variables. For example, high treatment acceptability of parents and teachers has been found to help increase the treatment effectiveness. Furthermore, although only two studies (Johnston & Fine, 1993; Wilson & Jennings, 1996) have specifically investigated acceptability ratings in relation to treating children with ADHD, substantial research suggests that at least eight factors significantly affect ratings of acceptability regarding the treatments (medications and behavioral interventions) that are most frequently used for children with ADHD. One significant factor, which professionals have control over, is the way in which these treatment options are presented to parents and teachers. This factor is of paramount importance, because it helps consumers form their acceptability level at the onset of treatment. However, previous investigations of this factor have contained multiple shortcomings. Therefore, further study is needed to investigate the effects of different treatment presentations on acceptability of those treatments as rated by mothers, fathers, and teachers. Finding means of increasing parents' and teachers' acceptability of treatments for ADHD could result in great benefits for children with ADHD. Behavioral treatments and medications have demonstrated good efficacy for treating this disorder, but consumers need to be willing to implement these treatments. Therefore, increasing their acceptability of these

interventions is key and investigating ways that professionals can facilitate this process is needed.

CHAPTER III

METHOD

Participants

One hundred twenty-six parents (63 mothers, 63 fathers) and 45 teachers were randomly assigned to one of three experimental conditions (treatment descriptions, treatment descriptions and rationales, or treatment descriptions with rationales and modeling). Parents were eligible to participate if they did not have any prior experience with behavioral interventions or psychostimulant medications, and had at least one child between the ages of 5 and 12. Parent participants ranged in age from 24 to 49 years and most of the parents had at least some education beyond high school. The majority of parents were married and had more than one child. In some cases, both parents of the same child/children participated; however, they participated as individuals and not as a couple. See Tables 1 and 2 for complete demographic information regarding parent participants.

Teacher participants consisted of teachers currently working in an elementary school. Given the variety of experience teachers were likely to have with school-based interventions, teachers with experience with behavioral interventions or medications for ADHD were not excluded from the study. However, teachers who had children with ADHD and/or had prior experience with behavioral interventions or psychostimulant medications in relation to their own children were excluded. See Tables 2 and 3 for complete demographic information regarding teacher participants.

Table 1

Demographic Characteristics of Parent Participants

Characteristic	Category	All parents (<u>n</u> = 126)		Mothers (<u>n</u> = 63)		Fathers (<u>n</u> = 63)	
		<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
Education	< High school	0	0.0	0	0.0	0	0.0
	High school	10	7.9	4	6.3	6	9.5
	Associates degree	6	4.8	3	4.8	3	4.8
	Some college	38	30.2	20	30.1	18	28.6
	Bachelors degree	52	41.3	26	41.3	26	41.3
	Post graduate degree	20	15.9	10	15.9	10	15.9
Yearly income	≤ \$19,999	2	1.6	1	1.6	1	1.6
	\$20,000 - \$29,999	14	11.1	5	7.9	9	14.3
	\$30,000 - \$39,999	29	23.0	13	20.6	16	25.4
	\$40,000 - \$49,999	18	14.3	13	20.6	5	7.9
	\$50,000 - \$59,000	30	23.8	12	19.0	18	26.8
	\$60,000 - \$69,999	17	13.5	11	17.5	6	9.5
	≥ \$70,000	16	12.7	8	12.7	8	12.7
Marital status	Married	102	81.0	49	77.8	53	84.1
	Single	10	7.9	6	9.5	4	6.3
	Divorced	12	9.5	8	12.7	4	6.3
	Separated	1	.8	0	0.0	1	1.6
	Widowed	1	.8	0	0.0	1	1.6
# of children	One	28	22.2	18	28.6	10	15.9
	Two	41	32.5	19	30.2	22	34.9
	Three	30	23.8	13	20.6	17	27.0
	Four	11	8.7	5	7.9	6	9.5
	Five or more	16	12.7	8	12.7	8	12.7

Table 2

Age of Parent and Teacher Participants

Group	Category	Age	
		<u>M</u>	<u>SD</u>
Parents	All parents	35.04	5.72
	Mothers	34.33	5.91
	Fathers	35.75	5.48
Teachers	All teachers	36.22	9.99
	Females	35.44	9.36
	Males	43.25	14.89

Table 3

Demographic Characteristics of Teacher Participants

Characteristic	Category	All teachers (n = 45)		Females (n = 41)		Males (n = 4)	
		n	%	n	%	n	%
Education	Bachelors degree	40	88.9	37	90.2	3	75.0
	Post graduate degree	5	11.1	4	9.8	1	25.0
# of children	Zero	8	17.8	8	19.5	0	0.0
	One	12	26.7	11	26.8	1	25.0
	Two	7	15.6	7	17.1	0	0.0
	Three	8	17.8	7	17.1	1	25.0
	Four	4	8.9	4	9.8	0	0.0
	Five or more	6	13.3	4	9.8	2	50.0

Instruments

Treatment Evaluation Inventory

The Treatment Evaluation Inventory (TEI) was developed to measure the construct of acceptability. Kazdin based this measure on the semantic differential (Osgood, Suci, & Tannenbaum, 1957), which is an older measure of acceptability that uses polar adjectives as a means of rating a treatment (e.g., Positive – Negative; Desirable – Undesirable). The TEI is a measure of consumers' acceptability mostly used in evaluating treatments for children, including a variety of behavioral interventions and medications. Scale items were selected through Kazdin's initial work, in which he administered 144 TEIs to undergraduate students along with the Semantic Differential. He then conducted a series of studies with various treatments for behavior problems (Kazdin, 1980a, 1980b, 1981). Initial factor analyses resulted in one factor

that demonstrated a discriminatory ability among consumers' acceptability of alternative treatments.

The TEI consists of 15 items, scored on a 7-point Likert scale ranging from "not at all" (1) to "very much" (7). Participants rate how acceptable the treatment is, how suitable the procedure is for the child, and how much they like the procedure. These scores collectively yield a single acceptability score. The overall magnitude of the single acceptability score directly represents the participants' acceptability of the treatment with higher scores indicating greater treatment acceptance.

Since the development of the TEI, further research by Kazdin (1984, 1986), as well as others (Landreville & Gurerette, 1998; Spurrison & Noland, 1991; Spurrison, Noland, & Savoie, 1992) has continued to support its ability to discriminate consumers' acceptability levels of alternative treatments. Spurrison et al. (1992) also assessed the internal consistency of the TEI. They found that ratings of six treatments for children with behavioral problems produced Cronbach's alpha coefficients that ranged from .85 to .96. Despite its utility, the TEI does lack substantial research beyond what has been presented. The TEI is an unpublished measure that does not have normative data associated with it. Also, there are no cut-off scores to indicate "acceptable" or "unacceptable" ratings. Nonetheless, Spurrison et al. concluded from their research that "the TEI total score provides a reliable single index of treatment acceptability" and that if one wishes to obtain such an index, "the TEI appears to be an appropriate choice" (see Appendix A for a copy of this measure).

Case History

The case history (see Appendix B), as developed by the author, provided participants with a basis for their opinions regarding the given treatments. The child in the case history is described as having ADHD, combined type and displays 14 of the 18 symptoms for ADHD set forth by the DSM-IV. A male was described due to the higher rate of males than females with ADHD in the general population.

Treatment Scenarios

Three behavioral intervention scenarios were used to describe a parent-training program. These descriptions were adapted from programs by Barkley (1987) and Hembree-Kigin and McNeil (1995). The behavioral intervention described equal amounts of training regarding both positive reinforcement and reductive strategies (e.g., time-out and behavioral contracting). The three medication scenarios involved treatment via psychostimulant medications. The treatment combination scenarios simply involved the proposed behavioral intervention and the use of the psychostimulant medication. The treatment scenarios were designed with the idea of presenting the important information that consumers would use in evaluating behavioral treatments and medications. The goal of presenting treatments was to do so in an objective manner without presenting a positive or negative flavor to any of the options. The scenarios were developed with the assistance of four psychologists and one pediatric physician; an expert consensus was used in making final decisions about the scenarios. The scenarios were then piloted with undergraduate students who were not

psychology majors to assure that the scenarios were understandable and free of potentially confusing psychological jargon.

In the first condition, participants were presented verbally (via video) with descriptions of each of the three treatment alternatives. A psychologist provided the descriptions and other information related to each component of the behavioral intervention as well as the procedures and details involved in medicating a child with ADHD. In the second condition, a rationale (based on current research) was provided as to why the intervention can be helpful for parents and children with ADHD and behavior problems. Each rationale followed the description of the treatment, which was identical to the description in the first condition. In the third condition, the same descriptions and rationales were presented to the participants. However, additionally, for the behavioral and combination scenarios, participants viewed the psychologist modeling each of the three main behavioral intervention components (positive reinforcement, time-out, and the use of privileges to manage behavior) that would be taught and practiced in the sessions. Videos for each condition lasted approximately 5 to 15 minutes (see Appendix C for the text of the treatment descriptions and rationales).

Demographic and Follow-Up Questionnaire

This questionnaire first asked parents and teachers to provide relevant demographic information (see Appendix D). Information regarding parents' monetary income level was collected as a measure of SES, as well as information regarding teachers' level of teaching experience, to account for any variation in acceptability

ratings that may occur due to these variables. Moreover, participants were asked one question, which specifically addressed their perceptions of the severity of the child's behavioral difficulties. The question was scored on a 7-point Likert scale. Information regarding any prior experience with behavioral interventions or medications was collected in case of failure to adequately screen participants prior to the study. As indicated previously, participants indicating prior experience with such interventions for their children were not included in the results. Information regarding teachers' age as well as parents' age, number of children, marital status, occupation, and educational attainment was collected for descriptive and potential exploratory purposes only.

Procedure

Participants were recruited from psychology classes, newspaper advertisements, elementary schools, and by word of mouth to voluntarily participate in this study. Participants were randomly assigned to one of three experimental conditions: (a) treatment descriptions (TD), (b) treatment descriptions and rationales (TDR), or (c) treatment descriptions with rationales and modeling (TDRM). The participants were presented with all three treatment scenarios (medication, behavioral intervention, and combination of medication and behavioral intervention) with information being delivered according to which condition that they were in: TD, TDR, or TDRM. The combination treatment was always presented last; however, the medication and behavioral intervention treatments were presented in random order to help eliminate order effects. Participants first read the case history and completed one question in

which they rated their perceived severity of the child's symptoms in the case history. Participants then completed the Treatment Evaluation Inventory (TEI) immediately following each time that they were presented with one of the three treatment options. Participants were told not to change any previous answers. Finally, participants completed the demographic information survey. Some participants completed the study alone, and some completed the study in the company of a small group of parents or teachers. Participants that completed the study in a small group were all placed in the same experimental condition. Individuals presented with the scenarios in the company of others were asked to work independently, and were separated when seated as to decrease any social desirability. Participants who completed their packets were entered into a \$100 raffle.

CHAPTER IV

RESULTS

Although a large number of analyses were conducted, due to the exploratory nature of this study, an alpha level of .05 was chosen rather than a more conservative level (e.g., .01). Because of this, only those findings significant at the .05 level or below are discussed and trends toward significance are not discussed. Standard mean effect sizes were also calculated for each comparison. For each effect size calculation, the pooled standard deviation was used, since comparisons were being made between different experimental conditions and no control groups were involved. In concordance with work by Cohen (1988), “small,” “medium,” and “large” effect sizes were set at values greater than .20, .50, and .80, respectively. For all statistical analyses based on participants’ acceptability ratings, mean total scores from the TEI were used. As discussed previously, each of the 15 items is scored on a Likert scale of 1 to 7. Therefore, the possible range for a TEI total score is 15 to 105, with these scores corresponding to very unacceptable and very acceptable ratings, respectively, while a score of 60 (item average of four) would correspond to moderately acceptable rating. Mean total score ratings are reported in tabular format later in this chapter (see Tables 6 and 7).

Preliminary Analyses

Although participants were randomly assigned to experimental conditions, parents’ and teachers’ ratings of problem severity and SES (level of income) were

initially analyzed for differences via separate one-way ANOVAs. For each of these two variables, analyses were conducted comparing each of the groups whose acceptability data were to be analyzed and compared. For instance, parents in the treatment description (TD), treatment description and rationale (TDR), and treatment description, rationale, and modeling (TDRM) groups were each compared, while teachers in these three groups were also compared. Additionally, for teachers, teaching experience was also compared across groups. These data were analyzed because, as indicated earlier, previous research suggests that these variables may affect ratings of acceptability. Although no differences were found among parents, the results indicated a significant difference in teaching experience among teachers in the TD, TDR, and TDRM groups, $F(2, 44) = 3.70, p = .033$. A subsequent Tukey's post-hoc comparison revealed that teachers in the TDRM group had significantly more experience than teachers in the TD group, $p = .029$ (see Table 4). Consequently, these differences were accounted for when analyzing the teacher data. In addition, there was a statistically significant difference between parents' and teachers' ratings of problem severity, $F(1, 169) = 20.04, p < .001$. Mean scores indicated that parents rated the described child's symptoms as more severe than teachers (see Table 5). This difference was accounted for when comparing parents' and teachers' data.

Two validity checks were conducted. First, all group ratings of problem severity were calculated. Mean scores indicate that respondents did perceive the described child as having significant problems ("moderately severe"). A second validity check involved examining how realistic participants viewed the behavioral treatment model.

Table 4

Years of Teaching Experience for Teachers by Group

	<u>M</u>	<u>SD</u>
Description	6.73	4.70
Description and rationale	8.53	6.45
Description, rationale, and modeling	12.47	6.39

Table 5

Problem Severity and Reality Ratings of Parent and Teacher Participants

Group	Category	Problem severity		Reality	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Parents	All parents	5.18	.80	4.00	.99
	Mothers	5.24	.80	3.81	.98
	Fathers	5.13	.81	4.19	.98
Teachers	All teachers	4.56	.94	3.47	1.85

On a 7-point Likert scale, parents rated the model as moderately realistic, while teachers rated it slightly less realistic (see the final question on the TEI in Appendix A), although there were no significant differences between parents and teachers or between mothers and fathers (see Table 5). These results indicate that the participants' ratings of the behavioral treatment were based on a scenario that they viewed as realistic. Therefore, their ratings are valid and interpretable.

Given that three levels of the type of information were presented for the combined and behavioral treatments, but only two levels for the medication treatment (i.e., there

was no modeling condition), each treatment modality was initially analyzed independently of the others. Tables 6-10 show the means and effect sizes for all comparisons discussed in the following sections.

Results from Parents

To partially answer the first research question as to whether parents in the TD, TDR, and TDRM groups would rate the acceptability of the combined treatment differently and whether these ratings would vary based on gender, results were analyzed via a three (type of information presented: TD, TDR, TDRM) by two (gender of parent: mother, father) ANOVA. This analysis revealed a significant main effect ($p = .002$) for the type of information presented (see Table 11). A subsequent Tukey's HSD post-hoc comparison revealed significant differences in the ratings of treatment acceptability between those in the TD group and those in the other two groups (TDR and TDRM), $p < .05$. However, no significant differences were found between the TDR and TDRM groups. Mean scores indicate that parents in both the TDR and TDRM groups rated the combined treatment as significantly more acceptable than parents in the TD group (see Tables 6 and 7). Standardized mean difference effect sizes revealed moderate effects for both of these comparisons (see Table 8). No significant gender effects were found, nor was there a significant interaction between gender and the type of information presented.

An identical analysis (three by two ANOVA) was conducted to partially answer the second research question as to whether parents in the TD, TDR, and TDRM groups

Table 6

Acceptability Ratings for Parents and Teachers in Each Condition for Each TreatmentOption

Group	Participants	Subsample	Medication		Behavioral		Combination	
			<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
TD	Parents	All parents ($\underline{n} = 42$)	46.48	19.19	84.38	14.50	70.07	19.44
		Mothers ($\underline{n} = 21$)	46.19	21.78	84.52	15.39	71.14	22.72
		Fathers ($\underline{n} = 21$)	46.76	16.74	84.24	13.92	69.00	16.02
	Teachers	All teachers ($\underline{n} = 15$)	54.60	10.68	80.27	10.82	79.60	11.29
	Participants	All participants ($\underline{n} = 57$)	48.61	17.64	83.30	13.66	72.57	18.07
TDR	Parents	All parents ($\underline{n} = 42$)	60.09	14.89	83.60	11.96	80.83	12.60
		Mothers ($\underline{n} = 21$)	57.86	15.26	84.19	13.12	82.48	14.07
		Fathers ($\underline{n} = 21$)	62.33	14.53	83.00	10.96	79.19	11.05
	Teachers	All teachers ($\underline{n} = 15$)	56.67	16.66	77.80	13.65	82.47	12.04
	Participants	All participants ($\underline{n} = 57$)	59.19	15.30	82.07	12.57	81.26	12.37
TDRM	Parents	All parents ($\underline{n} = 42$)	---	---	86.48	9.54	78.55	8.94
		Mothers ($\underline{n} = 21$)	---	---	84.71	11.18	81.05	8.08
		Fathers ($\underline{n} = 21$)	---	---	88.24	7.42	76.05	9.24
	Teachers	All teachers ($\underline{n} = 15$)	---	---	75.13	12.37	80.53	14.29
	Participants	All participants ($\underline{n} = 57$)	---	---	83.49	11.41	79.07	10.50

Note. --- No data collected regarding medication in the TDRM group.

Table 7

Average Item Acceptability Ratings (on a Scale of 1 to 7) for Parents and Teachers

Group	Participants	Subsample	Medication		Behavioral		Combination	
			<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
TD	Parents	All parents ($\underline{n} = 42$)	3.10	1.28	5.63	0.97	4.67	1.30
		Mothers ($\underline{n} = 21$)	3.08	1.45	5.64	1.03	4.74	1.51
		Fathers ($\underline{n} = 21$)	3.12	1.12	5.62	0.93	4.60	1.07
	Teachers	All teachers ($\underline{n} = 15$)	3.64	0.71	5.35	0.72	5.31	0.75
	Participants	All participants ($n=57$)	3.24	1.18	5.55	0.91	4.84	1.20
TDR	Parents	All parents ($\underline{n} = 42$)	4.00	0.99	5.57	0.80	5.39	0.84
		Mothers ($\underline{n} = 21$)	3.86	1.02	5.61	0.87	5.50	0.94
		Fathers ($\underline{n} = 21$)	4.16	0.97	5.53	0.73	5.28	0.74
	Teachers	All teachers ($n=15$)	3.78	1.11	5.19	0.91	5.50	0.80
	Participants	All participants ($\underline{n} = 57$)	3.95	1.02	5.47	0.84	5.42	0.82
TDRM	Parents	All parents ($\underline{n} = 42$)	---	---	5.77	0.64	5.24	0.60
		Mothers ($\underline{n} = 21$)	---	---	5.65	0.75	5.40	0.54
		Fathers ($\underline{n} = 21$)	---	---	5.88	0.49	5.07	0.62
	Teachers	All teachers ($\underline{n} = 15$)	---	---	5.01	0.82	5.37	0.95
	Participants	All participants ($\underline{n} = 57$)	---	---	5.57	0.76	5.27	0.70

Note. --- No data collected regarding medication in the TDRM group.

Table 8

Effect Sizes by Comparing the Type of Information Presented Across Each TreatmentModality

Treatment	Participants	Subsample	Effect size		
			TDR vs TD	TDRM vs TD	TDRM vs TDR
Combined	Parents	All parents	.67	.60	-.21
		Mothers	.62	.64	-.13
		Fathers	.75	.56	-.31
	Teachers	All teachers	.25	.07	-.15
	Participants	All participants	.57	.46	-.19
	Behavioral	Parents	All parents	-.06	.16
Mothers			-.02	.01	.04
Fathers			-.10	.38	.57
Teachers		All teachers	-.20	-.44	-.21
Participants		All participants	-.09	.02	.12
Medication		Parents	All parents	.80	---
	Mothers		.63	---	---
	Fathers		1.00	---	---
	Teachers	All teachers	.15	---	---
	Participants	All participants	.64	---	---

Note. --- No data collected regarding medication in the TDRM group.

Table 9

Effect Sizes by Comparing Types of Interventions

Group	Participants	Subsample	Effect size		
			Behavior vs Meds	Behavior vs Combo	Combo
TD	Parents	All parents ($\underline{n} = 42$)	2.25	.84	1.22
		Mothers ($\underline{n} = 21$)	2.06	.70	1.12
		Fathers ($\underline{n} = 21$)	2.44	1.02	1.36
	Teachers	All teachers ($n = 15$)	2.39	.06	2.28
	Participants	All participants ($\underline{n} = 57$)	2.22	.68	1.34
TDR	Parents	All parents ($\underline{n} = 42$)	1.75	.23	1.51
		Mothers ($\underline{n} = 21$)	1.86	.13	1.68
		Fathers ($\underline{n} = 21$)	1.62	.34	1.32
	Teachers	All teachers ($\underline{n} = 15$)	1.39	-.36	1.80
	Participants	All participants ($\underline{n} = 57$)	1.64	.06	1.60
TDRM	Parents	All parents ($\underline{n} = 42$)	---	.86	---
		Mothers ($\underline{n} = 21$)	---	.38	---
		Fathers ($\underline{n} = 21$)	---	1.46	---
	Teachers	All teachers ($\underline{n} = 15$)	---	-.41	---
	Participants	All participants ($\underline{n} = 57$)	---	.41	---

Note. --- No data collected regarding medication in the TDRM group.

Table 10

Effect Sizes by Comparing Parents and Teachers, Mothers and Fathers Across Each Treatment Modality and the Type of Information Presented

Treatment	Group	Effect size	
		Parents vs teachers	Mothers vs fathers
Combined	All groups	-.31	.32
	TD	-.62	.11
	TDR	-.13	.26
	TDRM	-.17	.58
Behavioral	All groups	.60	-.17
	TD	.32	.02
	TDR	.45	.10
	TDRM	1.04	-.38
Medication	All groups	-.17	-.17
	TD	-.54	-.03
	TDR	.21	-.30
	TDRM	---	---

Note. --- No data collected regarding medication in the TDRM group.

Table 11

Two-Way Analyses of Variance Comparing Type of Information Presented and Gender Among Parents

Treatment	Source	df	F	p
Combination	Type of information (I)	2	6.52	.002
	Gender (G)	1	1.84	.178
	I x G	2	0.11	.901
Behavioral	Type of information (I)	2	0.62	.540
	Gender (G)	1	0.10	.755
	I x G	2	0.44	.647
Medication	Type of information (I)	1	13.00	.001
	Gender (G)	1	0.45	.506
	I x G	1	0.27	.607

would rate the acceptability of the behavioral treatment differently and whether ratings would vary by gender. This analysis revealed no significant main effects for gender or type of information presented, and no significant interaction (see Table 11). As would be expected from the nonsignificant findings, most of these comparisons resulted in either no effect or small effect sizes. However, a moderate effect size indicated that fathers in the TDRM group rated the behavioral intervention as more acceptable than fathers in the TDR group. This finding suggests that the modeling intervention did influence fathers' ratings even though mothers' and teachers' ratings were not affected.

To partially answer the third research question as to whether parents in the TD, TDR, and TDRM groups would rate the acceptability of the medication treatment differently and whether results would vary based on gender, results were analyzed via a two (type of information presented: TD, TDR) by two (gender of parent: male, female) ANOVA. A significant main effect ($p = .001$) was found for the type of information presented (see Table 11). Mean scores of the groups indicate that parents in the TDR group rated the medication treatment as significantly more acceptable than parents in the TD group (see Tables 6 and 7). Effect sizes revealed a large effect for this comparison (see Table 8). Although the effect size for fathers in this comparison was large and the effect size for mothers was moderate, no significant effects were found for gender, and neither was there a significant interaction between gender and the type of information presented.

In regards to the fourth research question as to whether parents would differ in their acceptability ratings for the three treatment options and whether gender would

influence ratings, two additional three-by-two ANOVAs and a two-by-two ANOVA were conducted. These analyses revealed significant main effects ($p < .001$) for treatment option (behavioral, medication, combined) among parents in the TD group (see Table 12). Subsequent Tukey's HSD post-hoc comparison revealed significant differences in acceptability between all three treatments ($p < .05$). Mean scores revealed higher acceptability ratings for the behavioral treatment than the combined treatment, which in turn was higher than the medication treatment (see Tables 6 and 7). Effect sizes show very large effects for each of these comparisons, especially between the behavioral and medication treatments (see Table 9). Mean scores indicate that parents in the TD group rated the behavioral intervention nearly twice as acceptably as the medication option, demonstrating a strong preference for the behavioral option. No significant effect was found for gender, nor was there a significant gender-by-treatment option interaction.

Table 12

Two-Way Analyses of Variance Comparing Treatment Options and Gender Among Parents

Treatment	Source	df	F	p
Description	Treatment (T)	2	32.41	< .001
	Gender (G)	1	.16	.695
	T x G	2	1.43	.244
Description & rationale	Treatment (T)	2	31.27	<.001
	Gender (G)	1	.45	.420
	T x G	2	.27	.760
Description, rationale, & modeling	Treatment (T)	1	15.97	<.001
	Gender (G)	1	.14	.711
	T x G	1	4.61	.035

A significant main effect ($p < .001$) for treatment option was also revealed among parents in the TDR group (see Table 12). Subsequent Tukey's HSD post-hoc comparisons indicated that parents in the TDR group rated the behavioral and combined treatments as the most acceptable. Both of these treatments were rated as significantly more acceptable than the medication treatment (see Tables 6 and 7). Again, effect sizes showed very large effects when comparing the behavioral and combined treatments to medication (see Table 9). There was a small effect in comparing the behavioral and combined treatments; however, no statistically significant difference was detected. No significant effect was found for gender, nor was there a significant gender-by-treatment option interaction.

Finally, for parents in the TDRM group, a significant main effect ($p < .001$) for treatment option was found (see Table 12) in that parents rated the behavioral treatment as significantly more acceptable than the combination treatment. This result was qualified by a significant gender-by-treatment option interaction (see Table 12). The results revealed that while fathers in the TDRM group rated the behavioral treatment as significantly more acceptable than the combination treatment, mothers did not. Effect sizes revealed a large effect for fathers. The same type of effect was found for mothers, but it was much smaller (see Table 9). Effect sizes in Table 10 show a moderate difference between fathers and mothers in their ratings of the combined treatment with fathers rating the combined treatment as more acceptable. Meanwhile, there was essentially no effect between mothers and fathers for the behavioral treatment (see Table 10).

Results from Parents with No Modeling Group

Given that providing a model of the behavioral intervention did not produce any significant effects beyond that of a rationale, the TDRM group was eliminated so that a two (type of information presented: TD, TDR) by three (type of intervention: medication, behavioral, combination) ANOVA could be conducted to evaluate for a possible interaction between these two independent variables. The results of this analysis revealed a significant interaction ($p = .008$) (see Figure 1) as well as significant main effects for type of information presented ($p < .001$) and type of intervention ($p < .001$; see Table 13). Mean scores revealed that parents in the TDR group rated the acceptability of both the medication and the combination treatments higher than parents in the TD group. However, there was no difference in acceptability ratings with regard to the behavioral intervention (see Tables 6 and 7).

These results indicate that providing parents with a rationale for each intervention affected their acceptability ratings of the interventions that included medications, but did not affect their ratings of the behavioral intervention. These results also show that

Table 13

Two-Way Analysis of Variance Comparing Type of Information Presented and Treatment Options Among Parents

Source	df	F	p
Type of Information (I)	1	15.80	<.001
Treatment (T)	2	85.53	<.001
I x T	2	4.95	.008

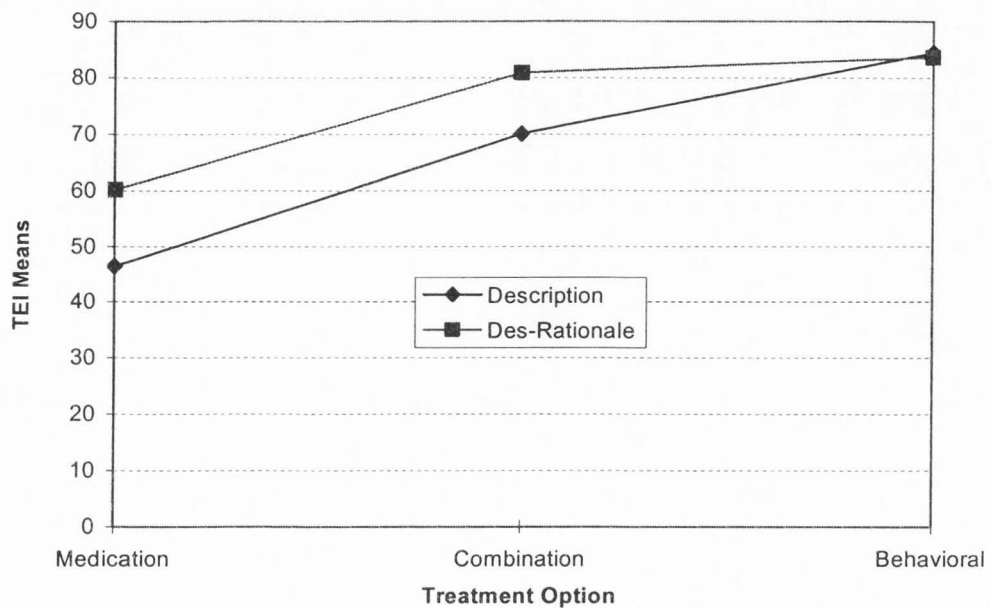


Figure 1. Type of information presented by type of intervention interaction among parents.

when a rationale was not provided, parents rated the behavioral treatment as more acceptable than the combination treatment. However, when provided rationales, there was no significant difference between acceptability ratings of the behavioral and combination interventions, but these interventions were still rated as more acceptable than medications.

Results from Teachers

As mentioned earlier, there was a significant difference in years of teaching experience among teachers in the TD, TDR, and TDRM groups. Therefore, in comparing these groups with subsequent analyses, teachers' experience was used as a covariate.

To partially answer the first two research questions as to whether teachers in the TD, TDR, and TDRM groups would rate the acceptability of the combined and behavioral treatments differently, results were analyzed via two separate ANCOVAs with the independent variable (type of information presented: TD, TDR, TDRM) having three levels, and teachers' years of experience serving as the covariate. Similarly, to partially answer the third research question regarding acceptability of the medication treatment, results were analyzed via an ANCOVA with the independent variable (type of information presented: TD, TDR) having two levels. These analyses revealed no significant differences in treatment acceptability based on the type of information presented, indicating that providing a rationale for behavioral therapy or medication, or a rationale and a model of behavioral therapy did not increase teachers' acceptability ratings over a simple description of treatments (see Table 14). With regard to the behavioral intervention, effect sizes for these comparisons showed small effects; however, the effects were negative in that teachers in the TD group produced the highest ratings of treatment acceptability, and the teachers in the TDRM group produced the lowest ratings of treatment acceptability. These findings show that the rationale and modeling interventions definitely did not increase teachers' acceptability with regard to the behavioral intervention, and may have negatively affected their ratings of treatment acceptability. If more subjects had been included, these comparisons may have been statistically significant, especially the comparison between the TDRM and TDR groups ($ES = -.44$).

Table 14

One-Way Analyses of Covariance Comparing Type of Information
Presented to Teachers with Their Years of Experience as a Covariate

Group	Source	df	F	p
Behavioral	Covariate	1	0.20	.654
	Between	2	0.38	.685
	Within	41		
	Total	44		
Medication	Covariate	1	2.81	.101
	Between	2	0.42	.663
	Within	41		
	Total	44		
Combination	Covariate	1	0.52	.477
	Between	2	0.22	.804
	Within	41		
	Total	29		

In regards to the fourth research question, as to whether teachers would rate certain treatment options (behavioral, medication, combined) as more acceptable than others, three additional ANOVAs were conducted. These results revealed a significant main effect for treatment option for those in the TD group ($p < .001$) and the TDR group ($p < .001$; see Table 15). Subsequent Tukey's HSD post-hoc comparisons revealed significant differences in acceptability between the medication treatment and the other two treatments ($p < .001$). Mean scores revealed higher acceptability ratings for the behavioral and combination treatments compared to the medication treatment (see Tables 6 and 7). However, no significant differences were detected between the behavioral and combination treatments. These results suggest that teachers in the TD and TDR groups found the treatment options that included a behavioral intervention to

Table 15

One-Way Analyses of Variance Comparing Treatment OptionsAmong Teachers

Group	Source	df	F	p
Description	Between	2	26.85	<.001
	Within	42		
	Total	44		
Description & rationale	Between	2	13.97	<.001
	Within	42		
	Total	44		
Description, rationale, & modeling	Between	1	1.22	.278
	Within	28		
	Total	29		

be more acceptable than medication alone. Effect sizes for all of these comparisons yielded very large effect, especially for teachers in the TD group, just as they did for parents (see Table 9).

Effect sizes in comparisons between the combined and behavioral treatments revealed a small effect in favor of the combined treatment for teachers in both the TDR and TDRM groups, but virtually no effect for those in the TD group (see Table 9). Although the ratings for combination treatment yielded a slightly higher mean than the behavioral treatment, the difference was not statistically significant. These results suggest that the teachers were not overly opposed to the medication treatment as long it was combined with the behavioral intervention. Once again, no data were collected for the medication treatment from those in the TDRM group (see Table 15).

Results from Teachers with No Modeling Group

As with parents, the TDRM group for teachers was also eliminated so that a two (type of information presented: TD, TDR) by three (type of intervention: medication, behavioral, combination) ANCOVA could be conducted with teachers' years of experience serving as the covariate. The results of this analysis revealed a significant main effect for type of treatment ($p < .001$). There was no significant main effect for the type of information presented and no significant interaction (see Table 16). As with the one-way analyses, mean scores revealed higher acceptability ratings for the behavioral and combination treatments compared to the medication treatment, but there was no difference between behavioral and combination treatments (see Tables 6 and 7).

Results from Parents and Teachers

As mentioned earlier, a significant difference in severity ratings between parents and teachers was initially detected. Therefore, to answer the fifth research question, as

Table 16

Two-Way Analysis of Covariance Comparing Type of Information Presented and Treatment Options Among Teachers

Source	df	F	p
Covariate (experience)	1	.69	.408
Type of information (I)	1	.03	.868
Treatment (T)	2	36.96	< .001
I x T	2	.38	.683

to whether parents and teachers would differ in their ratings of treatment acceptability, three separate two-way ANCOVAs were conducted for the combined, behavioral, and medication treatments with severity ratings serving as the covariate. For the combined and behavioral treatments, two separate three (type of information presented: TD, TDR, TDRM) by two (type of respondent: parent, teacher) ANCOVAs were conducted. For the medication treatment, a two (type of information presented: TD, TDR) by two (type of respondent: parent, teacher) ANCOVA was conducted.

With regard to the behavioral treatment option, a significant main effect was found for the type of respondent ($p = .002$; see Table 17). Mean scores revealed that parents rated the behavioral treatment as significantly more acceptable than did the teachers (see Tables 6 and 7). There was no significant effect for type of information presented, nor was there a significant interaction between these two variables. Overall, there was a moderate effect size in comparing the results of parents and teachers. However, there was a substantial difference in the effect sizes for the TD, TDR, and TDRM groups. While the results from respondents in the TD and TDR groups showed small effects between parents and teachers, respondents in the TDRM group showed a large effect (see Table 10).

With regard to the combination treatment, a significant main effect was again found for the type of respondent ($p = .038$). Mean scores revealed that teachers rated the combination treatment as significantly more acceptable than did the parents (see Tables 6 and 7). There was no significant effect for type of information presented, nor was there a significant interaction between these two variables. Overall, there was a

Table 17

Two-Way Analyses of Covariance Comparing the Type of InformationPresented and the Type of Respondents

Treatment	Source	df	F	p
Behavioral	Covariate (severity)	1	.02	.990
	Type of information (I)	2	.24	.784
	Type of Respondent (R)	1	9.94	.002
	I x R	2	1.05	.351
Medication	Covariate (severity)	1	.20	.659
	Type of information (I)	1	4.84	.030
	Type of respondent (R)	1	.61	.438
	I x R	1	2.82	.096
Combination	Covariate (severity)	1	1.33	.251
	Type of information (I)	2	2.67	.073
	Type of respondent (R)	1	4.38	.038
	I x R	2	1.22	.297

small effect size in comparing the results of parents and teachers. However, again there were differences in the effect sizes for the TD, TDR, and TDRM groups. This time the results from respondents in the TD showed a moderate affect while respondents in the TDR and TDRM groups showed small effects (see Table 10).

With regard to the medication treatment option, there was a significant effect for type of information presented ($p = .03$; see Table 17). Mean scores revealed that respondents (parents and teachers combined) in the TDR group rated the medication treatment as significantly more acceptable than the respondents in the TD group (see Tables 6 and 7). Since this comparison was significant when analyzed for parents alone but not for teachers alone, this current finding suggests that the discrepancy between the TD and TDR groups for parents was large enough to still produce a significant finding

when coupled with the teacher data. No significant main effect was found for the type of respondent. However, scores from respondents in the TD group did result in a moderate effect with teachers rating the medication higher in treatment acceptability than parents, just as they did with the combined treatment. Respondents in the TDR group showed a small opposite effect with parents rating the medication treatment higher in treatment acceptability than teachers. Despite these differences, there was not a statistically significant interaction found between the type of respondents and the type of information presented (see Table 17).

To help answer the fifth research question as to whether parents and teachers would rate the acceptability of each of the three treatment options (behavioral, medication, combined) differently, three separate two-way ANCOVAs were conducted for each of the types of information presented (TD, TDR, and TDRM) and severity ratings serving as the covariate for each analysis. For the TD and TDR conditions, three (type of intervention: combination, behavioral, medication) by two (type of respondent: parent, teacher) ANCOVAs were conducted. For the TDRM condition, a two (type of intervention: combination, behavioral) by two (type of respondent: parent, teacher) ANCOVA was conducted.

Significant main effects ($p < .001$) were found for the type of treatment in both the TD group and the TDR group (see Table 18). For the TD group, mean scores among respondents revealed higher acceptability ratings for the behavioral treatment than the combination treatment, which in turn was higher than the medication treatment (see Tables 6 and 7). Effect sizes showed large effects between the medication treatment

Table 18

Two-Way Analyses of Covariance Comparing Treatment Options and the Type of Respondents

Group	Source	df	F	p
Description	Covariate (severity)	1	.69	.408
	Type of treatment (T)	2	45.45	<.001
	Type of respondent (R)	1	1.23	.269
	T x R	2	2.32	.102
Description & rationale	Covariate (severity)	1	4.09	.045
	Type of treatment (T)	2	42.97	<.001
	Type of respondent (R)	1	.29	.590
	T x R	2	.89	.412
Description, rationale, & modeling	Covariate (severity)	1	.72	.397
	Type of treatment (T)	1	.32	.571
	Type of respondent (R)	1	2.97	.088
	T x R	1	8.97	.003

and the other two treatment options and a moderate effect between the behavioral and combined treatment options. For the TDR group, mean scores among respondents revealed the highest acceptability ratings for the behavioral treatment and the combination treatment; both of which were rated as significantly more acceptable than the medication treatment (see Tables 6 and 7). However, no significant difference was detected between the behavioral and combination treatments. Again, effect sizes showed large effects between the medication treatment and the other two treatment options, but no effect between the behavioral and combined treatment options. There were no significant differences between the ratings of parents and teachers, nor were there any significant interactions. These results are similar to those found for parents alone. In the TDRM group, no significant main effects were found; however, there was

significant interaction ($p = .003$) between the type of respondent and the type of treatment. This interaction shows that parents rated the behavioral treatment as significantly more acceptable than the combination treatment with an effect size showing a moderate effect (see Table 10). Teachers rated the combination treatment as slightly (small effect size), but not significantly more acceptable than the behavioral treatment. Another way of examining the data shows that parents rated the behavioral treatment as more acceptable than teachers. However, parents and teachers rated the combination treatment similarly.

Results from Parents and Teachers with No Modeling Group

Finally, after eliminating the modeling group for both parents and teachers, a two (type of information presented: TD, TDR) by three (type of treatment: medication, behavioral, combination) by two (type of respondent: parent, teacher) ANCOVA was conducted with severity rating serving as a covariate. The results of this analysis revealed significant main effects for type of intervention ($p < .001$), and for the type of information presented ($p = .02$). No significant two-way or three-way interactions were found (see Table 19). Regarding the type of intervention, mean scores revealed higher acceptability ratings for the behavioral treatment than the combination treatment, which in turn was higher than the medication treatment (see Tables 6 and 7). Regarding the type of information presented, mean scores revealed higher acceptability ratings for the TDR group than the TD group.

Table 19

Three-Way Analysis of Covariance Comparing Type of Respondent, Type of Information Presented, and Treatment Options

Source	df	F	p
Covariate (severity)	1	.45	.502
Type of information (I)	1	5.30	.022
Type of treatment (T)	2	85.56	< .001
Type of respondent (R)	1	.53	.465
I x T	2	2.65	.072
I x R	1	3.85	.051
T x R	2	2.86	.059
I x T x R	2	.61	.543

CHAPTER V

DISCUSSION

General Findings

The results of this study showed that providing a rationale for treatments for ADHD increased parents' acceptability for both the medication and combined treatment options. However, this effect did not occur for the behavioral treatment. Additionally, there was no effect for teachers based on treatment presentation method. The results of this study also revealed that parents and teachers differ in how acceptable they viewed some of these treatments. While parents rated the behavioral intervention as more acceptable than teachers, teachers rated the combination intervention as more acceptable than parents did. However, both parents and teachers rated the behavioral and combined treatments as more acceptable than medication. The results also indicate that consumers, especially parents, view the acceptability of these three treatment options differently, but that these effects interact with the amount and kind of information presented to them. Specifically among parents, those who only received a description of the interventions rated the behavioral intervention as more acceptable than the combination intervention. However, there was no longer a significant difference in acceptability ratings of these two treatment options when rationales were provided along with treatment descriptions.

Findings Among Parents

The results of this study indicate that parents rate treatments involving

medications as significantly more acceptable when presented with a rationale for the use of those treatments. However, this same effect for providing a rationale was not demonstrated in relation to the behavioral treatment. Given that acceptability ratings regarding medication alone were increased to a large degree by providing a rationale, but that providing a rationale for behavioral treatment did not have any effect, it is not surprising that providing a rationale for the combined treatment led to a moderate increase in acceptability over providing just a description. One potential reason for these findings may be that behavioral interventions naturally make sense to parents, in that children with ADHD display behavioral problems, which should improve with behavior therapy. However, psychostimulant medications may not make sense to parents who do not understand the biological basis for ADHD. Moreover, explaining the biological basis for ADHD may lead parents to believe that they are not totally at fault for their children's behavior, and thus they may perceive that medication may be warranted. Providing a rationale for medication (as done in this study) may also help to clarify issues with side effects that may make parents hesitant about medication use.

In addition to finding no effect for providing a rationale for behavioral therapy, modeling the behavioral therapy also did not increase acceptability ratings among parents. These findings are somewhat consistent with those of Cross-Calvert and McMahan (1987). Their interpretation for this lack of effect is that providing a model to children may have taken too long, and thus parents found this approach less acceptable. This may have been the case in the current study, even though the information was provided directly to parents instead of to children. Additionally, the

approaches demonstrated in the current study may have been strategies that parents expected, and thus the demonstration may not have added information. Moreover, providing a model of therapy prior to treatment may not increase parents' acceptability initially, because they may need time to put the strategies into action with their own children. In providing behavioral therapy to parents of children with ADHD, it seems that parents may experience ongoing increases in acceptability of the intervention as they see improvements with their children. Previous research has shown that parents' experience with interventions correlates with satisfaction (Johnston & Fine, 1993). Moreover, qualitative results from Gage and Wilson (2000) suggest that parents of children with ADHD became more accepting of interventions as they experienced success with the interventions. The therapist's ability to troubleshoot difficulties that parents have with implementing reinforcement and discipline strategies may also play a role in the acceptability of behavioral interventions. However, the behavioral intervention demonstration provided in this study did not concentrate on troubleshooting that occurs in parent-training. If this component could have been demonstrated to participants, it might have helped improve acceptability ratings in the modeling group, beyond parents' ratings of a simple description of behavioral therapy. Moreover, process factors such as rapport and the therapist-client relationship are important in any form of therapy. These factors are hard to demonstrate to participants through a model of therapy. The inability to demonstrate these factors may have also impacted participants' ratings.

Another issue related to the overall high ratings of acceptability for the behavioral

interventions is that a ceiling effect might have occurred. Although the overall mean for the rationale group was 25 points below the highest score possible, scores in the rationale group were high enough that participants in the modeling group would have needed to rate the treatment as extremely acceptable in order to create a statistically significant difference. Finally, another issue is whether or not participants viewed the model as realistic. The results of a question that participants completed regarding the reality of the model indicated that parents perceived the demonstration of the behavioral interventions as moderately realistic. Perhaps if the model was perceived as extremely realistic, acceptability might have been higher for this group.

In examining differences among treatment options, the results from those who received only a description of the treatment indicated that they found behavioral therapy the most acceptable and medication the least acceptable. These results are in accordance with findings of previous acceptability studies that also provided mostly just a description of the treatments (Gage & Wilson, 2000; Wilson & Jennings, 1996). Among those provided with rationales, although participants still rated the behavioral therapy significantly more acceptable than the medication therapy, ratings for the behavioral therapy no longer exceeded those of the combination therapy. However, among parents in the modeling group, the behavioral intervention was again rated as significantly more acceptable than the combination therapy. This occurred despite the fact that no significant differences were found for the behavioral therapy between parents in the rationale and modeling groups or for the combination therapy between parents in the rationale and modeling groups.

There were no statistically significant gender effects among parents, regardless of the type of information presented or the treatment option. However, there was a significant gender-by-treatment option interaction in the TDRM group, and the difference in effect sizes among mothers and fathers in the TDRM group with regard to the medication treatment indicates that a gender effect may be present. The statistically nonsignificant results are in accordance with the study by Gage and Wilson (2000), who also did not find significant gender effects on acceptability ratings. Miller and Kelly (1992) did find an effect for gender, but this effect was qualified by an interaction with problem severity of the child. In the current study, mothers and fathers did not differ in their ratings of problem severity related to the case history, which may partially explain why no statistically significant gender effects occurred.

After the initial analyses, the modeling group (i.e., TDRM) was removed because it did not produce any effects above and beyond the TDR group. Removing this group allowed for three-way analysis (treatment option by type of information by type of respondent) that was not possible with the modeling group, which did not include data regarding medication. After the modeling group was eliminated and results were reanalyzed, the overall results indicated a significant interaction as well as significant main effects for type of information presented and type of intervention. As indicated earlier, it was found that providing a rationale to parents increased treatment acceptability ratings of the of the two interventions that included medications. However, providing a rationale did not increase the acceptability ratings of behavioral intervention. Thus, this strategy of providing a rationale appears to be effective when

presenting treatment options to parents that include medications.

Findings Among Teachers

Unlike the results with parents, providing a rationale and a model of treatment did not affect teachers' ratings of treatment acceptability. One reason that teachers' ratings may not have changed may be their experience with children with ADHD and the treatment options that were presented. With an overall average of approximately nine years of teaching experience, it is highly likely that all of the teachers in this study had previous experience with children with ADHD in their classrooms. They have likely seen the effects of different medications and various behavioral interventions with multiple children. Therefore, the knowledge that these teachers had coming into the study may have precluded their treatment acceptability ratings from being affected by the type of information presented. Teachers may have already known the rationale for medications and behavioral interventions. Also, their experience may have already created preconceived ideas that were unaffected by providing them a rationale and model of interventions.

The results of this study indicate that teachers found the behavioral and combination treatment options more acceptable than medications alone. However, teachers showed no preference between the behavioral and combination treatments. These results indicate that teachers are not necessarily opposed to the use of medications, but do feel that including a behavioral intervention as part of the overall treatment approach is important. Anecdotal comments written by some teachers indicated that they believe parenting affects the behavior of children with ADHD.

These comments noted that parents who attempt to treat their child solely with medication are not helping the child as much as they could by including a behavioral intervention in addition to or instead of medication. Comments also indicated that some teachers believe that medications are overprescribed. One statement by a teacher added that she has seen students prescribed medication whom she did not believe to have ADHD. These comments and their lower treatment acceptability ratings suggest that teachers have definite concerns about using medications as an exclusive treatment option. However, their high treatment acceptability rating of the combined treatment suggests that teachers view medications as an acceptable adjunct to behavioral treatment. It should be noted though that teachers were rating a home-based behavioral intervention, which would not require effort on their part. Therefore, their treatment acceptability ratings may have been different if they were rating a school-based intervention.

Findings Among Parents and Teachers

The main finding in examining the results from both parents and teachers is the interaction that occurred between the type of respondent and the type of intervention. Parents rated the behavioral intervention higher in treatment acceptability than teachers did, but teachers rated that combined intervention higher in treatment acceptability than parents. This interaction shows important differences in how parents and teachers view the acceptability of treatments for children with ADHD. Parents and teachers often communicate about the treatment approach that will be employed for children, and this communication is important. Although the results of this study do not indicate that

parents and teachers have drastically different views regarding treatment acceptability of interventions for ADHD, differences still exist. This could lead to possible benefits for the child if teachers communicate their positive feelings about the combined approach to parents, since this approach tends to yield the best effectiveness for the child. Supporting parents in the use of this approach could be beneficial. This is just one example of the clinical relevance related to the findings.

Clinical Relevance

Acceptability studies provide valuable information for both clinicians and consumers of treatments. Numerous interventions currently exist for the treatment of ADHD. The interventions evaluated in this study (medication, behavioral treatment, and the combination of both) represent the three most common and effective treatment approaches employed by psychologists, psychiatrists, and physicians for treatment of children with ADHD. Moreover, the specific techniques within the behavioral treatment approach (i.e., parent training) also represent the most common behavioral strategies employed by parents. Regardless of the treatment method employed, it must generally be maintained for a lengthy period of time in order to produce effective results. Treatment acceptability studies provide valuable information to clinicians by reflecting the consumers' views concerning such interventions. By knowing such information, clinicians can choose interventions that consumers find acceptable, thus potentially leading to greater adherence and consequently greater effectiveness. Additionally, by knowing better ways to present information to parents and teachers,

clinicians can enhance acceptability prior to the initial implementation of treatments. Due to the active role that parents and teachers often have in the treatment of children with ADHD, their acceptability ratings provide essential information.

The findings of this particular study have substantial implications for how professionals present treatment options to parents and teachers. The findings suggest that presenting parents with a rationale for medication use can be beneficial in increasing their acceptability prior the use of this treatment option. These findings have particular implications for physicians and those conducting psychological assessments with children, because these professionals are typically the first individuals to recommend medication or a medication evaluation to parents. In this study, the difference in time that it took the psychologist to present the description versus the description and rationale was approximately 3 minutes. While it took approximately two minutes to present the description, it took approximately 5 minutes to present the description and rationale. This time difference suggests that providing parents with a rationale for medication and combined treatment options is a very easy and feasible way to increase parents' acceptability.

Knowing that providing a rationale and a model of behavioral therapy does not increase acceptability among teachers is also useful information. The results suggest that without this additional information, teachers still found the behavioral and combined treatment options moderately acceptable, since their average response on the TEI was approximately 5 on a scale of 1 to 7. Although teachers find these options acceptable, there is still room for improvement, and even more so with regard to

medications. It may not be as crucial for teachers to view medications as acceptable as it is for parents. However, if teachers do view this option as acceptable, they may be more willing to support parents who have chosen medication as a treatment. These overall results suggest that perhaps other strategies should be employed to increase the treatment acceptability of these interventions among teachers as well as parents who rated the behavioral and combined treatments with moderate acceptance. These findings suggest that more research should be conducted in this area to find more ways of increasing both parents' and teachers' acceptability of treatments for ADHD. For instance, as will be discussed in the section on directions for future research, more education regarding treatment options and creating smooth transitions from the professionals who evaluate the child and those who treat the child may be beneficial.

Strengths

This study has several strengths. The use of a single case history provides consistency of symptoms and assures that the child in the description displays an adequate number of symptoms to meet diagnostic criteria for ADHD. Simplifying treatment formats by combining specific behavioral techniques allows for a controlled comparison among behavioral, medication, and combined treatment formats. In relation to a "real-life" situation, the video format of presenting treatment scenarios to participants should provide them with a more equivalent model of relating information to parents and teachers than a written format. Although there is no direct evidence to suggest that participants would respond differently to a video versus a written format,

the video format may help increase the external validity over a written format. Additionally, this study directed the treatment scenarios towards parents rather than directing them towards children, as Cross-Calvert and McMahon (1987) did in their similar study. Again, the current procedures should better mimic a real-life situation, since professionals typically present these parent-training and medication treatments to parents first, not to children. Finally, this study provided a direct comparison between acceptability ratings of parents and teachers. Previous literature lacks this type of a comparison.

Limitations

This study also has several shortcomings. Participants in this study were all volunteers, which may bias the sample. It is also important to note that the results of this study are based on the ratings of a predominately middle class, Caucasian population. The majority of participants were from Utah. Since a predominant portion of the population in Utah, and especially in Cache County (where much of the data were collected) belongs to The Church of Jesus Christ of Latter-day Saints (Mormon) religion, many of the participants were potentially of this same religion. Given the values typically associated with this religion (e.g., emphasis on family), this somewhat homogeneous sample may hinder the generalizability of these results to other populations. However, some of the results are comparable to that of previous research (Cross-Calvert & McMahon; Gage & Wilson, 2000; Wilson & Jennings, 1996), the data from which was collected in other geographic areas. Nonetheless, the results of this

study may not completely generalize to other cultures or perhaps those of low SES. For example, individuals of low SES may rate medications as more acceptable given that they are often less expensive and less time consuming. Given the current lack of cultural diversity among the acceptability research, it is hard to hypothesize how well these results would generalize to people of other ethnicities or cultures. People of different cultures do tend to vary in their approach to parenting. Moreover, people of various cultures differ in how much they value both behavioral therapy and prescription medications. For instance, cultures may vary in how much they prefer treatments that are more medical or psychological in nature. Therefore, it seems likely that these different results may be found in sampling people of other cultures.

The fact that parents of children with ADHD were not included in this study also limits its external validity. The results of this study demonstrate that parents of children without ADHD rate behavioral treatment as more acceptable than both the medication and the combination treatment formats, thus confirming previous findings (Abikoff, 1991; Gage & Wilson, 2000; Whalen & Henker, 1991; Wilson & Jennings, 1996). However, findings from the Gage and Wilson study suggest that these results do not always generalize to parents of children with ADHD, at least not parents of children who have been diagnosed and treated. For instance, parents of children with ADHD in Gage and Wilson's study differed from parents of children without ADHD in their ratings of behavioral treatment, medication, and a multimodal intervention. However, the sample included in the current study should generalize better to parents whose child is first diagnosed with ADHD than parents whose child has already been diagnosed and

perhaps treated. However, an ideal sample would have included parents whose children were just being diagnosed with ADHD. Therefore, a partial replication of this study including this type of a clinical sample is recommended.

Additionally, the analog nature of this study hinders external validity. Parents were asked to imagine a child as described by the case history. Moreover, although they saw a video presentation of the treatment scenarios, they were not actually interacting with a professional. Therefore, these results may not generalize to real-life settings, in which parents or teachers can fully interact with the professional prescribing treatment for the child. It is also important to note that the TEI is geared more towards behavioral interventions, which may bias the results in comparing behavioral treatment and medications.

The fact that teachers were presented with home-based interventions may have affected the results, because the teachers rated interventions that would not necessarily involve them. Moreover, the TEI tends to be more geared towards evaluating home-based interventions. Teachers may have rated similar school-based interventions differently than the interventions presented in this study, which would have a more direct effect on them. For instance, teachers in this study may have rated the behavioral intervention as more acceptable, since they would not have to do the work associated with this intervention. Likewise, they may have rated medications as more acceptable, since they would not have to worry about side effects impacting their own children. However, this is not to say that teachers do not display such concerns for children in

their classrooms. Teachers sometimes voice concerns that children are being overmedicated.

Finally, the fact that participants always viewed the combination treatment last presents a potential problem with order effects. Although the order of medication and the behavioral intervention were randomized, the combination treatment was always presented last, because of logistical purposes. Although this problem could have been alleviated with a between-subjects design in relation to treatment option, power would have been jeopardized and an extremely large sample size would have been necessary. Nonetheless, potential order effects do exist.

Directions for Future Research

Several strategies could be employed to expand on this current study. First, empirically investigating the link between being a parent of a child with ADHD and acceptability ratings would provide beneficial information. Likewise, empirically investigating the link between acceptability ratings and treatment adherence for these specific treatments would also provide important information. Second, conducting a more thorough evaluation of the factors that influenced participants' acceptability ratings would help clinicians determine how to increase their clients' acceptability of treatments, thus potentially increasing their adherence to various treatment regimens. Third, given that parents and teachers are more likely to collaborate on implementing school-based interventions than home-based interventions, future research should compare acceptability ratings of teachers and parents with school-based interventions.

Fourth, in a similar study, providing participants with a more in-depth written outline of the behavioral intervention in addition to verbally explaining some of the strategies may be worth investigating. Finally, as indicated earlier, including a sample of parents who have just had their child diagnosed with ADHD would be important.

Future research should focus on interventions for directly improving consumers' acceptability of treatments for ADHD and their commitment towards using the interventions as they are prescribed. A substantial amount of research has found that behavioral interventions and psychostimulant medications are efficacious treatments for ADHD. However, consumers need to implement these treatments properly in order for children with ADHD to benefit from them. Therefore, professionals need to work towards improving consumers' compliance with the prescribed treatments. This study demonstrates one way in which professionals may be able to increase parents' acceptability of medications. However, there may be other ways to increase consumers' acceptability of these interventions. The bulk of the previous research as focused on factors that correlate with acceptability ratings, but little research examines methods of increasing acceptability.

Future research should shift towards examining actual interventions. One strategy for improving acceptability and compliance may be educating consumers. Health psychology research has continually found that brief education alone can result in symptom reduction, decreased hospital visits, and decreased medical costs (Robinson, Schwartz, Magwene, Kregel, & Tamburello, 1989; Sobel, 1995; Vickery et al., 1983). Therefore, it seems logical that educating consumers about treatments for ADHD could

have similar effects. For instance, professionals could educate consumers about the possible consequences of not following through with treatment (e.g., increased conduct and academic problems). Educating consumers about issues that they fear the most, such as the potential side effects of medication, may be helpful. Professionals should attempt to dispel myths or inaccurate beliefs held by consumers, such as those that they obtain from media and nonscientific sources.

Smooth transitions between diagnosis and treatment may also improve the effectiveness of these interventions for ADHD. Professionals who diagnose children with ADHD typically do not implement the entire treatment regimen. For instance, most physicians cannot implement behavioral therapy while psychologists cannot prescribe medications. It is important to create a seamless system of care to foster treatment acceptability and treatment compliance. Including a psychologist in the primary care setting may enhance this transition. Having someone for physicians to immediately and directly refer parents of children with ADHD to (someone with more knowledge of behavioral therapy and more time to discuss treatment options) could benefit everyone involved. Research regarding such interventions should be conducted to examine possible benefits.

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APPENDICES

Appendix A
Treatment Evaluation Inventory

Treatment Evaluation Inventory

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the treatment. Please read the items very carefully because a checkmark accidentally placed on one space rather than another may not represent the meaning you intended.

1. How acceptable do you find this treatment to be for the client's problem behaviors?

_____	_____	_____	_____	_____	_____	_____
not at all acceptable			moderately acceptable			very acceptable

2. How willing would you be to carry out this procedure yourself if you had to change the client's problem?

_____	_____	_____	_____	_____	_____	_____
not at all willing			moderately willing			very willing

3. How suitable is this procedure for clients who might have other behavioral problems than those described for this client?

_____	_____	_____	_____	_____	_____	_____
not at all suitable			moderately suitable			very suitable

4. If this were the only treatment available for the client, how bad would it be to use this treatment?

_____	_____	_____	_____	_____	_____	_____
very bad			moderately			not bad at all

5. How unpleasant do you find this treatment?

_____	_____	_____	_____	_____	_____	_____
very unpleasant			moderately unpleasant			not unpleasant at all

6. Would it be acceptable to apply this procedure to clients who could not choose a treatment for themselves (e.g., mentally retarded or very young children)?

_____	_____	_____	_____	_____	_____	_____
not at all acceptable			moderately acceptable			very acceptable

7. How consistent is this treatment with common sense or everyday notions about what treatment should be?

very different or inconsistent with every notions

 moderately consistent

 very consistent with every notions

8. To what extent does this procedure treat the client humanely?

does not treat them humanely at all

 treats moderately humanely

 treats them very humanely

9. To what extent do you think there might be risks in undergoing this kind of treatment?

lots of risks are likely

 some risks are likely

 no risks are likely

10. How much do you like the procedures used in this treatment?

does not like it at all

 moderately like it

 like it very much

11. How effective is this treatment likely to be?

not at all effective

 moderately effective

 very effective

12. How likely is this discipline technique to make permanent improvements in the client?

unlikely

 moderately likely

 very likely

13. To what extent are undesirable side effects likely to result from this treatment?

many undesirable side effects likely to occur

 some undesirable side effects likely to occur

 no undesirable side effects to occur

14. How much discomfort is the client likely to experience during the course of this treatment?

very much discomfort

 moderate discomfort

 no discomfort at all

15. Overall, what is your general reaction to this form of treatment?

_____ _____ _____ _____ _____
very negative ambivalent very positive

16. Overall, how realistic were the depictions of treatment option you just viewed (i.e., the reinforcement and discipline strategies)?

_____ _____ _____ _____ _____
very moderately very
unrealistic realistic realistic

Appendix B

Case History

Case History

Imagine the following is a description of your child (a child in your classroom).

Mark Smith is 7 years old. For several years he has had some problems that his parents hoped he would outgrow. Mark often fidgets and squirms in his chair. He also has difficulty remaining seated when he is supposed to (e.g., at school, in church, in a restaurant).

When playing games, Mark has trouble waiting his turn, and often interrupts others. In school, he often blurts out the answers before questions have been completed. Because of these behaviors, Mark has not been able to make very many friends. Mark does not pay attention to tasks or games for long periods of time, and people and things around him easily distract him. He has difficulty organizing tasks and activities, and often avoids tasks that require much attention. Mark talks non-stop and does not seem to listen or follow through on instructions from his parents or teachers. Furthermore, he often does not seem to listen when spoken to directly. Mark's school performance is suffering because he often makes careless mistakes on homework from not paying attention to details. The school has been thinking of placing Mark in the resource room for several hours each week. His parents are concerned that it will be harder for Mark to be accepted by his classmates if he is in the resource room.

Mark often acts before thinking and his parents are worried that he may hurt himself. For example, one day Mark was nearly hit by a car while riding his bike because he did not look before crossing the street. He is constantly climbing on the

furniture and running about the house during all periods of the day. Mark's parents are frustrated and his behavior is not improving.

How do you perceive the severity of Mark's behavioral difficulties?

1	2	3	4	5	6	7
Mildly			Moderately			Extremely
Severe			Severe			Severe

Next, you will see some scenarios regarding three treatment options for Mark. After each option is presented, you will be asked to rate that treatment by completing a Treatment Evaluation Inventory. Please do not look back at, or change, any previous answers once you have rated a treatment option.

Appendix C
Treatment Scenarios

Treatment Scenarios

Medication Description

One treatment option is medication. If parents choose this option, their child will see a physician for a prescription of a psychostimulant medication such as Ritalin, Dexedrine, Adderall, or Cylert. Ritalin is currently the most frequently prescribed medication, and therefore the following description is more typical of Ritalin. Prescriptions of other medications are similar, but may vary in dosage amounts and frequency. Usual doses of Ritalin range from 5-20 milligrams, per dose, depending on the child's age. The child's dose would probably start at approximately 5 to 10 milligrams, but may increase if the physician feels that it is warranted, based on parent and teacher feedback. The child's parents would be consulted prior to any dosage changes. These medications are taken orally, absorbed by the gastrointestinal system, and consumed by the body within approximately 24 hours. Changes in behavior usually become apparent within 30 minutes. Peak effectiveness from the medication usually occurs between 1.5 and 5 hours after the child takes the medication, and the effects typically last 3 to 8 hours depending on the type of Ritalin that is prescribed. Therefore, the child may have to take the medication at least two times per day in order to affect their behavior throughout the entire day. For example, the child might take the medication once in the morning and once in the afternoon. The child would be monitored by regular visits to the physician to insure the correct dosage and watch for side effects such as appetite and weight loss, sleeping problems, irritability, restlessness, stomach aches, headaches, increased heart rate and blood pressure, and depressive

symptoms (e.g., sadness, crying, withdrawal). These types of behaviors would need to be monitored by the parents so that the physician could become better aware of any changes in the child's feelings and behaviors that would warrant changes in the prescription. Such medications may also activate an underlying tic condition. Therefore, screening for such a condition would occur before the prescription of medications. However, side-effects are relatively uncommon and approximately 75% of children show significant improvement with the use of Ritalin. Furthermore, a large portion of those who do not respond to Ritalin will respond to Adderall or one of the other stimulant medications. Medications usually cost approximately \$30 per month; however, some insurance plans may cover some or all of the cost.

Medication Rationale

Stimulant medications are commonly used to treat ADHD, by decreasing hyperactivity, lessening impulsivity, and improving attention span. Medications such as Ritalin work by stimulating certain areas of the brain, which may be under-stimulated in children with ADHD. These areas of the brain regulate the ability to attend and concentrate. When these areas are stimulated with medications, they are usually able to function better and adjust the child's attention and concentration levels appropriately. If a child wants or needs to sit quietly and pay attention, the proper functioning in these areas of the brain allows the child to do so. If these areas of the brain do not function properly, as often occurs in children with ADHD, these areas of the brain do not allow such children to control their activity, attention, and concentration. The effect of medication is not "paradoxical," but rather allows the child to function more normally.

Children such as Billy generally compensate for this under-stimulation by engaging in hyperactive and impulsive behavior. Therefore, by stimulating the brain with medications, inappropriate behaviors often decrease in frequency.

Behavioral Treatment Description

One treatment option is behavioral therapy. If parents choose this option, they would attend a joint parent-child training program with three goals: improving parenting skills, increasing parental knowledge of why children misbehave, and improving child compliance to directions and rules. The child and his parents would attend sessions together. Every session would involve homework, learning a new parenting concept or method, practicing the method in session by allowing time for the child and his parents to interact, and addressing potential problems for the child or his parents. The teaching of parenting skills includes the use of video segments and in-session demonstrations. However, practicing at home would be encouraged to maximize success. Parents would usually be asked to spend approximately 30 minutes per week completing homework assignments. Sessions would generally occur weekly for approximately 50 minutes each. Therapy usually takes 10 to 12 weeks, and monthly booster sessions might be scheduled (if needed) after the initial treatment has been completed. Therapy sessions can cost as much as \$100 per hour; however, some agencies offer substantially reduced rates, and some insurance plans may cover the majority of the treatment cost.

Behavioral Treatment Rationale

Children with ADHD are often not very adept at considering the consequences of their behavior. Therefore, this behavioral treatment approach would focus on teaching parents how to help increase their child's awareness of the consequences that follow his behaviors, and how to better interact with their child. This strategy would use basic principles of reinforcement and discipline to promote the child's appropriate behaviors and eliminate his maladaptive behaviors. This approach would provide parents with skills that they could use to handle problem behaviors beyond the scope of attention and concentration. For example, such skills could be used to manage defiant behavior and other behaviors often present in children with ADHD. Furthermore, despite the higher initial costs of this approach, if parents keep up with the skills that they learn and continue to use them at home, the skills could provide long-term benefits even after therapy has been terminated. However, research regarding long-term effects is limited. Parents may also be able to use the parenting strategies that they learn towards improving the behavior of any other children that they have. The majority of children show at least some improvement following behavior therapy.

Combined Medication and Behavioral Treatment Description

The third treatment option is to use medication and to attend a joint parent-child training program. If parents choose this option, they will see a physician for a medication prescription, and a psychologist for weekly therapy sessions just as described earlier.

Combined Medication and Behavioral Treatment Rationale

Parents may consider this approach, because it can provide maximum short-term and long-term effectiveness. Medications typically provide greater short-term relief of the child's symptoms than behavior therapy. Moreover, the use of medications may make new parenting strategies easier for parents to begin implementing and practicing, especially if the child is more attentive and less hyperactive. Parents will also be learning parenting strategies that they can utilize for a long period of time. These strategies may become particularly helpful if the parents decide to terminate the use of medication later on. Furthermore, there may be substantial periods during each day in which the child does not receive therapeutic benefits from the medication. Therefore, specific parenting skills may be helpful during these times for controlling behavioral difficulties. Parents may also be able to use the parenting strategies that they learn towards improving the behavior of any other children that they have.

Behavioral Modeling Scenario

During the parent-training program, one main strategy would be taught and practiced to increase parents' positive reinforcement of their child's appropriate behaviors, and one main discipline strategy would be taught and practiced to decrease their child's inappropriate behaviors.

First, positive reinforcement skills would be enhanced by having parents practice giving their child verbal praise. Parents would spend approximately 5-10 minutes of each session (at least for the first few sessions) practicing verbal praise and would also

practice at home during a “special play time.” During this time parents would attend to, describe, and praise their child’s appropriate behaviors while learning to ignore inappropriate behaviors that the child may engage in as a means of gaining attention, thus only reinforcing appropriate behaviors. These skills will be continuously practiced in the following fashion as a way of making parents’ reinforcement of their child’s appropriate behaviors an automatic response.

Insert 1 minute of “Child’s Play” modeling here

Second, parents would learn “time-out.” Although parents commonly report using this strategy with less success than they would like, sometimes making small changes to the procedure will make the strategy much more effective. Therefore, parents would practice the strategy in sessions with their child and the therapist. As demonstrated here, the parent and the therapist would explain time-out to the child, and from then on, if the child does not comply with a parent’s command or acts inappropriately, he would be sent to a time-out chair for approximately five minutes or until he behaves. When the time-out period is completed, the child is then told to comply with any commands previously given. Parents would practice at home, and work with the therapist to troubleshoot any difficulties with the time-out strategy.

Insert time-out scenario here

Next, two **alternate** forms of discipline may be taught and practiced as well. First, parents would be taught a job-card grounding strategy. They would work with the therapist to develop a list of jobs that are given to their child whenever the child misbehaves. Job descriptions are written down explicitly on notecards, and one randomly chosen job is given to the child whenever he misbehaves. The child is then grounded (which means that he is restricted from engaging in most or all pleasurable activities, such as watching T.V. or playing with friends), until he completes the specified job. Therefore, the child has control over the length of the punishment. Stipulations with “grounding” are discussed with the child beforehand. [PAUSE AND ZOOM OUT TO SHOW JOB CARDS.]

Job descriptions would be written in detail on index cards such as these. An example of a job might be to dust the living room by first removing all items from the shelves and tables; next, wiping down all of the shelves and tables with Endust, making sure there are no streaks; and then placing all of the items back of the shelves and tables as they previously were.

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Appendix D
Demographics Questionnaires

Parents' Demographics Questionnaire

Please circle the appropriate answer or fill in the blank for each of the following questions.

1. Gender: Male Female
2. Age: _____
3. Current marital status: Married Single Divorced Separated Widowed
4. Annual Family Income (Gross):
 - 1) \$19,999 or less 2) \$20,000-\$29,999 3) \$30,000-\$39,999 4) \$40,000-\$49,999
 - 5) \$50,000-\$59,999 6) \$60,000-\$69,000 7) \$70,000 or more
5. Occupation _____
6. Are you or have you ever been employed as a teacher? Yes No
7. If yes, how many years of teaching experience do you have? _____
8. Highest level of Education Achieved:

Less than High School	High School	Associate's Degree
Bachelor's Degree	Post College Graduate Degree	
8. How many children do you have? _____
9. Do you have any children who have been diagnosed by a psychologist, psychiatrist, or physician with Attention Deficit Hyperactivity Disorder (ADHD)?

Yes No
10. Have you, or has anyone within your immediate family received therapy or other psychological services in the past? If so, who and what type of services?

Yes No

Teachers' Demographics Questionnaire

Please circle the appropriate answer or fill in the blank for each of the following questions.

1. Gender: Male Female
2. Age: _____
3. How many years of teaching experience do you have? _____
4. Highest level of Education Achieved:
Bachelor's Degree Post College Graduate Degree
5. If you are a parent, how many children do you have? _____
6. Do you have any children of your own (as opposed to children in your class) who have been diagnosed by a psychologist, psychiatrist, or physician with Attention Deficit Hyperactivity Disorder (ADHD)?
Yes No
7. Have you, or has anyone within your immediate family received therapy or other psychological services in the past? If so, who and what type of services?
Yes No

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EDUCATION

- May, 2002 Ph.D. Combined (Clinical/Counseling/School) Psychology
 APA Accredited Program
 Utah State University; Logan, UT
Dissertation: Parents' and teachers' acceptability of treatments
 for attention-deficit hyperactivity disorder: The effects of
 presentation and information delivery
 Advisor: Gretchen A. Gimpel, Ph.D.
- May, 1998 M.S. Clinical Psychology
 University of Idaho; Moscow, ID
Thesis: Acceptability of interventions for attention-deficit
 hyperactivity disorder: A comparison of parents.
 Advisor: Laurie J. Wilson, Ph.D.
- May, 1996 B.S. Psychology
 University of Idaho; Moscow, ID
 Advisor: Steven E. Meier, Ph.D.

CLINICAL EXPERIENCEInternship and Practica Experiences

- July, 2001-
 July, 2002 Pre-doctoral Internship in Clinical Psychology
 Tripler Army Medical Center; Honolulu, HI
 APA Accredited Internship
 Director of Training: Gary Southwell, Ph.D.
 --Rotations include neuropsychology, health psychology, and
 military psychology. Core experience includes assessment and
 treatment of adults (active duty soldiers and family members).
 Work as a behavioral health consultant in the family practice

clinic. Also, work with psychiatrists on-call for emergency situations. Receive three hours of supervision per week.

August, 2000-
May, 2001

Counseling Psychology Practicum (Completed 300 hours)

Utah State University Student Counseling Center

Supervisor: Gwena C. Couillard, Ph.D.

--Responsibilities included conducting intake interviews, and individual therapy with college students. Received three hours of group supervision and one hour of individual supervision per week.

June, 1998-
May, 2000

School Psychology Practicum (Completed 450 hours)

Clinical Services, Utah State University

Supervisor: Pat Truhn, Ph.D.

--Responsibilities included case coordination and conducting comprehensive psychological assessments in conjunction with a multi-disciplinary team, as well as providing therapy to children and adolescents. Responsible for initial interviews, social/emotional/cognitive assessment, report writing and feedback to parents. Received 2-3 hours of supervision per week.

August, 1998-
May, 1999

Clinical Psychology Practicum (Completed 300 hours)

Psychology Community Clinic, Utah State University

Supervisor: Kevin S. Masters, Ph.D.

--Conducted intake sessions, psychological assessments, individual, family, and couples therapy primarily with adults from the community. Received 3-4 hours of supervision per week.

June, 1997-
May, 1998

Counseling Psychology Practicum (Completed 332 hours)

Student Counseling Center, University of Idaho

Supervisor: Martha Kitzrow, Ph.D.

--Conducted intake sessions, psychological assessments, and individual therapy with college students with a variety of disorders. Received 3 hours of supervision per week.

January, 1997-
May, 1998

Psychological Assessment Practicum (Completed 247 hours)

Student Counseling Center, University of Idaho

Supervisor: Steve Saladin, Ph.D.

--Performed comprehensive assessment batteries for learning disabilities and attention-deficit hyperactivity disorder with college students.

January, 1997-
May, 1997 Clinical Psychology Practicum (Completed 108 hours)
Psychology Community Clinic, University of Idaho
Supervisor: David Christian, Ph.D.
--Conducted intake sessions, psychological assessment, individual, family, and couples therapy primarily with adults from the community. Received 3 hours of supervision per week.

Work Experience (program sanctioned)

August, 2000-
May, 2001 Interdisciplinary Trainee (Working to complete 300 hours)
Center for Persons with Disabilities, Utah State University
Supervisors: Judith Holt, Ph.D.; Pat Truhn, Ph.D.
--Responsibilities included participating in clinical and research experiences with professionals from various disciplines. Primary duties include conducting clinical assessments with children and working in a biomedical laboratory observing/assisting with genetic typing of individuals with ADHD and autism.

July, 2000-
May, 2001 Graduate Assistant (Working 20 hours per week)
Clinical Services, Utah State University
Supervisor: Pat Truhn, Ph.D.
--Responsibilities include case coordination and conducting comprehensive psychological assessment in conjunction with a multi-disciplinary team, as well as therapy to children and adolescents. Responsible for initial interviews, social/emotional/cognitive assessment, report writing and feedback to parents. Receive 2-3 hours of supervision per week.

August, 1999-
December, 2000 Psycho-diagnostician (Completed 30 hours)
Mt. Logan Clinic, Logan, UT
Supervisor: Bruce Johns, Ph.D.
--Performed psychological testing and evaluations for learning disabilities and attention-deficit hyperactivity disorder.

September, 1997-
August, 1998 Registered Counselor/Psycho-diagnostician (Comp. 294 hours)
Wilson Psychological Services, Pullman WA
Supervisor: Gregory Wilson, Ph.D.
--Performed counseling and psychological testing as a Registered Counselor in the state of Washington. Assisted with custody evaluations in performing child/adolescent interviews and parent-child interaction assessments. Assisted in psychological assessment screenings of police officer candidates by performing testing for all candidates.

Additional Work Experience

- June, 1998
July, 1998 Registered Counselor (Completed 30 hours)
Service Alternatives for Washington, Clarkston, WA
Supervisor: Deane McVey, Program Manager
--Worked as a Registered Counselor in the state of Washington with a family preservation therapist to conduct comprehensive evaluations for children with disabilities.
- September, 1995-
May, 1996 Moscow Community Companion (Completed 300 hours)
Moscow Mental Health and Welfare; Moscow, ID
Supervisor: Frank Pelfrey, Ph.D.
--Performed one-on-one occupational training with individuals with chronic mental illnesses (e.g., schizophrenia, bipolar disorder).

RESEARCH EXPERIENCE

- August, 1998-
May, 2001 Treatment of Attention-Deficit Hyperactivity Disorder.
Department of Psychology, Utah State University
Principal Investigator and Supervisor: Gretchen A. Gimpel, Ph.D.
--Investigated the long-term clinical effectiveness of parent training/behavior therapy for ADHD. Performed individualized parent-child interaction therapy with children diagnosed with ADHD and their parents. Attended weekly team meetings to discuss findings, treatment integrity, and intervention techniques.
- August, 1998-
June, 2000 Opening Doors into Rural Communities;
Monitoring and Measuring Community-Based Systems of Care
Early Intervention Research Institute, Utah State University
Principal Investigator and Supervisor: Richard N. Roberts, Ph.D.
--Worked 20 hours per week on two projects performing participatory action research regarding the outcome assessment of home-based and community-based services. Duties included coordinating the collection and analyses of various outcome measures such as parent surveys and community self-assessments.
- August, 1998-
Current Parents' and Teachers' Acceptability of Treatments for
Attention-Deficit Hyperactivity Disorder: The Effects of
Presentation and Information Delivery
Department of Psychology, Utah State University
Principal Investigator: Jason Gage (Dissertation).
Advisor: Gretchen A. Gimpel, Ph.D.

Examining the effects of providing parents and teachers with treatment rationales and a model of behavior therapy as means of increasing their acceptability of three treatment options for ADHD.

August, 1998-
May, 2001

A Meta-Analysis of Controlled Alcohol Treatment Outcome Studies: An Update of What Works

Department of Psychology, Utah State University
Principal Investigator: Anthony Tranchita (Thesis)
Advisor: David Stein, Ph.D.

Examined the effectiveness of psychopharmacological and psychosocial treatments for alcohol dependence via a meta-analytic study. Responsible for coding of experimental studies and consultation with the principal investigator.

September, 1996-
May, 1998

Acceptability of Interventions for Attention-Deficit Hyperactivity Disorder: A Comparison of Parents

Department of Psychology, University of Idaho
Principal Investigator: Jason Gage (Thesis).
Advisor: Laurie J. Wilson, Ph.D.

Evaluated the differences in parents' acceptability of medications, behavior therapy and a multimodal approach as treatments for ADHD. Comparisons among the three treatments, and between parents of children with and without ADHD were investigated.

September, 1994-
May, 1997

The Effects of Childhood Sexual Abuse among College Students

Department of Psychology, University of Idaho
Principal Investigator and Supervisor: Laurie J. Wilson, Ph.D.

--Assisted with a series of studies examining the relationship between past sexual abuse and current psychopathology among male and female college students, as well as current relationship functioning. Responsible for scoring and entering data from a variety of measures (e.g., MMPI, SCL-90-R) as well as supervising all of the data scoring and entry by other undergraduate research assistants.

January, 1996-
August, 1996

Evaluating and Creating Effective Safety Information

Department of Psychology, University of Idaho
Principal Investigator and Supervisor: Curt Braun, Ph.D.

--Investigated individuals' abilities to perform memory recall of safety information, and the effectiveness of safety symbols in the workplace.

December, 1996 Age-Appropriateness of Sexual Education Information in Schools
Department of Health and Physical Education, University of
Idaho
Principal Investigator: Lisa Gilbert, Ph.D.
Performed a content analysis on the topic of age-appropriate
sexual education information for children ages 6-18.

PROFESSIONAL MANUSCRIPTS AND PRESENTATIONS

Professional Manuscripts

Gage, J. D. & Wilson, L. J. (2000). Acceptability of interventions for attention deficit hyperactivity disorder: A comparison of parents. Journal of Attention Disorders, 4(3), 174-182.

Braun, C. C., Gage, J. D., Booth, C., & Rowe, A. L. (2001). Creating and evaluating alternatives to the 10 standard orders and 18 watch-out situations. International Journal of Cognitive Ergonomics, 5(1), 23-35.

Professional Presentations

Gimpel, G. A., Collett, B., Gunderson, T., Gage, J., & Greenson, J. (2001, November). Predictors of treatment outcome in parent training. Poster to be presented at the international conference, Association for Behavior Analysis, Venice, Italy.

Collett, B. R., Ehrlick, A., Johnson, C., Veeder, M., Burgloff, H., Gunderson, T., Gage, J. D., Jones, T., Gimpel, G. A., & Odell, J. D. (in preparation). Differentiating ADHD subtypes in clinical practice. Poster accepted for presentation at the annual conference of the American Psychological Association (August, 2001). San Francisco, CA.

Gage, J. D. & Tranchita, A. (2000, April). Effectiveness of psychotropic medications for alcohol dependence. Poster session presented at Western Psychological Association, Portland, OR.

Tranchita, A. & Gage, J. D. (2000, April). Effectiveness of brief interventions for alcohol dependence. Poster session presented at Western Psychological Association, Portland, OR.

Gage, J. D. (2000, March). Factors affecting parents' acceptability of interventions for attention deficit hyperactivity disorder. Paper presented at National Association of School Psychologists, New Orleans, LA.

Gage, J. D. & Tranchita, A. (2000, March). Effectiveness of school-based alcohol/drug prevention programs: A comprehensive review. Paper presented at National Association of School Psychologists, New Orleans, LA.

Gimpel, G. A., Hlavaty, S., Gunderson, T., Gage, J. D., Collett, B., Greenson, J., Rollins, L., & Hoff, K. (2000, March). The use of homework assignments in a parent training program. Poster session presented at National Association of School Psychologists, New Orleans, LA.

Gimpel, G. A., Greenson, J. N., Rollins, L., Collette, B., Hoff, K., Gage, J. D., Gunderson, T., & Hlavaty. (1999, November). Characteristics of child therapy drop-outs at a university training clinic. Poster session presented at Association for Advancement of Behavior Therapy, Toronto, Ontario.

Roberts, R. N., Morris, C. & Gage, J. D. (1999, June). State, tribal, and parent collaboration in early intervention programs. Poster session presented at 12th Annual Convention of Native American Psychologists and Psychology Graduate Students, Logan, UT.

Gage, J. D., Wilson, L. J., & Yoder, S. M. (1998, April). Acceptability of interventions for attention deficit hyperactivity disorder: A comparison of parents. Poster session presented at Rocky Mountain Psychological Association-Western Psychological Association, Albuquerque, NM.

Wilson, L. J., Gage, J. D., & Greenson, J. N. (1997, April). Sexual victimization, coping strategies, and psychopathology among male college students. Poster session presented at Western Psychological Association, Seattle, WA.

Greenson, J. N., Gage, J. D., & Wilson, L. J. (1997, April). Adult survivors of childhood sexual abuse: Acceptability of partners in treatment. Poster session presented at Western Psychological Association, Seattle, WA.

Braun, C. C., Glusker, S. & Gage, J. D. (1996, April). Engineering information requirements for high stress work environments. Poster session presented at American Psychological Association, Toronto, Ontario.

TEACHING EXPERIENCE

January, 1999-
May, 1999

Teaching Assistant, Perception/Psychophysics
Department of Psychology, Utah State University
Instructor: Carl D. Cheney, Ph.D.

--Responsibilities included lecturing, grading exams and assignments, maintaining grades, conducting study sessions, and assisting students.

- August, 1998-
December, 1998 Teaching Assistant, Psychometrics
Instructor: Eric Gee, Ph.D.
Department of Psychology, Utah State University
-- Responsibilities included grading exams and assignments, maintaining grades, conducting study sessions, and assisting students.
- January, 1998-
May, 1998;
January, 1997-
May, 1997 Lab Instructor, Research Methods
Instructor: Justin Hollands, Ph.D.
Department of Psychology, University of Idaho
-- Responsibilities included teaching a supplementary lab 2 hours per week, designing weekly lesson plans, helping students design and conduct experimental studies, grading exams and assignments, and maintaining grades.
- January, 1998-
May, 1998 Teaching Assistant, Advanced Research Methods/Statistics
Instructor: Curt Braun, Ph.D.
Department of Psychology, University of Idaho
--Responsibilities included lecturing, grading exams and assignments, and assisting students with homework. This class was a graduate course, primarily focused on statistics.
- January, 1998-
May, 1998;
January, 1997
May, 1997 Teaching Assistant, Psychology of Aging
Instructor: Laurie J. Wilson, Ph.D.
Department of Psychology, University of Idaho
-- Responsibilities included lecturing, grading exams and assignments, maintaining grades, performing study sessions, and assisting students.
- August, 1997-
December, 1997 Lab Supervisor, Introduction to Psychology
Instructor: David Christian, Ph.D.
Department of Psychology, University of Idaho
--Responsibilities included supervising 12 undergraduate lab instructors, designing weekly lesson plans for a supplementary lab, maintaining grades for approximately 400 students, and lecturing in both labs and the main course.
- August, 1997-
December, 1997;
August, 1996-
December, 1996 Teaching Assistant, Abnormal Psychology
Instructors: David Christian, Ph.D. and Mark F. Yama, Ph.D.
Department of Psychology, University of Idaho
-- Responsibilities included lecturing, grading exams and assignments, maintaining grades, performing study sessions, and assisting students.

- January, 1997-
May, 1997 Teaching Assistant, Psychology of Emotion
Instructor: Mark F. Yama, Ph.D.
Department of Psychology, University of Idaho
-- Responsibilities included grading exams and assignments, maintaining grades, performing study sessions, and assisting students.
- August, 1996-
December, 1996 Lab Instructor, Introduction to Psychology
Instructor: Alan Whitlock, Ph.D.
Department of Psychology, University of Idaho
--Responsibilities included teaching a supplemental lab 1 hour per week, designing weekly lesson plans for the lab, grading assignments, maintaining grades, and assisting students.
- August, 1996-
December, 1996 Teaching Assistant, Abnormal Psychology
Instructor: Mark F. Yama, Ph.D.
Department of Psychology, University of Idaho
--Responsibilities included graded exams and assignments, maintaining grades, and assisting students.
- August, 1996-
December, 1996 Teaching Assistant, Engineering Psychology
Instructor: Justin Hollands, Ph.D.
Department of Psychology, University of Idaho
--Responsibilities included graded exams and assignments and maintaining grades. This class was both a graduate and an undergraduate course.

SPECIALTY TRAINING (HALF-DAY AND DAYLONG SEMINARS)

- June 20, 2000 Autism Diagnosis and Treatment: An Evidence-Based Approach
Presenter: Gina Green, Ph.D.
--Seven-hour seminar regarding diagnostic approaches and performing applied behavior analysis with children with autism and their parents.
- April 28, 2000 Treatment of Adults with Posttraumatic Stress Disorder (PTSD): A Cognitive-Behavioral Approach
Presenter: Donald, Meichenbaum, Ph.D.
--Seven-hour seminar regarding conceptualization and skills for performing cognitive-behavioral treatment for persons with PTSD.

- November 5, 1999 Contemporary Issues in MMPI/MMPI-2 Interpretation
 Presenter: Don Strassberg, Ph.D.
 --Four-hour seminar regarding interpretation of the MMPI /
 MMPI-2, and issues related to use of the instruments in court.
- September 17, 1999 Pathways to Success: Evening the Odds in the Treatment of
 Attention-Deficit Hyperactivity Disorder
 Presenter: Sam Goldstein, Ph.D.
 --Eight-hour seminar regarding the background, assessment, and
 treatment of attention-deficit hyperactivity disorder
- November 1, 1996 “Managing Obesity” Continuing Education Seminar
 Presenter: David Christian, Ph.D.
 --Five-hour seminar regarding the etiological factors that
 predispose a client to obesity, multimodal obesity assessment,
 matching treatment methods to clients’ needs, and prevention of
 treatment relapse.

HONORS AND AWARDS

- March, 2000 Travel Grant (\$450.00); *Graduate Student Senate and
 Department of Psychology, Utah State University*
- October, 1999 Research Grant (\$350.00); *Women and Gender Research Institute
 & Department of Psychology, Utah State University*
- 1998-2000 Dean’s Honor List, *Utah State University*
- April, 1998 Travel Grant (\$225.00); *Graduate Student Association,
 University of Idaho*
- April, 1997 Travel Grant (\$250.00); *Graduate Student Association,
 University of Idaho*
- 1992-1998 Dean’s Honor List, *University of Idaho*
- August, 1992 Alumni Scholarship Award, *University of Idaho*

POSITIONS

- June, 2000-
 May, 2001 Graduate Student Representative
 Department of Psychology, Utah State University
 --Elected by fellow graduate students. Work as a liaison between
 students and faculty representing the students in monthly faculty

meetings. Plan and organize orientations for new students and for student candidates interviewing with the department.

November, 1999-
May, 2000

Graduate Student Senator

Department of Psychology, Utah State University

--Represented the psychology graduate students in monthly student meetings, and served on a committee designed to improve the Utah State University teaching assistant workshop.

AFFILIATIONS

American Psychological Association, Student Affiliate
Association for Advancement of Behavior Therapy, Student Affiliate
Gamma Sigma Alpha National Honor Society
Golden Key National Honor Society
National Association of School Psychologists, Student Affiliate
Psi-Chi National Honor Society
Western Psychological Association, Student Affiliate