

FACTORS AFFECTING TREATMENT
ACCEPTABILITY IN THE
CLASSROOM

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Introduction

There currently exists a wide range of classroom-based interventions with demonstrated efficacy in reducing behavior problems related to Attention-Deficit/Hyperactivity Disorder (ADHD). Furthermore, there is a growing recognition of the need for behavioral consultants to be made available to teachers. However, a large proportion of classroom-based interventions are often ineffective (Elliott, Witt, & Kratochwill, 1991). Thus, it is incumbent upon researchers in the field to identify factors that limit and factors that enhance treatment efficacy in the classroom.

Although a number of factors could be responsible for treatment failure, it is becoming seemingly apparent that the problems are due in large part to treatment selection not matching behavioral function (Vollmer & Northup, 1996). The research to date, however, has focused primarily on factors affecting teachers' perceptions of treatment acceptability without regard to the relationship between behavioral function and treatment recommendation.

Despite the fact that many researchers are calling for the use of functional assessment with classroom-based behavior problems related to ADHD, the relationship between functional assessment and treatment acceptability has yet to be examined. In the present paper, it is proposed that issues related to functional assessment may be influencing treatment efficacy in the classroom and that the inclusion of functional assessment in the consultation process will influence teachers' perceptions of treatment acceptability.

Initially, the following areas will be addressed: the nature of ADHD, current diagnostic criteria, and the classroom-based interventions with demonstrated efficacy.

Next, the treatment acceptability research with teacher populations will be reviewed. The paper will then focus on the role of functional assessment in the classroom and its potential relationship to treatment acceptability. Finally, the paper will conclude with a proposal for how the aforementioned relationship will be examined.

Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder (ADHD) is one of the most prevalent psychiatric disorders among children in the United States, with prevalence rates estimated at 3-5% (American Psychiatric Association, 1994). As a result, ADHD is one of the most common presenting problems among children referred to mental health professionals (Barkley, 1998). The current diagnostic criteria for ADHD listed in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association, 1994) requires that the child display six or more symptoms of inattention and/or six or more symptoms of hyperactivity/impulsivity (see Table 1, Appendix H). In addition, the symptoms must have persisted for at least six months with some symptoms having been present before age seven, and must have resulted in significant impairment in social, academic, or occupational functioning. Individuals whose primary symptoms of ADHD are within the domain of inattention are classified as Predominantly Inattentive Type. Individuals whose primary symptoms of ADHD are within the domain of hyperactivity/impulsivity are classified as Predominantly Hyperactive/Impulsive Type. Individuals who have six more symptoms in each category are classified as Combined Type.

Of all the settings in which children with ADHD have difficulty, it is often the classroom that presents the greatest challenge (Piffner & O'Leary, 1993). In fact,

virtually all clinic-referred ADHD children are having significant problems with their academic performance and achievement (Barkley, 1998). Although these difficulties may be due in part to deficits in academic ability, it appears that the majority of the problem is attributable to their inattentive, impulsive, and overactive behavior. Such a conclusion is supported by numerous research findings which have demonstrated significant increases in academic productivity and on-task performance when stimulant medication is administered (e.g. Ideus & Cooper, 1995). However, pharmacological interventions are not effective for all children, are not effective once discontinued, do not teach appropriate or prosocial behavior, and do not improve long-term prognosis (DuPaul, Barkley, & Connor, 1998; Pfiffner & O'Leary, 1993). Furthermore, when the research is reviewed, the combination of behavioral and pharmacological treatments appears to be more effective than the use of pharmacological interventions alone. Pfiffner and Barkley (1998) stated that "the most effective interventions for improving school performance are those applied consistently *within* the school setting and at the point of performance" (p. 459). The classroom setting in which ADHD children are most likely to be placed continues to be the mainstream classroom as opposed to special education classrooms (Taylor & Larson, 1998).

There exist a wide variety of classroom-based interventions for children with ADHD (for a review see Pfiffner & O'Leary, 1993). Interventions typically referred to as "positive" interventions seek to increase desirable behaviors and include strategic teacher attention (i.e. praise), token economy programs, and tangible rewards (e.g. Pfiffner, Rosen, & O'Leary, 1985). Interventions typically referred to as "reductive" interventions seek to decrease undesirable behaviors and include reprimands, response cost, and time-

out (e.g. DuPaul, Guevremont, & Barkley, 1992; Sullivan & O’Leary, 1990). It is also commonplace for the treatment to include combinations of both positive and reductive interventions (e.g. Rosen, O’Leary, Joyce, Conway, & Pfiffner, 1984).

The conclusions that can be drawn from the above-described information are 1) mental health professionals working with children are likely to receive numerous referrals for the treatment of ADHD, 2) the effective treatment of ADHD often requires intervention in the classroom, and 3) a variety classroom-based interventions with demonstrated efficacy currently exists. The most commonly used behavioral interventions in the classroom involve teacher-administered consequences (Pfiffner & Barkley, 1998). Although the mental health professional may design the intervention, it is the teacher who is responsible for its implementation. The success of the behavioral intervention is dependent upon the teacher’s willingness and ability to implement the appropriate intervention at the appropriate points in time (Pfiffner & Barkely, 1998). Reimers, Wacker, Cooper, and DeRead (1992) stated, “Once the assessment is complete and the potentially effective treatment has been selected, the success of the treatment depends largely on implementation by the teacher,” (p. 628). Neglecting teacher characteristics and preferences when planning interventions will likely lead to poor treatment compliance which compromises the effectiveness and maintenance of an intervention (Greene & Barkley, 1998). Thus, to increase the likelihood their treatments will be implemented, psychologists working in the classroom must consider not only student-treatment compatibility but teacher-treatment compatibility.

While much research has addressed student-treatment compatibility, very little research has addressed teacher-treatment compatibility involving ADHD interventions

(Green, 1995). The lack of information regarding which treatments are likely to be compatible with which teachers limits the utilization of information about student-treatment compatibility because “a treatment that is not used is no treatment at all” (Witt & Elliott, 1985, p. 253). Perhaps the most important factor influencing teacher-treatment compatibility is the degree to which the teacher perceives the treatment as acceptable.

Treatment Acceptability

Wolf (1978) was among the first to recognize the importance of treatment acceptability, or social validity, to the field of psychology. Wolf identified three levels at which society needs to validate the work of psychologists. First, the social significance of the goals will be evaluated: Are the specific behavioral goals really what society wants? Second, the social appropriateness of the procedures will be evaluated: Do the ends justify the means? Third, the social importance of the effects will be evaluated: Are the consumers satisfied with the results? Kazdin (1981) defined treatment acceptability as “judgments about lay persons, clients, and others of whether treatment procedures are appropriate, fair, and reasonable for the problem or client” (p.493). Kazdin also noted the social importance of the effects, noting that treatments that would otherwise be considered unacceptable may be evaluated favorably if they produce improved functioning. Likewise, initially acceptable treatments that are related to poor outcomes may be evaluated less favorably.

Kazdin (1980a, 1980b, 1981) conducted some of the early empirical investigations of treatment acceptability using undergraduate college students. Kazdin implemented analogue methodology, which required each participant to read a case description of a child with a behavior problem and rate the acceptability of various

treatments designed to address the child's problem. Kazdin (1980a) found that: 1) students readily distinguished the acceptability of alternative treatment techniques as applied to child behavior problems; 2) reinforcement of incompatible behavior was evaluated as the most acceptable treatment, followed by time-out, drug therapy, and electric shock; and 3) severity of the clinical problem to which the various treatments were applied influenced overall rated acceptability of treatment with all treatments rated as more acceptable for more severe clinical cases. Kazdin (1980b) reported that procedures can be added to a particular treatment to increase its acceptability and replicated his previous finding that the acceptability of alternative treatments is readily distinguished. Kazdin (1981) examined the effects of treatment efficacy and the influence of adverse side effects of a particular treatment on ratings of treatment acceptability. Results indicated that reported effectiveness of a particular treatment in altering behavior did not influence acceptability ratings but that adverse side effects associated with a particular treatment had a significant impact on ratings of acceptability. Specifically, results indicated that the stronger the adverse side effects, the less acceptable the ratings.

The methodology used by Kazdin (1980a, 1980b, 1981) has been utilized with numerous populations, has included manipulation of numerous independent variables, and has applied several dependent measures of acceptability. The population that has been most frequently included to date has been teachers; parents and direct-care providers have also been included. According to Elliott (1988) the independent variables most commonly employed include the severity of the problem and the type of treatment used. The rating scales used to measure treatment acceptability include the following: the

Treatment Evaluation Inventory (TEI) (Kazdin, 1980), the Intervention Rating Profile-20 (IRP-20) (Witt & Martens, 1983), the Intervention Rating Profile-15 (IRP-15) (Martens, Witt, Elliott, & Darveaux, 1985), the Behavior Intervention Rating Profile (BIRS) (Elliott & Treuting, 1991), and the Children's Intervention Rating Profile (CIRP) (Witt & Elliott, 1985). The studies presented in this paper will be those that have utilized teachers as the target population.

Witt and Elliott (1985) developed a model of factors affecting the acceptability of school-based interventions and emphasized the relationships among acceptability, use, integrity, and effectiveness. The relationships among these four factors are described as sequential and reciprocal. First, a treatment deemed acceptable is likely to be used. Second, if in implementing the intervention, integrity is high the probability of the treatment being effective is enhanced. Third, if the effectiveness of the treatment meets or exceeds the expectations of the teacher, it will likely be judged acceptable which will increase the likelihood the treatment will be used in the future. Witt and Elliott propose that a teacher's initial judgments are not only influenced by his/her previous experience with interventions but also by his/her philosophical approach to behavior change.

Reimers, Wacker, and Koepl (1997) expanded upon the model proposed by Witt and Elliott (1985) and proposed that a treatment must first be well understood before acceptability can be assessed. The model assumes that if a treatment is not well understood by the teacher, obtaining a valid assessment of acceptability is not possible based on an inability to ensure that the teacher's ratings are not affected by lack of understanding. This assumption is based on the prediction that when a treatment is

poorly understood it will likely lead to low or no compliance which results in little to no effectiveness.

Numerous literature reviews have been published in the area of treatment acceptability and behavioral interventions with teachers (Elliott, 1988; Gajria & Salend, 1996; Rasnake, 1993; Reimers et. al 1997; Witt & Elliott, 1985). Factors identified in these reviews as impacting treatment acceptability involve variables in the following three domains: characteristics of the child, characteristics of the teacher, and characteristics of the intervention, which includes both treatment and consultant variables. These factors are presented in Table 2 (see Appendix H). The research indicates that a teacher's decision to accept or reject an intervention does not appear to be based on one single factor but rather the decision is influenced by a complex array of factors (Witt, Elliott, & Martens, 1984).

Teacher-Related Variables That Affect Treatment Acceptability

Teachers are a heterogeneous population with differences in their behavioral tolerances (Algozzine & Curran, 1979), behavior management styles (Vitaro, Tremblay, & Gagnon, 1995; Short & Short, 1989), and in their perceptions of problematic behavior (Eddowes, Aldridge, & Culpepper, 1994). However, little research has addressed how these individual differences affect preferences for intervention. The factors most frequently addressed in the literature to date include teachers' self-efficacy (DeForest & Hughes, 1992; Dunson, Hughes, & Jackson, 1994; Gutkin & Ajchenbaum, 1983; Meijer & Foster, 1988; Stenger, Tollefson, & Fine, 1992), classroom management philosophy (Short & Short, 1989), years of experience (Dunson, Hughes, & Jackson, 1994; Gutkin & Bossard, 1984; Power, Hess, & Bennett, 1995; Weissenberger, Fine, & Poggio, 1982;

Witt, Moe, Gutkin, & Andrews, 1984; Witt & Robbins, 1985), knowledge about the referral problem (Power et. al, 1995), knowledge about behavioral interventions (Clark & Elliott, 1987; McKee, 1984), and type of teacher (regular vs. special education) (Epstein, Matson, Repp, & Helsel, 1986).

Self-efficacy. Self-efficacy has been shown to affect teachers' preferences for intervention and consultation, as well as their acceptability ratings for specific treatments. DeForest and Hughes (1992) randomly assigned teachers scoring highest on a measure of personal teaching efficacy and teachers scoring lowest on the measure to view one of two videotapes of a consultation. The two tapes were identical with the exception of the teacher's involvement in making decisions at each of three decision points: identifying the problem, selecting an assessment measure, and selecting an intervention plan. After viewing the tape, teachers rated the consultant's effectiveness and the intervention's acceptability. Results indicated that teachers with high teaching efficacy rated the consultant as more effective and the intervention as more acceptable. The teacher's involvement as depicted in the tape did not affect outcome variables.

Dunson et. al (1994) evaluated the effectiveness of behavioral consultation in changing children's and teacher's behaviors in consultation cases involving children with symptoms of ADHD. In addition, the effects of the participants' teaching self-efficacy on the consultation process were evaluated. Results indicated that a moderately high negative correlation was found between teaching self-efficacy and consultant evaluation. Specifically, teachers with low teaching self-efficacy rated the consultant more favorably. Gutkin and Ajchenbaum (1983) investigated the relationship between teachers' perceptions of control over the presenting problem and preferences for consultation and

referral services. Results indicated that the more control the teachers felt regarding a presenting problem, the more likely they were to prefer consultation over referral.

Similarly, Meijer and Foster (1988) found that teachers with high self-efficacy were less likely to refer a child with learning or behavior problems.

Stenger et. al (1992) conducted surveys to identify variables that distinguished elementary teachers who participated in consultation from those who did not. Results indicated that teachers who had good problem solving skills were more likely to seek consultation. Perceptions that the consultant had training in problem-solving and training different from the teachers' contributed positively to the likelihood a teacher would participate in consultation. The authors suggested that helping teachers acquire problem-solving skills in a setting where their competence as teachers is not being questioned might lead to a greater willingness among teachers to participate in consultation.

These results indicate that teachers with high self-efficacy prefer consultation over referral, especially when they perceive the consultant as having skills and training different from their own. Teachers with low self efficacy may be less likely to prefer consultation if they feel that the problem exists because of their inability to effectively manage the child's behavior. In other words, teachers with low self-efficacy may be more likely to blame themselves whereas teachers with high self-efficacy may be more likely to identify the problem as complex and in need of professional intervention.

Classroom management philosophy. Short and Short (1989) investigated the relationship between teachers' control beliefs using the Pupil Control Ideology Form, and preferences for eight commonly used classroom interventions to address problem behaviors. Teachers' control beliefs were measured by a scale with high scores on

external control beliefs at one end of the continuum and high scores on internal control beliefs at the other end of the continuum. Teachers with high scores on external control beliefs emphasize the importance of external controls on children's behavior via environmental pressure to conform (e.g. rules and group norms). Teachers with high scores on internal control beliefs emphasize the importance of internal controls on children's behavior (e.g. internal value system). Results indicated that teachers' control beliefs were related to preferences for certain intervention techniques in the classroom. For example, teachers with higher external control scores preferred in-school suspension and detention while teachers with higher internal control scores preferred sending notes home to parents. The authors concluded that failure to attend to the philosophy variable in planning interventions may result in limited implementation of strategies and dissatisfaction among teachers intended to carry out the interventions.

Years of teaching experience. The amount of teaching experience a teacher has has been shown to impact both consultation preferences and treatment acceptability. Gutkin and Bossard (1984) reported that the more years of teaching experience, the less the teacher preferred consultations. Weissenberger et. al (1982) reported that the more experience a teacher had, the less likely he/she was to report feeling stronger following consultation. However, Dunson et. al (1994) found no relationship between years of teaching experience and consultation outcome variables.

The findings regarding amount of teaching experience and treatment acceptability ratings have been relatively consistent, with ratings of acceptability decreasing as years of teaching experience increase. Witt and Robins (1985) evaluated the acceptability of six interventions designed to reduce inappropriate behavior and reported that all interventions

were rated as more acceptable by the low experience group (less than 8 years teaching experience). Witt, Moe, et al. (1984) also reported that all interventions were rated as more acceptable by teachers with fewer years of teaching experience. Power et. al (1995) investigated the acceptability of behavioral and pharmacological interventions for children with ADHD among elementary and middle school teachers. Results indicated that years of teaching experience generally was not related to ratings of acceptability for the behavioral and pharmacological interventions. However, among middle school teachers, years of teaching experience was negatively related to acceptability ratings for interventions using methylphenidate to treat ADHD symptoms.

These results indicate that with regard to acceptability of suggested interventions, as years of teaching experience increase, acceptability ratings are likely to decrease. Several variables have been hypothesized to account for this trend by Elliott (1988): changes in teacher training, changes in societal expectations about appropriate interventions for teachers to use, and/or teachers' prior experiences with classroom interventions. However, as illustrated above, the results involving years of teaching experience and preference for consultation are less clear or consistent.

Knowledge about the referral problem. Power et. al (1995) hypothesized that teachers having greater knowledge of ADHD would rate interventions designed to address ADHD behaviors more favorably than teachers with limited knowledge of ADHD. Teachers read a case description of a child with ADHD followed by vignettes describing three interventions for ADHD: 1) a daily report procedure with school-based consequences; 2) a response cost technique; and 3) stimulant medication. To establish teachers' knowledge about the diagnosis and treatment of ADHD, teachers completed the

Attention-Deficit Hyperactivity Disorder Knowledge Scale. Results failed to detect a positive relationship between knowledge of ADHD and ratings of treatment acceptability. The authors point out, however, that there was little variability among scores on the ADHD Knowledge Scale which may have contributed to a reduction in the magnitude of the correlation. Thus, until further research is conducted it is difficult to determine how knowledge about the referral problem impacts treatment acceptability.

Knowledge about behavioral interventions. McKee (1984) reported that teachers with greater knowledge of behavioral techniques rated behavioral interventions (e.g. reinforcement of incompatible behavior, positive practice, and time-out from reinforcement) more favorably than teachers with less knowledge of behavioral techniques. Clark and Elliott (1987) developed a 10-item multiple choice test of basic behavioral principles and procedures to assess teachers' knowledge and how it was related to ratings of acceptability of behavioral interventions. Results indicated significant correlations between teachers' knowledge and ratings of treatment acceptability on the Behavioral Intervention Rating Scale (BIRS). These findings suggest that teachers with greater knowledge of behavioral principles will be more likely to perceive a behavioral intervention as acceptable than teachers with limited knowledge of behavioral principles.

Type of teacher: Regular vs. Special Education. Epstein et. al (1986) attempted to determine whether acceptability of treatments varied as a function of teacher status (regular vs. special educator). Both regular and special education teachers were provided with a case history of a child and asked to rate the acceptability of several interventions. Results indicated that the teachers distinguished between alternative treatments on the

basis of ratings of acceptability, but no differences were found between ratings of special and regular education teachers.

Child-Related Variables That Affect Treatment Acceptability

Type of problem. Epstein et. al (1986) attempted to determine whether acceptability of treatments varied as a function of type of presenting problem. Teachers were asked to rate the acceptability of four interventions for either a pupil labeled as mentally retarded or learning disabled. Results indicated that treatment acceptability ratings were not significantly influenced by the categorical label given to the presenting problem. Fairbanks and Stinnett (1997) examined the effect of various labels on treatment acceptability ratings of teachers, school psychologists, and school social workers. The student presented in the case description was given one of three labels: learning disabled, behavior disordered, or attention-deficit disorder. Results indicated that the label given to the student did not have an effect on ratings of treatment acceptability. These findings suggest that the label applied to the presenting problem does not significantly impact ratings of acceptability.

Severity of the presenting problem. With few exceptions (Kutsick, Gutkin, & Witt, 1991) the treatment acceptability research has found that as the severity of the problem behavior(s) increases so do ratings of treatment acceptability (Kazdin, 1980; Kazdin, 1981; Elliott, Witt, Galvin, & Peterson, 1984; Witt, Moe et. al 1984; Witt & Robbins; 1985). Other studies have found that in the absence of a severity main effect on ratings of acceptability, the severity of the behavior problem has resulted in interaction effects with treatment variables such as time required to implement the intervention and the complexity of the intervention (Elliott, et. al 1984; Witt, Martens, & Elliott, 1984;

Witt, Elliott, & Martens, 1984). In other words, as problems become more severe teachers are willing to devote more time to the intervention and are willing to implement more complex interventions. These results suggest that as the problem becomes more severe teachers are more accepting of the proposed interventions, including interventions requiring more time and attention.

Treatment-Related Variables That Affect Treatment Acceptability

Within the field of treatment acceptability the greatest amount of research has addressed treatment-related variables that affect ratings of acceptability. These variables include time/resources required to implement treatment (Elliott, et. al, 1984; Witt & Elliott, 1985; Witt, Elliott, & Martens, 1984; Witt, Martens, & Elliott, 1984), type of treatment (Elliott et. al, 1984; Epstein et. al, 1986; Fairbanks & Stinnet, 1997; Kazdin, 1980; Kazdin, 1981; Kutsick et. al, 1991; Power, et. al, 1995; Von Brock & Elliott, 1987; Witt, Elliott, & Martens, 1984; Witt, Martens, & Elliott, 1984; Witt & Robbins, 1985), reported efficacy of treatment (Clark & Elliott, 1988; Kazdin, 1981; Von Brock & Elliott, 1987), theoretical orientation of treatment (jargon used) (Hall & Wharman, 1988; Witt, Moe, Gutkin, & Andrews, 1984; Woolfolk & Woolfolk, 1979), rationale for treatment (Cavel, Frenz, & Kelly, 1986), reported side effects of treatment (Kazdin, 1981), and the treatment development process (Graham, 1998; Kutsick et al, 1991).

Time/resources required to implement treatment. In any given classroom, a teacher may be responsible for the education of as many as thirty students. Thus, in developing classroom-based interventions, clinicians would be well-advised to consider the time and resources the intervention will require for implementation. Witt, Elliott, and Martens (1984) had teachers rate the acceptability of interventions requiring low,

moderate, and high levels of time to implement. The intervention requiring a low amount of teacher time required virtually no preparation and start-up time and required less than thirty minutes a day to maintain. The intervention requiring a moderate amount of teacher time required 1-2 hours initially to implement the program followed by 30 minutes to an hour for daily implementation. The intervention requiring a high amount of teacher time required 1-2 hours initially to implement the program followed by greater than one hour a day to monitor and maintain the program. Results indicated that the interventions requiring less teacher time were rated as more acceptable. Furthermore, the interventions that required a great amount of teacher time were seen as having negative effects on other children in the classroom. The latter finding was especially salient when the severity of the child's problem was low. In a similar study using the same time differential described above, Witt, Martens, and Elliott (1984) reported that when the child's problem was severe rather than mild or moderate, low levels of teacher time requirements were rated as significantly less acceptable.

These results indicate the acceptability of interventions requiring a high amount of teacher time is affected by the severity of the problem behavior. Teachers appear to be more willing to devote additional time to the needs of an individual student when that student's problem is severe. In making judgments of acceptability teachers may weigh the costs of taking time away from other students against the benefits afforded to the target child. When the problem behavior is severe, teachers may perceive the costs of not administering the intervention as quite large especially if the problem behavior is interfering with the functioning of a class as a whole (e.g. disruptive behavior).

Type of treatment. Psychologists have a wide variety of treatment options when designing a classroom-based intervention. Consequently, attempts have been made to identify which of these treatments is most preferred by teachers. Elliott, Witt et. al (1984) examined teachers' acceptability ratings for positive interventions (e.g. praise, token economies, rewards) and reductive interventions (e.g. time-out, withdrawal of privileges, reprimands) of varying complexity. Results indicated that mean acceptability ratings were significantly higher for positive interventions (praise, home-based reinforcement, and token economy) than were ratings for reductive interventions (ignoring, response-cost, and time-out) and that the less complex the intervention, the higher the acceptability ratings. However, when the severity of the target behavior was taken into account the following result occurred: the least complex positive and reductive treatments were most acceptable for the mild behavior problem and the most complex treatments were rated as most acceptable for the severe problem. Similar findings have been reported by additional researchers (Kutsick et. al, 1991; Witt, Elliott, & Martens, 1984; Witt & Robbins, 1985). Power et. al (1995) investigated the acceptability of behavioral and pharmacological interventions specific to the treatment of ADHD: daily report procedure with school-based consequences, response cost, and stimulant medication. Results indicated that the positive intervention (daily report) was rated as more acceptable than response cost and medication. However, teachers rated the combination of daily report with medication as most acceptable. Medication alone was rated as least acceptable.

Although the finding most consistently reported shows positive interventions receiving higher acceptability ratings than reductive interventions, there have been exceptions. Von Brock and Elliott (1987) reported that while a time-out intervention

(reductive) was rated as significantly less acceptable than response cost (reductive) and a token economy (positive), no differences in acceptability occurred between response cost and token economy. Fairbanks and Stinnett (1997) reported that teachers did not rate the positive intervention too much higher than the negative intervention. However, this finding should be interpreted with caution for two reasons. First, the “negative intervention” consisted of exclusionary time-out and verbal praise. When compared to the interventions described in studies reporting higher acceptability ratings for positive interventions, verbal praise is considered a positive intervention. Second, the finding reported above resulted from informal examination of the means rather than statistical assessment.

The majority of the research supports the conclusion that teachers prefer positive interventions rather than reductive interventions, and less complex interventions rather than more complex interventions. However, when combined with positive interventions or when designed to address severe behavior problems, acceptability ratings for reductive and complex interventions may increase.

Efficacy of treatment. In the models proposed to account for factors influencing treatment acceptability both Witt and Elliott (1985) and Reimers et. al (1997) identified treatment efficacy as an important determinant. The models propose that if an individual has experienced a treatment as effective, the individual would be more likely to find the treatment acceptable and to use it in the future. Researchers have attempted to address this issue with analogue methodology by examining how providing teachers with information about a treatment’s efficacy influences ratings of acceptability (Clark & Elliott, 1987; Kazin, 1981; Von Brock & Elliott, 1987).

Kazdin (1981) stated “Treatments that might otherwise be relatively unacceptable may be evaluated favorably if they are associated with marked therapeutic changes” (p.494). Using an undergraduate population, Kazdin investigated the degree to which acceptability ratings were influenced by the reported effects that the treatments had on child behavior in terms of rapidity, magnitude, and durability of the changes. Strong effects were characterized by rapid effects and virtual or complete elimination of problem behaviors. Weak effects were characterized by less rapid and pronounced changes but improvements were still evident. Results indicated that reported treatment efficacy did not influence ratings of acceptability. Conversely, Clark and Elliott (1987) found that teachers who were provided with a treatment that was described as strong and successful had higher pretreatment ratings of acceptability than teachers who were provided with a treatment described as weak and relatively unsuccessful. Elliott (1988) hypothesized that the discrepancy between the above-described findings is attributable to differences in methodology. First, while Clark and Elliott used teachers, Kazdin used an undergraduate population and has been criticized as using a treatment strength variable with a restricted range (Witt, Elliott, & Martens, 1984). Second, Elliott (1988) reported that Clark and Elliott provided more detailed information about the therapeutic effects of the treatment. Finally, Clark and Elliott included a measure of teachers’ knowledge of behavior change principles and found that when teachers had a strong understanding of the treatments presented, their acceptability ratings were influenced by effectiveness information.

Von Brock and Elliott (1987) provided teachers with treatment descriptions, case descriptions, and one of the following: information on consumer satisfaction with the treatment, research-based outcome information from published studies, or no information.

Results indicated that effectiveness information influenced ratings when problem severity was taken into consideration. When the problem was mild (e.g., causing problems only for the target child), providing teachers with research-based outcome information increased ratings of treatment effectiveness and acceptability. The authors hypothesized that with severe problems teachers may be less comfortable experimenting with interventions and may rely more on past experiences or personal judgment.

The research addressing the impact of treatment efficacy information on pretreatment ratings of acceptability is limited. Furthermore, discrepancies exist in the findings reported to date. To determine whether provision of efficacy information should be included in a consultative repertoire, more research is needed. Based on the existing research conducted with teachers it appears that when teachers have knowledge of behavior change principles and when the presenting problem is mild, efficacy information may be effective in increasing teachers' perceptions of treatment acceptability.

Theoretical orientation of treatment. The label given a particular treatment and the manner in which a treatment is described have both been shown to affect teachers' ratings of acceptability. Woolfolk and Woolfolk (1979) found that when a videotape of a teacher administering reinforcement for appropriate behavior was labeled as "humanistic education" ratings of the teacher and the effectiveness of the method were higher than when it was labeled as "behavior modification."

Witt, Moe, et. al (1984) reported that an intervention labeled as "pragmatic" was significantly more acceptable than interventions labeled as "humanistic" or "behavioral." All three interventions required that the target child stay in at recess as a result of either fighting or not completing his work. The behavioral description stressed that staying in at

recess involved the contingent application of punishment for the explicit purpose of controlling a child's inappropriate behavior. The child was also required to read a book or work with the teacher to learn more effective social skills or study habits. The humanistic description stressed that the purpose of staying in at recess was to help the child understand and express his feelings through the reading of a book about feelings and through talking with the teacher. The pragmatic description stressed that staying in at recess was a logical consequence for the child's misbehavior. The child was also required to read a book or work with the teacher to learn how to behave more appropriately. The authors hypothesized that teachers may have preferences for the underlying assumptions of the various theoretical orientations

Hall and Wahrman (1988) had teachers rate the acceptability of treatments described as "behavioral," "humanistic," and "pragmatic" to address inappropriate talking in the classroom. In addition, the relationships between acceptability ratings and teachers' self-reported use of the interventions were also evaluated. Results indicated that teachers rated the humanistic and behavioral approaches as most acceptable and the pragmatic approach as least acceptable. There was also a positive correlation between ratings of behavioral intervention acceptability and self-reported use of behavioral interventions in the classroom. These findings are counter to those reported by Witt, Moe, et. al (1984). Unfortunately, the authors did not provide descriptions of the treatments or how they differed; the authors stated only that the three interventions were labeled as Intervention 1, 2, or 3 to reduce labeling bias. However, the finding that ratings of acceptability for the behavioral intervention were related to teachers' reported use of behavioral techniques in the classroom is meaningful. Such a finding could

indicate that teachers rated the behavioral approach as effective because they were most familiar with the behavioral approach or because the behavioral approach was consistent with the theoretical orientation which guided their disciplinary strategies in the classroom.

Research examining the effects of treatment descriptions and treatment labels on ratings of acceptability is limited. Furthermore, the research that has been conducted has produced findings with notable discrepancies. Until more research is conducted to clarify the relationship between a treatment's theoretical orientation and teachers' ratings of acceptability, recommendations for presenting treatments to teachers in terms of theory should not be made.

Rationale for treatment. Within a collaborative relationship it would seem evident that a rationale would be provided for the treatment being recommended. However, to date, only one study has examined this variable in terms of its impact on treatment acceptability with teachers. Cavell et al. (1986) examined the effects of three different rationales for using paradoxical techniques and compared paradoxical technique acceptability ratings to those of a contingency contract condition and a no-rationale condition in which no explanation was offered. Results indicated that ratings for the paradoxical interventions, regardless of the rationale provided, were significantly lower than for the contingency contract condition. This finding could be due to the teachers being more familiar with contingency contracting and to the counterintuitive nature of paradoxical interventions (e.g. prescribing a truant student stay home from school). In addition, the potential for harmful effects is greater in paradoxical intervention (e.g. missing school and learning opportunities). Kazdin (1981) reported that when

information about side effects associated with treatment were presented, stronger side effects were associated with decreased acceptability ratings. However, when the rationale stating the therapist's actual intentions was described and positive effects were predicted on the basis of the student's previous resistance to behavior change, acceptability ratings for the paradoxical intervention were significantly higher than when no rationale was provided. Regardless of the reason teachers rated the paradoxical intervention as less acceptable, the results indicated that providing a clear rationale for the paradoxical intervention increased ratings of acceptability. These findings suggest that providing individuals with information about the intentions of the treatment may increase the ratings of acceptability.

Treatment development process. The teacher's role in the process leading up to treatment implementation can vary from collecting weeks' worth of observational data and sharing responsibility for the resulting recommendations to answering a few questions about the nature of the child's problem. Kutkin et al. (1991) examined the effect of the intervention development process on teachers' ratings of acceptability. Teachers were presented with a case study and told the recommended treatments for the presenting problem were developed in one of three ways: by a teacher and school psychologist collaborating together, by a teacher alone, or by a school psychologist alone. Results indicated that treatments reported to have been the product of collaborative interactions were significantly more acceptable than those reported to have been developed by either the teacher or psychologist alone. In addition, positive interventions were rated as more acceptable than reductive interventions unless the reductive interventions were developed through collaborative interactions. When described as

having been developed via collaboration, the reductive interventions were rated as acceptable as the positive interventions. These results suggest that *how* a treatment is recommended may be as important as *what* is recommended.

Graham (1998) investigated teachers' preferences for consultation approach based on the nature of the request. The results indicated that when the teacher's consultation request was vague or the teacher was overwhelmed, a collaborative approach was preferred. However, when the teacher's consultation request was clear in terms of the nature of the problem and what had been done previously to address the problem, an expert approach was preferred. The "expert approach" was characterized by the consultant offering specific suggestions; the "collaborative approach" was characterized by the consultant initiating a problem-solving process. These results suggest that preferences for consultation vary depending on the nature of request for service.

The studies described above clearly indicate that the psychologist's approach to consultation impacts the degree to which their recommendations will be judged acceptable. In addition, a teacher's preference for consultation may vary based on the nature of the presenting problem. These findings suggest that matching the psychologist's consultation approach to the teacher's preferences should increase the likelihood that the process will be successful for both parties.

Summary and Critique

The results from the studies described above illustrate that treatment acceptability is not a simple construct but rather is influenced by a complex array of variables. These variables include characteristics of the teacher, characteristics of the problem, and characteristics of the intervention (consultant and treatment). The methodology used in

the vast majority of the studies involved presenting teachers with a brief description of a presenting problem followed by several treatment options which the participants evaluated using a standardized rating scale. The information presented in the typical methodology has been described topographically rather than functionally and has failed to include detailed descriptions of the child, the problem history, or treatment history (i.e. what has been previously used to address the behavior?). Such a methodology is contraindicated for use in assessing the acceptability of ADHD interventions in the classroom for several reasons.

First, Rasnake (1993) pointed out that in the absence of detailed historical information about a child, an individual evaluating a treatment is more likely to consider nonintrusive, positive, reinforcing interventions as more acceptable than reductive interventions. In other words, providing teachers with additional information may increase their acceptability of reductive interventions. Foxx, McHenry, and Bremer (1996) found that watching a video of an individual in addition to reading a brief vignette affected acceptability ratings. Specifically, ratings of acceptability for negative consequences increased after watching the video. These results suggest that if acceptability data are to have relevance to clinical treatment decision making, the ratings should be based on detailed biological, environmental, and personological variables.

Second, the methodology used to date lacks ecological validity. When teachers make decisions in the classroom about which intervention they will use, they have at their disposal detailed information about the child. Teachers have access to the child's records, they have extensive daily contact with the child, and they have often had conferences with the child's parents. Therefore, increasing the detail and amount of

information provided, in addition to functional descriptions of the problem behavior, should increase the ecological validity of the findings.

A second issue related to deficits in ecological validity related to the types of interventions included in the case analogues. In many, though not all, of the studies reviewed the teachers rated single interventions (e.g. time-out, praise, medication) rather than an overall package including both positive and reductive interventions (e.g. Elliott, Witt, & Galvin, 1984, Witt & Martens, 1983). Such methodology lacks ecological validity because in developing interventions to remediate problematic classroom behaviors, consultants typically include a number of components that include both positive and reductive techniques.

Third, although frequently included in ADHD interventions (Pffiffner & Barkley, 1998), the influence of parental involvement on teachers' ratings of acceptability has not been systematically evaluated. When the intervention is to be implemented primarily by the teacher, consultants have the option to incorporate home-based contingencies or to rely solely on school-based contingencies. Given the option exists, gathering some preliminary data regarding teachers' preferences for parental involvement is warranted.

Fourth, many of the studies reviewed reported relatively large sample sizes overall but included a number of between groups variables. Thus, the number of participants in each group was low (<20 per group) (e.g. Fairbanks & Stinnet, 1997; Von Brock & Elliott, 1987; Witt & Martens, 1983; Witt & Robbins, 1985). When the number of participants in experimental groups is low the strength and generalizability of the conclusions are limited.

Finally, the case descriptions included in the research to date presented brief, topographical descriptions of the target behaviors. Such an approach seems contraindicated by the very nature of ADHD. Children with ADHD make up a highly heterogeneous population. There exist 7, 056 possible combinations of 12 out of 18 symptoms that could result in the diagnosis of ADHD-Combined Type (DuPaul & Ervin, 1996). Furthermore, the functions of ADHD behaviors vary among children. Any given behavior may serve to avoid or escape effortful tasks, receive attention, or provide sensory stimulation.

To be effective, behavioral interventions for classroom-based problems related to ADHD should be guided by a theoretical framework. In other words, when treatment selection is informed only by the *type* of behavior the treatment is unlikely to be as effective, and consequently less acceptable, as a treatment that is selected based on a theoretical conceptualization of the function of the behavior. DuPaul and Ervin (1996) stated, "Only by determining the function of the target behaviors can the clinician begin to pinpoint specific treatment strategies" (p. 604). The findings of a recent study examining the functions of disruptive classroom behaviors of three boys illustrates the need for the function of the behavior to inform treatment selection. Broussard and Northup (1995) reported that for each boy, the disruptive behavior was maintained by a different consequence. Therefore, the treatment recommendations should be different for each boy despite the fact that the topography of each problem was similar.

Thus, merely having knowledge about a technique and the behaviors with which that technique has been shown to be effective is insufficient when dealing with ADHD-related behavior problems. Unfortunately, attending brief inservices and reading

published literature does not provide an individual with adequate information when attempting to make treatment decisions (Vollmer & Northup, 1996). However, individuals such as teachers have access to professionals such as clinical and school psychologists with the training and skills necessary to accurately evaluate the problem behavior(s) in terms of its function and to develop a theoretical basis for the behavior.

The limitations of the existing literature described above, along with the nature of ADHD suggest that incorporating more information about the child and the function of the problem behaviors in the case presentations is warranted. Thus, a logical extension not examined to date is research that examines the role of functional assessment of ADHD-related behaviors within a school consultation framework and its effect on teachers' ratings of acceptability.

Functional Assessment

In recent years many authors have called for clinicians to develop ADHD interventions based on thorough assessment of the context in which the problem behaviors occur (Atkinson, Robinson, & Shute, 1997; Barkley, 1998; DuPaul & Ervin, 1996; Greene, 1995). Functional assessment has been widely accepted among practitioners in the field of developmental disabilities but has received little attention in school psychology (Vollmer & Northup, 1996). Such an assessment includes characteristics of the child, teacher, and classroom environment and how each would interact with various treatment options. Diagnosing a child with ADHD and identifying target behaviors and desired directions for change only provide information about the topography of the behavior but do not provide clear-cut guidelines for designing specific interventions (DuPaul & Ervin, 1996). Only when the context is taken into account and

the relationship between the target behavior(s) and environmental variables is identified can the clinician predict which specific treatment strategies will lead to the desired response(s).

Functional assessment involves the identification and manipulation of variables that are hypothesized to control or maintain behavior (Schill, Kratochwill, & Gardner, 1996). The goals of functional assessment include 1) to determine the function(s) of the problematic behavior and 2) to determine the environmental events or stimuli that increase the probability that problematic behavior will occur (DuPaul & Ervin, 1996). In order to make such determinations, a variety of assessment techniques must be employed. The most common components of a functional assessment in the classroom include an interview with the teacher and parent(s), direct observation of the relation between target behaviors and environmental events, and manipulation of the environmental events hypothesized to be affecting the target behaviors.

The goal of the teacher interview within a functional assessment is to operationally define the problem behavior and to identify the antecedents and consequences associated with each target behavior. Teachers are required to describe in detail the child's problem behaviors rather than just labeling the behaviors as hyperactive, disruptive, or inattentive. Descriptions of the antecedents to the problem behavior include information about the time of day, the nature of the classroom activity, the location, and the interpersonal interactions that commonly precede the behavior. Descriptions of the consequences of the problem behavior include information about the response of the teacher and the students to target behavior, as well as what other environmental benefits the behavior may produce (e.g. extra-task stimulation). In

addition, information about past and existing procedures used to deal with the problem is also solicited (Schill et al. 1996).

As teachers may be unaware of all of the environmental contingencies maintaining the behavior, extensive direct observation is also employed. Direct observation across daily routines is conducted over a period of days. Typically, when a target behavior occurs, the observer records the time of the occurrence, describes the setting and preceding events, notes any hypotheses about the function of the behavior, and records the consequences of the behavior (Schill et al., 1996).

Based on information gathered during the interview and during direct observations, hypotheses are generated regarding the environmental contingencies maintaining the problem behavior. Systematic manipulation of these contingencies and observation of the resulting behaviors is conducted to test the hypotheses. Environmental contingencies that are commonly manipulated during this phase include teacher attention, peer attention, availability of reinforcement, contingencies of punishment and reinforcement, and classroom procedures.

DuPaul and Ervin (1996) listed several rationales for using functional assessment in the design of classroom interventions for ADHD. First, functional assessment provides a direct link between assessment and treatment. The data generated from the functional assessment directly inform treatment design. Functional assessment data help identify replacement behaviors that can be maintained by the same contingencies that are maintaining the problem behavior. Thus, treatment efficacy is likely to increase with the application of functional assessment. Second, to the extent that treatment efficacy improves, time and cost efficiency will also improve. Finally, functional assessment

requires the practitioner to take into account both individual and contextual factors, which is crucial when assessing ADHD behaviors.

Functional Assessment and Treatment Acceptability

As stated earlier, the information about the problem behavior and the student presented in the analogues used in the majority of treatment acceptability research has been brief and topographically described. Sprague and Horner (1996) criticized the body of research for providing teachers with such limited information about the problem behavior, for not including any information about the function of the behavior, and for not describing in greater detail the individual to whom the intervention will be applied. By including information regarding data collected during a functional assessment the teacher would be provided with 1) a detailed and operational description of the problem behavior, 2) information about the history of the behavior problem, 3) information about what has been done in the past to address the behavior, 4) information about the environment(s) in which the behavior occurs, and 5) specific information about the function of the behavior. The provision of such information should serve to increase the ecological validity of the study by providing teachers with the information they would ordinarily have in the natural classroom and environment and by providing teachers with the type of detailed information typically desired when making treatment decisions.

Present Investigation

The present study was conducted to contribute to the body of research addressing treatment acceptability in the classroom by further identifying factors influencing teachers' perceptions of an intervention's acceptability and effectiveness. The first purpose of the present study was to determine how the inclusion of functional assessment

information in case presentations of behavior problems affects teachers' ratings of treatment acceptability. The second purpose of the study was to determine how including parental involvement in the proposed intervention affects teachers' ratings of treatment acceptability. Finally, the present study also attempted to add support to the findings reported in previous research by replicating such findings. Specifically, the present study attempted to demonstrate that ratings of acceptability are greater for a severe behavior problem as compared to a mild behavior problem.

In addition to addressing the areas described above, the methodology used in the present investigation was superior to that of previous studies of treatment acceptability. The case presentations in the present study included information that was designed to increase the ecological validity of the study by providing teachers with more details about the case to simulate knowledge typically available to them. These details were held constant across all participants. First, the case presentations provided teachers with specific details about the presenting problem: detailed descriptions of the presenting problem, history of the presenting problem, and descriptions of the methods previously used to address the behavior. Second, the case presentations included information about how the interventions were developed. Specifically, the participants were informed that the proposed interventions were developed in collaboration with the student's teacher. Third, the case presentations included information about the role of the consultant following implementation of the proposed intervention. Specifically, the participants were informed that the consultant was going to have weekly contact with the teacher to assess the student's response to the intervention and to collaborate about any problems or needed changes. Finally, the interventions presented in the case analogues proposed a

comprehensive treatment package that included a number of components, both positive and reductive. Thus, by including the details described above, the ecological validity of the study should have been greater than that of previous treatment acceptability studies. Furthermore, by increasing the ecological validity of the study, the validity of the findings, conclusions, and recommendations resulting from the investigation increased as well. The number of participants in each experimental group of present study ranged from 25 to 37 in order to strengthen the validity and generalizability of the results.

There were three hypotheses in the present study. First, it was hypothesized that ratings of acceptability would be greater for the group of teachers receiving functional assessment information than for teachers not receiving such information. Such a hypothesis is based on the notion that a teacher's understanding of the proposed intervention affects ratings of acceptability (Reimers et al, 1987). Functional assessment facilitates understanding by providing a direct and logical link between assessment of behavior problems and the proposed intervention (DuPaul & Ervin, 1996). Previous research has shown that increasing a consultee's understanding of the rationale behind treatment selection improves ratings of acceptability (Cavell et. al, 1987).

Second, it was hypothesized that the inclusion of parental involvement in the proposed interventions would affect ratings of acceptability. Previous research has demonstrated that teachers vary with regard to preferences about parental involvement (Short & Short, 1989). However, to date no research has systematically examined how including home-based contingencies in a primarily school-based intervention affects teachers' ratings of acceptability. Therefore, the analyses in the present study were exploratory and non-directional.

Finally, it was hypothesized that ratings of acceptability would be greater across groups for interventions designed to address the more severe behavior problem. Previous research has repeatedly demonstrated that teachers' ratings of acceptability increase with the severity of the target behavior (Kazdin, 1980; Kazdin, 1981; Elliott, Witt, Galvin, & Peterson, 1984; Witt, Moe et. al 1984; Witt & Robbins; 1985).

Methods

Participants

Participants included 134 teachers of kindergarten through sixth grade in the Tulsa County Public School district, Jenks County Public School district, Sand Springs County Public School district, and Weatherford County Public School district. Study materials were left in teachers' boxes with a letter describing the study. Teachers who chose to participate completed the materials and returned them through the mail. In return for their participation, schools were offered an in-service training for their teachers. However, school administrators from each school district requested only that a copy of the results be provided to their teachers when the study was completed.

There were 536 packets were distributed and 134 packets were returned with an overall participation rate of 25%. The participation rate of the sample was as follows: Jenks County 65%, Tulsa County 19%, Sand Springs 8%, and Weatherford 18%. Forty-six percent of the returned packets were from Tulsa County, 43% from Jenks County, 7% from Weatherford County, and 4% from Sand Springs.

The resulting sample consisted of 125 females, 5 males, and 4 participants who did not indicate their gender. The ethnic backgrounds of the participants consisted of 123 Caucasian, 1 African-American, 4 Native American, 2 Hispanic, 1 Other, and 3

participants who did not indicate their ethnicity. Participants ranged in age from 23 to 60 years with a mean age of 42 years. Participants' years of teaching experience ranged from 1 year to 39 years with a mean of 14 years teaching experience. In terms of highest degree earned, 65 participants listed a bachelor's degree, 66 listed a master's degree, 1 reported a doctoral degree, and 2 participants did not indicate their highest degree earned. One hundred nine of the participants were regular classroom teachers, 23 were special education teachers, and 2 teachers did not indicate to which group they belonged.

The schools participating in the study varied in terms of their environmental setting. Most of the schools from Tulsa County and Jenks County were in either suburban or urban locations. The schools from Weatherford County and Sand Springs County were in primarily rural locations. The number of elementary-level teachers within each school varied widely within each county, however, the largest schools were within the Tulsa County school district.

Materials

Demographics Questionnaire. Participants completed a demographics questionnaire for descriptive purposes. The questionnaire provided information about the following: age, ethnic background, gender, years of teaching experience, and educational history (type of training, highest degree earned). (See appendix A).

Case Descriptions. Participants received case descriptions including information about the child, the problem behavior(s), and the proposed interventions. The materials were modeled after case descriptions included in previous acceptability research (Witt, Elliott, & Martens, 1984; Witt, Martens, & Elliott, 1984), DSM-IV diagnostic criteria for ADHD (American Psychological Association, 1994), and case descriptions of the most

common behavior problems associated with ADHD (Barkley, 1998). Each subject received two case analogs describing the behavior problems of a child diagnosed with ADHD (see Appendix B). The case description included detailed information about the nature of the problem behavior(s), what methods had been used to address the problems at school, and relevant background information. The severity of the target behavior problem was varied between cases. Each teacher received a description in which inattentiveness and daydreaming were the primary problems and a description in which disruptive classroom behaviors (e.g. talking out, disturbing others) were the primary problem. Based on previous research in which teachers rated the severity of a number of classroom behavior problems, inattention/daydreaming was characterized as less severe than disruptive classroom behaviors (Witt, Elliott, & Martens, 1984).

In addition to the information about the child and the basic description of the problem behavior, half of the participants received information said to have resulted from a functional assessment of the problem behavior (see Appendix C). Participants in this group received information said to have resulted from naturalistic classroom observations under a variety of situations hypothesized to impact the problem behavior and structured interviews. Participants who did not receive functional assessment information received descriptions of behaviors observed in the classroom presented in a manner that did not inform teachers of the function of the problems behaviors (see Appendix D). Such information was included to prevent a confound related to length/amount of information provided between groups.

Finally, each participant received descriptions of a number of treatment alternatives designed to address the problem behavior(s) in each case (see Appendix E).

Along with the treatment alternatives provided, half of the participants also received a statement indicating that there would be a daily note sent home to parents so that home-based consequences could also be implemented (see Appendix F). Such a statement was not included in the recommended interventions presented to the other half of the participants.

Behavior Intervention Rating Scale (BIRS). The Behavior Intervention Rating Scale (BIRS) (Elliott & Treuting, 1991) is a 24-item, 6-point rating scale with response options ranging from strongly disagree to strongly agree. The measure is designed to assess treatment acceptability and treatment effectiveness and was developed from a behavioral perspective (see Appendix G). The BIRS is a revision and extension of the Intervention Rating Profile (IRP-15) (Martens et al., 1985). The 15 IRP items were used to operationalize the construct of treatment acceptability, as the reported reliability of the items as measured by Cronbach's alpha was .98 (Martens, Witt, Elliott, & Darveaux, 1985). In addition the BIRS contains nine additional items used to operationalize the construct of treatment effectiveness.

The development of the BIRS and its psychometric properties involved the following procedures (Elliott & Treuting, 1991). A factor analysis and an oblique rotation were applied to the BIRS. The results yielded three factors which accounted for 73.6% of the total variance: acceptability, effectiveness, and time. The acceptability factor consisted of all 15 IRP items (63% of the variance). The effectiveness factor consisted of 7 of the 9 additional items added to operationalize effectiveness (6% of the variance). The time factor consisted of two items that address how effective an intervention was in terms of rate of change following implementation (4.3% of the variance).

The norms and psychometric properties of the BIRS were established using teachers. The reported reliability of the total BIRS (24 items) was .97, which demonstrated the high internal consistency of the measure. The reliability of the effectiveness, acceptability, and time scales were .92, .97, and .87 respectively. In order to establish concurrent validity, the BIRS was compared to the evaluation factor of the Semantic Differential (SD) (Kazdin, 1980a). Results indicated high correlations existed between the SD and the acceptability factor (.78) and effectiveness factor (.67), while a moderate correlation existed between the SD and the time factor (.52).

In summary, factor analysis of the BIRS revealed three distinct factors which resulted in a reliable scale and reliable subscales (acceptability, effectiveness, and time). A high Cronbach alpha confirmed that the BIRS has internal consistency. A comparison of the SD and BIRS resulted in high to moderate correlations, which established concurrent validity of the measure.

Likert Scales. Participants rated the severity of each case using a four-point likert scale. The scale ranges from “no problem” to “severe problem.” The scale was at the bottom of each BIRS.

Procedures

After approval was received from the Institutional Review Board, administrators at a number of elementary schools were contacted by phone and letter to determine their interest in participating in the study. Teachers within participating schools were provided with packets containing the following: a letter describing the study and participation requirements, an informed consent statement, instructions for completing the packet, a demographics questionnaire, two case analogues, and two Behavior Intervention Rating

Scales. The instructions directed participants to complete the forms in the order presented and to fully complete each questionnaire/measure before moving on to the next item in the packet. The instructions also included directions regarding what the teachers were to do with the packets upon completing them.

The first item in the packet was the first case analogue. The second item in the packet was the first BIRS. The third item in the packet was the second case analogue. The fourth item in the packet was the second BIRS. The fifth item in the packet was the demographics questionnaire. The order of presentation of the mild case analogue (daydreaming/inattention) and the severe case analogue (disruptive classroom behavior) were counterbalanced to control for any possible order effects. Packets were left in teachers' boxes.

Design

The present study implemented a 2 (functional analysis) x 2 (parental involvement) x 2 (severity) mixed design with BIRS Total score as the dependent variable. 'Functional analysis' was a between-groups variable and had two levels: receiving functional analysis information vs. not receiving functional analysis information. 'Parental involvement' was a between-groups variable and had two levels: inclusion of recommended parental involvement vs. no recommended parental involvement. 'Severity' was a within-subjects variable and had two levels: mild (inattention/daydreaming) and severe (disruptive classroom behavior). Thus, the participants were randomly assigned to one of four groups: functional analysis/parental involvement, functional analysis/no parental involvement, no functional analysis/parental involvement, or no functional analysis/no parental involvement.

Each participant completed two Behavior Intervention Rating Scales: one BIRS for the intervention designed to address the mild behavior problem and one BIRS for the intervention designed to address the severe behavior problem. When completing the BIRS, participants were evaluating the acceptability of the intervention as a whole rather than evaluating the acceptability of each component. From each BIRS a Total score was generated and used as the dependent variable. Therefore, there was a Total score generated based on the acceptability of the intervention designed to address the mild behavior problem and a Total score generated based on the acceptability of the intervention designed to address the severe behavior problem. A factor analysis of the Behavior Intervention Rating Scale was conducted using responses generated by the present participants. This analysis sought to confirm the factor structure previously reported by the measure's authors (Elliott & Treuting, 1991) (see results below).

Analyses

Demographics Questionnaire. A series of one-way ANOVAs were conducted to ensure that randomization led to equivalence between groups for the following variables: years of teaching experience and teacher age. The results indicated that the four groups did not differ significantly in terms of years of teaching experience, $F(3, 129) = .667, p > .57$, or teacher age, $F(3, 129) = .821, p > .48$. Because previous research has shown that years of teaching experience is negatively correlated with ratings of acceptability (Gutkin & Bossard, 1984; Wit, Moe, et al., 1984), a Pearson product-moment correlation was conducted between years of teaching experience and BIRS Total scores. A significant negative correlation emerged between years of teaching experience and BIRS Total scores for the severe case ($r = -.254, p < .003$). The correlation between years of teaching

experience and BIRS Total scores for the mild case was not significant ($r = -.075$, $p > .395$).

A series of chi-square analyses were attempted to ensure that randomization led to equivalence between groups on the following dichotomous variables: teacher gender, teacher race, and highest degree earned. However, due to low or empty cell counts, chi-square analyses were not appropriate. Therefore, Pearson product-moment correlations were calculated to determine if ethnicity and/or gender were significantly correlated with the dependent variable (Total BIRS scores). No significant correlations emerged between BIRS scores for the mild case and ethnicity ($r = -.009$, $p > .920$) or gender ($r = .113$, $p > .20$). No significant correlations emerged between BIRS scores for the severe case and ethnicity ($r = .046$, $p > .599$) or gender ($r = .063$, $p > .202$).

To ensure that ratings of regular education teachers did not differ from ratings of special education teachers, an independent samples t -test was conducted. The results indicated that the groups did not differ in their ratings, $t(130) = .672$, $p > .503$.

Likert Scales. A paired-samples t -test was conducted to ensure that the severity manipulation was successfully implemented. It was expected that the severe behavior problem would receive higher severity ratings than the mild behavior problem. The results indicated that teachers rated the severe behavior problem as significantly more severe than the mild behavior problem, $t(131) = -5.885$, $p < .000$.

Main analyses. The main analyses tested the hypotheses and examined how ratings of acceptability were affected by functional assessment data, recommended parental involvement, and behavior severity. A 2 (functional analysis) x 2 (parental

involvement) x 2 (severity) mixed ANOVA was conducted with each BIRS Total score as the dependent variable. Type of information and parental involvement served as between-groups variables and behavior severity served as a within-subjects variable. The results of the main analyses are presented in Table 3 and Table 4 (see appendix H).

A main effect of type of information on teachers' ratings of acceptability (BIRS Total score) was predicted. It was expected that teachers receiving functional assessment information will have higher ratings of treatment acceptability than teachers not receiving such information. A significant main effect of type of information on acceptability ratings emerged, $F(1, 130) = 7.20, p < .008$, with ratings from teachers receiving functional assessment information ($M = 4.16$) being higher than teachers not receiving functional assessment information ($M = 3.83$).

A main effect of behavior severity on teachers' ratings of acceptability (BIRS Total score) was predicted. It was expected that teachers' ratings of treatment acceptability would be higher in response to the more severe behavior problem (disruptive classroom behaviors) than in response to the less severe behavior problem (inattention). A significant main effect of behavior severity on teachers' ratings of acceptability emerged, $F(1, 130) = 3.80, p < .05$, with acceptability ratings for the severe case ($M = 4.076$) being higher than acceptability ratings for the mild case ($M = 3.937$).

A main effect of parental involvement on teachers' ratings of acceptability (BIRS Total score) was predicted. It was expected that teachers' ratings would be affected but no directional predictions were made. A significant main effect of parental involvement on teachers' ratings of acceptability emerged, $F(1, 130) = 4.37, p < .04$, with ratings of acceptability

being higher for interventions including parental involvement ($M = 4.12$) than for those not including parental involvement ($M = 3.87$).

No predictions were made regarding interaction effects as none were expected. No significant interactions emerged (see Table 2).

Factor Analysis. An analysis of the factor structure of the BIRS was conducted using the present sample. The factor analysis conducted in the present study used the methodology in development of the BIRS described in Elliott and Treuting (1991). This method utilized an oblique rotation, as the items loading on the factors were highly correlated. Factor 1 was identified as Acceptability and related to the acceptability of the treatment. Factor 2 was identified as Effectiveness and related to the effectiveness dimensions of level of change, maintenance and generalization of change, and peer comparisons. Factor 3 was identified as Time of Effectiveness (Time) and related to how effective an intervention was in terms of rate of change.

The results of the factor analysis conducted in the present study are presented in Table 5 (see Appendix H). In the present study, the first factor accounted for 57% of the total variance, the second factor accounted for 11% of the total variance, and the third factor accounted for 3% of the total variance. The first three factors, therefore, accounted for 71.1% of the variance. However, the difference between the variance accounted for by the third, fourth, and fifth factors was small and each had an eigenvalue less than one. These results suggest that a two-factor solution was more appropriate. Elliott and Treuting (1991) found that the first factor accounted for 63% of the variance, the second factor accounted for 6% of the variance, and third factor accounted for 4.3% of the variance.

The results of the factor analysis conducted in the present study also revealed high communalities, which signal the need for an oblique rather than orthogonal rotation. The results of the oblique rotation using three factors in the present study differed from the results reported by Elliott and Treuting (1991). They reported that items 1 through 15 loaded on factor one; items 17, 18, and 20-24 loaded on factor two; and items 16 and 19 loaded on factor three. The results of the present study revealed the following. Items 1 and 4 through 15 loaded on factor one, item 3 and 16 through 24 loaded on factor two, and item 2 was the only factor that loaded on item 3. Thus, the results of the present study did not confirm those that resulted from the oblique rotation conducted by Elliott and Treuting (1991). When three factors were not specified, the oblique rotation was applied to only two factors with the following results: items 1, 2, and 4 through 15 loaded on factor one; and item 3 and 16 through 24 loaded on factor two. The eigenvalues for factor one and factor two were 13.706 and 2.577, respectively. The results of the present study suggest that a two-factor solution may be more appropriate. Thus, the results of the factor analysis conducted with the present sample identified the acceptability factor (factor one) and the effectiveness factor (factor 2) but failed to identify the time factor (factor 3) reported by Elliott and Treuting (1991).

Discussion

The present study was designed to examine the effects of functional assessment information, recommended parental involvement, and behavior severity on teachers' ratings of acceptability for the classroom-based treatment of ADHD. The analyses of demographic variables revealed no significant differences between experimental groups on any of the teacher characteristics surveyed. In addition, ratings of special education

teachers did not differ from ratings of regular education teachers. The manipulation check analysis confirmed that the severity manipulation was effective.

Functional Assessment

It was expected that ratings of acceptability would vary as a function of functional assessment information. Specifically, it was predicted that ratings of acceptability would be greater among teachers receiving information said to have resulted from a functional assessment of the presenting problem. The results indicated that ratings of acceptability were greater among teachers who received functional assessment information as compared to ratings of acceptability from teachers who did not receive functional assessment information. Thus, the hypothesis that ratings of acceptability would be higher among teachers receiving functional assessment information was supported.

These results suggest that conducting a functional assessment of the problem behavior and communicating the results of the assessment to the teacher increase the teacher's perception of acceptability. Such a finding supports the recommendation that has been made recently to incorporate functional assessment in the evaluation and treatment of classroom-based behavior problems in children with ADHD (DuPaul & Ervin, 1996; Greene, 1995).

Although the mechanism through which functional assessment information served to increase ratings of acceptability is not exactly known, it is likely that functional assessment information served to clarify the relationship between the behavior problem and the recommended intervention. It is possible that the functional assessment information served as a rationale for the recommended intervention. Previous research demonstrated that providing a rationale for an intervention increased teachers' ratings of

acceptability (Cavell et al., 1986). It is hypothesized that teachers who received the functional assessment information felt more confident that the recommended intervention was appropriate for the behavior problem presented and thus, more likely to perceive the treatment as acceptable.

Parental Involvement

It was expected that ratings of acceptability would vary as a function of recommended parental involvement. No directional hypotheses were made given that no previous research has addressed teachers' preferences for parental involvement. The results indicated that ratings of acceptability were greater among teachers who received recommended parental involvement as a part of the intervention as compared to ratings of acceptability from teachers who did not receive recommended parental involvement. Thus, the hypothesis that ratings of acceptability would be influenced by the exclusion or inclusion of recommended parental involvement was supported.

Although the mechanism through which recommended parental involvement served to increase ratings of acceptability is not exactly known, the finding could be attributed to a variety of factors. First, it is possible that teachers perceive that parental involvement will increase the rate at which positive change occurs, the duration of change, and the amount of positive change by having the treatment extend outside the classroom. In other words, teachers may perceive an intervention that includes parental involvement as more effective. Second, teachers may feel more supported in their efforts to evoke change and therefore, more willing to engage in these efforts if the parents are involved. Third, from a philosophical perspective, teachers may feel as if it is the

parent's responsibility to be involved. Therefore, teachers with such a philosophy may perceive interventions that do not include parental involvement as inappropriate.

Behavior Severity

It was expected that ratings of acceptability would vary as a function of the severity of the behavior problem. Specifically, it was predicted that ratings of acceptability would be higher for the severe behavior problem as opposed to the mild behavior problem. The results indicated that ratings of acceptability were greater for the severe behavior problem as compared to ratings of acceptability for the mild behavior problem. Thus, the hypothesis that ratings of acceptability would be greater for the severe behavior problem was supported.

The results described above support those findings reported in previous research (Kazdin, 1980; Kazdin, 1981; Elliott, Witt, Galvin, & Peterson, 1984; Witt, Moe et. al 1984; Witt & Robbins; 1985). The results suggest that as problems become more severe, teachers are more accepting of the proposed interventions, including interventions requiring more time and attention. However, the results of the correlational analysis suggest that as years of teaching experience increased, ratings of acceptability for interventions decreased, but only for the severe behavior problem.

Summary and Conclusions

The results demonstrated that the inclusion of parental involvement and the inclusion of functional assessment information both resulted in significantly higher ratings of treatment acceptability. The results demonstrated the teachers rated the intervention designed to address the severe behavior problem as significantly more acceptable than the intervention designed to address the mild behavior problem.

However, the results also demonstrated that as years of teaching experience increase, ratings of acceptability for severe behavior problems decrease.

When interpreting these results, one should be aware that the methodology used in the present study included additional factors that likely contributed to the teachers' ratings. First, background information was included that provided teachers with a history of the presenting problem and descriptions of methods previously used to address the behavior. Second, the teachers were told that the intervention was developed in collaboration with the student's teacher. Third, the teachers were told that the consultant was going to have weekly contact with the teacher to assess the student's response to the intervention and to collaborate about any problems or needed changes. Finally, the interventions presented proposed a comprehensive treatment package that included a number of components, both positive and reductive. It should also be noted that, although these components are important, the inclusion of functional assessment or parental involvement resulted in significantly increased ratings of acceptability.

The findings regarding functional assessment suggest that, when accompanied by the factors described above, conducting a functional assessment of the problem behavior and sharing those results with the teacher should serve to increase ratings of acceptability. In addition, unlike interventions that are arbitrarily applied based only on an ADHD diagnosis, interventions developed from functional assessments are more likely to result in positive change (DuPaul & Ervin, 1996). Research has shown that if an individual has *experienced* a treatment as effective, the individual would be more likely to find the treatment acceptable and use it in the future (Reimers et al., 1997; Witt & Elliott, 1995). Therefore, the inclusion of functional assessment not only increases teachers' perceptions

of a treatment's acceptability at the time but may also increase the likelihood that teachers will find the treatment acceptable in the future.

The findings regarding parental involvement suggest that when planning an intervention for a child, teachers should find the intervention more acceptable if parental involvement is recommended. It is noteworthy that the 'parental involvement' described in the case analogues was relatively simple and only involved sending a progress note home with the child each day so that home-based contingencies could be given in addition to classroom contingencies. Such a component is neither complicated nor time consuming, and should be easily incorporated into most school-based interventions for ADHD. In addition, when implemented as directed, parental involvement should increase treatment efficacy (Barkley, 1999). Therefore, like the inclusion of functional assessment, the inclusion of parental involvement should serve to increase teachers' perceptions of a treatment's acceptability at the time and in the future.

The findings regarding behavior severity suggest that when working with severe behavior problems, professionals should expect teachers to be more accepting of the recommended intervention than when working with mild behavior problems. However, increased perceptions of acceptability in these cases should not preclude the inclusion of functional assessment and parental involvement. On the contrary, it is when dealing with severe behavior problems that functional assessment and parental involvement are most crucial. First, it is likely that the behavior has worsened over time and that there are multiple maintaining variables in the child's environment. Functional assessment is ideally suited to identify such variables (DuPaul & Ervin, 1996). In addition, for severe

behavior problems, contingency management may need to extend beyond the classroom to be effective to the degree necessary and would therefore, require parental involvement.

Finally, the results of the present study suggest that when designing an intervention for a severe behavior problem, professionals may find teachers with more years of experience less accepting of the intervention than teachers with fewer years of experience. It is hypothesized that teachers with more experience may have developed preferences for certain methods of modifying behavior that differ from those being recommended. For mild behavior problems, teachers may be more willing to abandon preferred methods for those being recommended but may perceive such a practice unacceptable in the face of a more severe behavior problem. In such instances, it would be crucial that the therapist work closely with the teacher to develop an intervention that both perceive as acceptable.

Clinical Implications

The findings described above have direct implications for psychologists who work with teachers in the modification of classroom-based behavior problems. The framework used in the present study involved close consultation with the teacher in the assessment phase and treatment development phase followed by continued consultation after the treatment was implemented. The results suggest that within such a framework, psychologists can increase the likelihood that their treatment will be acceptable by utilizing functional assessment and by including parental involvement. By increasing the acceptability of their treatment recommendations, psychologists increase the likelihood their treatment will be implemented. Such information is extremely valuable, as psychologists are dependent upon teachers when the goal is to modify classroom based

behavior problems. Given the plethora of assessment techniques currently available, knowing that functional assessment techniques not only directly inform treatment but also increase the likelihood that the treatment will be accepted should result in more psychologists relying on functional assessment in classroom-based interventions. In addition, parental involvement should also be used given that even in its simplest form (e.g. daily note home) it results in greater acceptability.

Strengths/Limitations of the present study and future directions

The present study resulted in significant contributions to the body of research addressing treatment acceptability in the classroom by further identifying factors that influence teachers' perceptions of an intervention's acceptability. The factors addressed in the present study (i.e. functional assessment and parental involvement) had not previously been examined within the domain of acceptability despite their frequently recommended inclusion in school-based interventions. In addition, the study also replicated and added strength to findings reported previously in the literature.

The present study also contributed to the field by designing a methodology superior to that used in previous survey methodologies. The present methodology represents a significant improvement in the ecological validity of case analogues by providing teachers with information about the case to simulate knowledge typically available to them (e.g. background information, methods previously used, specific details about the behavior problem). Such information has not been included in previous research, which typically provided participants with only a brief, topographical description of the behavior problem. The ecological validity of the present methodology was also increased by presenting a comprehensive intervention including both positive

and reductive treatment components. The treatments evaluated in previous research typically included individual components (e.g. praise, time/out, or redirection) rather than treatment packages like those typically recommended for ADHD students. Finally, the present study represented an improvement in the number of participants per experimental group. The number of subjects in each condition ranged from 25 to 37, which is greater than that reported many of the previous studies addressing treatment acceptability. The number of subjects in each experimental condition in previous studies was often less than 10.

Although the present study represented an appropriate first step in researching the effects of functional assessment and parental involvement on treatment acceptability, more research is needed to address the limitations of the present study. First, the sample used in the present study was predominantly Caucasian and female. In addition, only 11% of the teachers who participated were from schools in rural areas. Second, the present study provided only one form of parental involvement in the recommended treatment. Third, the present study did not question teachers regarding *why* they rated a treatment as more or less acceptable. Finally, the present study was not able to provide a conclusive explanation for why teachers with more experience rated the interventions for the severe behavior problem as less acceptable than did teachers with less teaching experience.

Based on the results of the present study and the limitations described above, the directions for future research are numerous. First, additional research is needed to determine teachers' preferences for parental involvement in greater detail given the numerous forms parental involvement could take. For example, does increasing the

parental involvement beyond a daily note home increase or decrease ratings of acceptability? Second, it is recommended that future studies examine the mechanisms through which functional assessment and parental involvement increase ratings of acceptability. Such information would enable psychologists to maximize their efficiency when conducting assessments without compromising the acceptability of interventions. Third, it is strongly recommended that factors investigated in the present study (i.e. functional assessment and parental involvement) be investigated using a more naturalistic methodology. Future research should have teachers rate the acceptability of interventions designed to remediate problem behaviors of students in the teachers' actual classrooms. Fourth, additional research is needed to examine methods of consultation and intervention preferred by more experienced teachers when dealing with severe behavior problems. Finally, as often as possible, future research should attempt to include samples representative of individuals from a variety of ethnic and socioeconomic backgrounds and from a variety of geographic locations to ensure the results generalize across a variety of demographic variables.

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APPENDIX A

Demographics Questionnaire

Subject # _____

1. Gender: Male Female

2. Age: _____

2. Ethnicity

_____ Caucasian

_____ African-American

_____ Asian-American

_____ Native American (tribe(s)): _____

_____ Hispanic

_____ Biracial (please specify): _____

_____ Other (please specify): _____

3. Highest level of education completed:

Degree	Elem.Ed	Sec. Ed.	Special Ed.	Ed.Administratio n	Other:
BA/BS					
MA/MA/MAT					
Ed.S					
Ed.D					
Ph.D.					

4. Including this year, what is the total number of years you have been teaching? (not including student teaching): _____ Years

5. What grade are you currently teaching? _____

6. What grades have you taught? _____

7. What are your teaching assignments? (e.g. general curriculum, music education, art, P.E.)

8. Please describe any training you have received in special education, school psychology, or psychometry:

9. Please list the areas in which you are certified/licensed:

10. Please estimate the number of children with ADHD you have taught:

_____ 1-5 _____ 6-10 _____ 11-15 _____ 16-20 _____ >20

11. Does anyone in your family have ADHD?

No

Yes Please specify who: _____

APPENDIX B

Student: James

Reason for referral:

James was referred based on his lack of attention, forgetfulness, daydreaming, disorganization, and inability to complete his work. James is described as “often off in another world” and when asked why he failed to finish his assignment he often responds, “Oh, I forgot.” James’ teacher has to give directions and ask questions several times before he responds. James’ desk is perpetually messy and he often loses things. James is easily distracted by things going on in his environment and he spends much of his time staring out the window. James makes very poor use of spare time and during periods of assigned seat work he rarely finishes the assignment. James is currently failing reading, math, and social studies.

Background information

James has been assessed for a learning disability. The tests revealed that James’ cognitive ability is in the average range; there was no evidence of a learning disability. James’ teacher has moved his desk to the front of the classroom in an attempt to reduce his inattentive behavior. James was diagnosed last year with Attention Deficit/Hyperactivity Disorder-Primarily Inattentive Type.

Reason for referral:

Todd was referred based on his disruptive classroom behaviors and constant activity which include the following: getting out of his seat, noise making, calling out answers, teasing his classmates, playing with things in his desk, and “drumming” on his desk with pens. Todd is not well liked by his peers and is described as silly and immature. Although he is not aggressive, Todd purposefully does things to tease his peers (e.g. taking their papers and refusing to give them back). Todd is not defiant and not described as a conduct problem but rather as impulsive and over-active. When given instructions by the teacher, Todd is neither argumentative nor defiant, but rarely follows through when told to do something or told to stop doing something.

Background Information

Todd is falling below grade level despite having an average estimated cognitive ability; Todd has no learning disabilities. Todd’s teacher has been using frequent re-direction and after school detention to address his disruptive classroom behaviors. Todd was assessed at an earlier age and diagnosed with Attention-Deficit/Hyperactivity Disorder-Hyperactive/Impulsive Type.

APPENDIX C

Functional assessment of the behavior

A structured interview with James' teacher and a brief interview with James were conducted and initial hypotheses about the function of James' behavior were developed. To test the initial hypotheses developed from interview information, James was observed for a total of 90 minutes in situations thought to produce the problem behavior(s) and in situations not thought to produce the problem behaviors: 30 minutes during difficult independent seat work-no teacher assistance, 30 minutes during difficult independent seat work-frequent teacher assistance, 15 minutes during easy independent seat work-frequent teacher assistance, and 15 minutes during easy independent seat work-infrequent teacher assistance.

Antecedents to the James' inattention

1. Challenging activities/no teacher assistance: Based on a review of his educational records, James' report, and his teacher's report, James finds math very difficult.
2. Independent seatwork not involving a preferred activity such as art or science experiments.
3. Minimal intra-task stimulation: tasks requiring no motor response such as sitting and listening, reading, or watching the teacher instruct at the board.

Environmental conditions

James' inattention is increased when there are other things to pay attention to such as activity outside the window or in the hall, talking classmates, or when he has things to play with at his desk.

Consequent conditions

1. James escapes/avoids challenging tasks and turns in his work incomplete.
2. James receives sensory stimulation via daydreaming.
3. No additional consequences are in place for off-task and inattentive behaviors or for failure to complete seat work.

Hypothesized functions of James' inattention

James' inattention, daydreaming, and distractability serve as an escape from difficult (math) and non-stimulating tasks (tasks not involving motor responses or activity). James' inattention and daydreaming are reinforced by the avoidance of an unpleasant task and by the replacement of sensory stimulation via daydreaming, playing with objects, or watching others in activity.

Functional assessment of the behavior

A structured interview with Todd's teacher and a brief interview with Todd were conducted and initial hypotheses about the function of Todd's behavior were developed. To test the initial hypotheses developed from the interview information, Todd was observed for a total of 90 minutes in situations thought to produce the problem behavior(s) and in situations not thought to produce the problem behaviors: 15 minutes of the teacher responding to Todd only when he displayed appropriate behavior, 15 minutes of the teacher responding to Todd only when he displayed inappropriate behavior, 15 minutes of Todd seated by peers who attended to his inappropriate behavior, 15 minutes of Todd seated by peers who ignored his inappropriate behavior, and 30 minutes of an interactive group activity.

Antecedents to the Todd's disruptive behaviors

1. Teacher focusing her attention on other students.
2. Periods during which students are required to work independently.

Consequent conditions to Todd's disruptive behaviors

1. The teacher attends to Todd by leading him back to his desk, answering his question, issuing a directive or consequence (spending 30 minutes in the classroom with his teacher after school).
2. Todd's peers laugh, complain to the teacher, and/or yell at him.

Hypothesized functions of Todd's disruptive behaviors

1. Todd experiences peer and teacher attention as rewarding. Therefore, during non-rewarding classroom situations, Todd engages in disruptive behavior to receive attention. In situations in which Todd was receiving positive attention from his teacher, classmates,

or both his disruptive behaviors are minimal. Todd's behaviors did not vary across tasks of varying difficulty. Thus, the attention that follows his disruptive behaviors appears to be reinforcing them.

APPENDIX D

Classroom Observations of James

James was observed for 90 minutes during a variety of tasks in his classroom. During each five minute interval, anytime James displayed an off-task behavior the nature of the behavior was recorded. The problem behaviors observed are described below.

:00

Looking out the window

:05

Drawing pictures on his worksheet-none of the problems on the worksheet have been completed

:10

Turned around watching the children who have completed their assignment in the back of the room at the free-play station

:15

When asked to turn in his homework, states he is cannot find it and digs in his desk for several minutes. The homework was not found.

:20

Looking out the window

:25

Playing with animal-shaped erasers

:30

When directed to go to a work station, stops for 2 minutes to watch fish tank

:35

Staring into the hallway at children waiting in line for the **bathroom**

:40

Using his pencils as airplanes

:45

Listening to classmates talking at the neighboring table

:50

Looking out the window

:55

Out of desk to sharpen his pencil, stops to look at displayed art work at the back table

:60

When asked to get out his notebook; states "I think it is on the bus."

:65

Playing with objects in his desk

:70

Looking out the window

:75

Watching his the student sitting beside him copy information from the board

:80

Rocking in his chair, staring at the ceiling

:85

When asked, "Are you finished?", responds, "Huh, with what?"

:90

Classroom Observations of Todd

Todd was observed for 90 minutes during a variety of tasks in his classroom. During each five minute interval, anytime Todd displayed an off-task behavior the nature of the behavior was recorded. The problem behaviors observed are described below.

:00

Out of his seat, walking around the classroom

:05

Playing with the record/cd player at the back table

:10

Singing out loud at his desk

:15

Calls out answer to teacher's question despite being told twice to raise his hand

:20

Making monkey noises directed at the student sitting next to him

:25

Out of seat-walks to teacher's desk to get a tissue and pulls out about 13-throws them at classmates as he walks back to his desk

:30

Using pencil to make drumming noises on his desk

:35

Under his desk "looking for an eraser"

:40

Turned around talking to the student sitting behind him

:45

Out of seat-sharpening his pencil-bops several classmates on their heads as he walks back to his desk

:50

Yells for teacher who is helping another student

:55

Takes a book away from the student sitting next to him and puts it under his desk

:60

Asks another student five times "What are we having for lunch?"

:65

Out of seat-playing with a bell on the teacher's desk

:70

Whistling the tune to "Jeopardy"

:75

Yells for teacher's help-teacher is with another student

:80

Out of seat-Goes to the window to look outside

:85

Yells, "I need to go to the bathroom".

:90

APPENDIX E

Proposed Interventions

The following interventions were developed in with the assistance of James' teacher and were based on all of the information collected during assessment and on the teacher's report of what techniques have and have not been effective in the past.

1. **Redirection:** To interrupt sensory stimulation when James is observed daydreaming, looking out the window, or playing with items from his desk he will be told to get started.

The teacher will issue redirective statements as needed every 3-5 minutes.

2. **Decrease task aversiveness:** Because James is completing so little work, initially the teacher will shorten certain assignments based on his/her discretion of which tasks are most difficult for James, require that James complete a only a portion of the assignment consistent with his current level of functioning, and provide frequent assistance (e.g. every five minutes). As James shows improvement the tasks will be lengthened.

3. **Offering breaks:** To teach James more adaptive means of taking a break rather than "zoning out", during tasks determined by the teacher to be challenging and non-stimulating, James can request a five-minute break when he feels himself getting **off-task**.

This intervention is to be used only during tasks that the teacher has determined to be the most difficult for James to complete and limited to only one break during the task.

4. **Losing preferred activities:** To prevent James' from avoiding completing his work, James may be kept in from P.E. for failing to complete a satisfactory portion of the assigned class work and/or homework; during this time James will work on incomplete assignments. The amount of time James is kept inside is left to his teacher's discretion but should be at least five minutes.

5. Referral to a physician for a medication evaluation: To determine if James would benefit from medication designed to treat ADHD, a referral packet will be sent home to his parents.

Follow-up

The consultant will have weekly contact with the teacher (by phone or in person) to assess James' response to the intervention and to collaborate about any problems or needed changes. This information will be used to determine the effectiveness of the interventions and to determine when and how the interventions need to be modified.

Proposed Interventions

The following interventions were developed in with the assistance of Todd's teacher and were based on all of the information collected during assessment and on the teacher's report of what techniques have and have not been effective in the past.

1. **Praise:** Todd's non-disruptive behavior (e.g. I like the way you are working quietly; I like the way you raised your hand.)
2. **Ignore disruptive verbalizations:** Do not respond to Todd when he calls out an answer or calls to the teacher (i.e. fails to raise his hand). At these times, the teacher will praise other students in the class for displaying appropriate behavior (e.g. Michelle, I like the way you are sitting quietly. Would you like to work the next problem?)
3. **Earning rewards and privileges:** Make teacher and peer attention contingent upon Todd displaying appropriate behavior. For example, having special class responsibilities, being rewarded with stickers, and running errands for the teacher could be offered following appropriate behavior
4. **Losing preferred activities:** Make teacher and peer attention contingent upon Todd displaying appropriate behavior. For example, Todd could sit out at P.E. (recess), sit by himself at lunch, and lose class free time following inappropriate behavior. In addition, peers who repeatedly yell at Todd, complain to the teacher, or laugh at Todd when he displays inappropriate behavior will lose privileges as well.
5. **Removal from class activity:** Todd will be sent to a desk in the back of the classroom when he disrupts his peers or the classroom environment more than three times during one subject/activity. Upon displaying a disruptive behavior Todd will be sent to the desk for five minutes. It was agreed that this intervention would be used only if the other

interventions were not working and that Todd would not spend more than 20 minutes in the desk per day. The teacher will work with the consultant to modify this intervention as needed.

5. Referral to a physician for a medication evaluation: To determine if Todd would benefit from medication designed to treat ADHD, a referral packet will be sent home to his parents.

Follow-up

The consultant will have weekly contact with the teacher (by phone or in person) to assess Todd's response to the intervention and to collaborate about any problems or needed changes. This information will be used to determine the effectiveness of the interventions and to determine when and how the interventions need to be modified.

APPENDIX F

Proposed Interventions

The following interventions were developed in with the assistance of James' teacher and were based on all of the information collected during assessment and on the teacher's report of what techniques have and have not been effective in the past.

1. **Redirection:** To interrupt sensory stimulation when James is observed daydreaming, looking out the window, or playing with items from his desk he will be told to get started.

The teacher will issue redirective statements as needed every 3-5 minutes.

2. **Decrease task aversiveness:** Because James is completing so little work, initially the teacher will shorten certain assignments based on his/her discretion of which tasks are most difficult for James, require that James complete a only a portion of the assignment consistent with his current level of functioning, and provide frequent assistance (e.g. every five minutes). As James shows improvement the tasks will be lengthened.

3. **Offering breaks:** To teach James more adaptive means of taking a break rather than "zoning out", during tasks determined by the teacher to be challenging and non-stimulating, James can request a five-minute break when he feels himself getting off-task. This intervention is to be used only during tasks that the teacher has determined to be the most difficult for James to complete and limited to only one break during the task.

4. **Losing preferred activities:** To prevent James' from avoiding completing his work, James may be kept in from P.E. for failing to complete a satisfactory portion of the assigned class work and/or homework; during this time James will work on incomplete assignments. The amount of time James is kept inside is left to his teacher's discretion but should be at least five minutes.

5. **Referral to a physician for a medication evaluation:** To determine if James would

benefit from medication designed to treat ADHD, a referral packet will be sent home to his parents.

*In addition to the above-described interventions, the teacher will send a note home to James' parents each day. The note will require the teacher to rate James' on several behaviors.

Follow-up

The consultant will have weekly contact with the teacher (by phone or in person) to assess James' response to the intervention and to collaborate about any problems or needed changes. This information will be used to determine the effectiveness of the interventions and to determine when and how the interventions need to be modified.

Proposed Interventions

The following interventions were developed in with the assistance of Todd's teacher and were based on all of the information collected during assessment and on the teacher's report of what techniques have and have not been effective in the past.

1. **Praise:** Todd's non-disruptive behavior (e.g. I like the way you are working quietly; I like the way you raised your hand.)
2. **Ignore disruptive verbalizations:** Do not respond to Todd when he calls out an answer or calls to the teacher (i.e. fails to raise his hand). At these times, the teacher will praise other students in the class for displaying appropriate behavior (e.g. Michelle, I like the way you are sitting quietly. Would you like to work the next problem?)
3. **Earning rewards and privileges:** Make teacher and peer attention contingent upon Todd displaying appropriate behavior. For example, having special class responsibilities, being rewarded with stickers, and running errands for the teacher could be offered following appropriate behavior
4. **Losing preferred activities:** Make teacher and peer attention contingent upon Todd displaying appropriate behavior. For example, Todd could sit out at P.E. (recess), sit by himself at lunch, and lose class free time following inappropriate behavior. In addition, peers who repeatedly yell at Todd, complain to the teacher, or laugh at Todd when he displays inappropriate behavior will lose privileges as well.
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interventions were not working and that Todd would not spend more than 20 minutes in the desk per day. The teacher will work with the consultant to modify this intervention as needed.

5. Referral to a physician for a medication evaluation: To determine if Todd would benefit from medication designed to treat ADHD, a referral packet will be sent home to his parents.

*In addition to the above-described interventions, the teacher will send a note home to Todd's parents each day. The note will require the teacher to rate Todd on several behaviors.

Follow-up

The consultant will have weekly contact with the teacher (by phone or in person) to assess Todd's response to the intervention and to collaborate about any problems or needed changes. This information will be used to determine the effectiveness of the interventions and to determine when and how the interventions need to be modified.

APPENDIX G

Behavior Intervention Rating Scale

You have just read about a child with a classroom problem and a description of an intervention for improving the problem. Please evaluate the intervention by circling the number which best describes your agreement or disagreement with each statement. You must answer each question.

	Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree
1. This would be an acceptable intervention for a child's problem behavior.	1	2	3	4	5	6
2. Most teachers would find this intervention appropriate for behavior problem in addition to the one described.	1	2	3	4	5	6
3. The intervention should prove effective in changing the child's problem behavior.	1	2	3	4	5	6
4. I would suggest the use of this intervention to other teachers.	1	2	3	4	5	6
5. The child's behavior problem is severe enough to warrant use of this intervention.	1	2	3	4	5	6
6. Most teachers would find this intervention suitable for the behavior problem described.	1	2	3	4	5	6
7. I would be willing to use this in the classroom setting.	1	2	3	4	5	6
8. The intervention would <i>not</i> result in negative side-effects for the child.	1	2	3	4	5	6
9. The intervention would be appropriate intervention for a variety of children.	1	2	3	4	5	6
10. The intervention is consistent with those I have used in classroom settings.	1	2	3	4	5	6
11. The intervention was a fair way to handle the child's problem behavior.	1	2	3	4	5	6
12. The intervention is reasonable for the behavior problem described.	1	2	3	4	5	6
13. I like the procedures used in the intervention.	1	2	3	4	5	6
14. This intervention was a good way to handle this child's behavior problem.	1	2	3	4	5	6
15. Overall, the intervention would be beneficial for the child.	1	2	3	4	5	6
16. The intervention would quickly improve the child's behavior.	1	2	3	4	5	6
17. The intervention would produce a lasting improvement in the child's behavior.	1	2	3	4	5	6
18. The intervention would improve the child's behavior to the point that it would not noticeably deviate from other classmate's behavior.	1	2	3	4	5	6
19. Soon after using the intervention, the teacher would notice a positive change in the problem behavior.	1	2	3	4	5	6
20. The child's behavior will remain at an improved level even after the intervention is discontinued.	1	2	3	4	5	6
21. Using the intervention should not only improve the child's behavior in the classroom, but also in other settings (e.g., other classrooms, home).	1	2	3	4	5	6
22. When comparing this child with a well-behaved peer before and after use of the intervention, the child's and the peer's behavior would be more alike after using the intervention.	1	2	3	4	5	6
23. The intervention should produce enough improvement in the child's behavior so the behavior no longer is a problem in the classroom.	1	2	3	4	5	6
24. Other behaviors related to the problem behavior also are likely to be improved by the intervention.	1	2	3	4	5	6

APPENDIX H

Table 1

Symptoms of Attention-Deficit/Hyperactivity Disorder

<u>Inattention</u>	<u>Hyperactivity/Impulsivity</u>
Often fails to give close attention to details or makes careless mistakes in school work	Often fidgets with hands or feet or squirms in seat
Often has difficulty sustaining attention in tasks or play activities	Often leaves seat in classroom or in other situations in which remaining is expected
Often does not seem to listen when spoken to directly	Often runs about or climbs excessively in situations in which it is inappropriate
Often does not follow through on instructions and fails to finish schoolwork, chores, or duties	Often has difficulty playing or engaging in leisurely activities quietly
Often loses things necessary for tasks or activities	Is often "on the go" or often acts as if "driven by a motor"
Is often easily distracted by extraneous stimuli	Often talks excessively
If often forgetful in daily activities	Often blurts out answers before the questions have been completed
	Often has difficulty awaiting turn
	Often interrupts or intrudes on others

Table 2

Factors of school-based interventions shown to impact treatment acceptability

<u>Child Characteristics</u>	<u>Teacher Characteristics</u>	<u>Treatment Characteristics</u>
Severity of problem	Years of experience	Time/resources required
Nature of problem	Behavior management philosophy	Type of treatment
	Type of training	Efficacy of treatment
	Knowledge of behavioral principles	Theoretical orientation of treatment (jargon used)
	Past experience with the treatment	Rationale for treatment
		Side effects of treatment
		Development process

Table 3

Results of the 2 x 2 x 2 Analysis of Variance

Source	MS	df	F	Sig of F
Between-Subjects Effects				
Functional Analysis (FA)	6.89	1	7.20	.008**
Parental Interaction (PI)	4.19	1	4.37	.038*
FA BY PI	2.04	1	2.13	.147
Within-Subjects Effects				
Severity (SEV)	1.42	1	3.80	.053*
FA BY SEV	0.59	1	1.59	.210
PI BY SEV	0.00	1	0.01	.923
FA BY PI BY SEV	0.20	1	0.54	.465

Note.*p < .05, **p < .01.

Table 4

Mean Acceptability Scores for Main Effects

Main Effect	M
Functional Analysis	
Yes	4.16
No	3.83
Parental Involvement	
Yes	4.12
No	3.87
Severity	
Mild	3.94
Severe	4.08

Table 5

Results of the BIRS Factor Analysis Using the Present Sample

<u>BIRS Item</u>	<u>Communalities</u>	<u>Component</u>	<u>Eigenvalue</u>	<u>% of Variance</u>
1	.811	1	13.706	57.107
2	.444	2	2.557	10.654
3	.629	3	.806	3.358
4	.760	4	.776	3.235
5	.640	5	.665	2.772
6	.691	6	.605	2.522
7	.751	7	.525	2.187
8	.672	8	.438	1.825
9	.503	9	.415	1.731
10	.673	10	.409	1.706
11	.831	11	.371	1.545
12	.829	12	.334	1.393
13	.843	13	.325	1.352
14	.741	14	.296	1.232
15	.697	15	.284	1.182
16	.618	16	.230	.960
17	.720	17	.215	.897
18	.652	18	.198	.824
19	.596	19	.180	.752
20	.597	20	.168	.699
21	.624	21	.160	.665
22	.614	22	.135	.561
23	.680	23	.114	.475
24	.646	24	.008	.366

APPENDIX I

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

Date: November 17, 1999 IRB #: AS-00-094

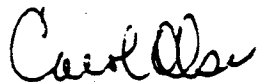
Proposal Title: "FACTORS AFFECTING TREATMENT ACCEPTABILITY IN THE CLASSROOM: THE ROLE OF FUNCTIONAL ASSESSMENT AND PARENTAL INVOLVEMENT IN ADHD INTERVENTIONS"

Principal Investigator(s): Ann Munn
Maureen Sullivan

Reviewed and Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

Signature:



Carol Olson, Director of University Research Compliance

November 17, 1999

Date

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office **MUST** be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

VITA ²

Ann E. Layne

Candidate for the Degree of

Doctor of Philosophy

Thesis: FACTORS AFFECTING TREATMENT ACCEPTABILITY IN THE
CLASSROOM

Major Field: Psychology

Biographical:

Personal Data: Born in Saranac Lake, New York, on August 20, 1974, the daughter of Howard and Elizabeth Munn and wife to Anthony Layne.

Education: Received Bachelor of Arts degree in Psychology from the University of Mississippi, Oxford, Mississippi in May 1996. Completed the requirements for the Master of Science degree with a major in Psychology at Oklahoma State University in December 1998. Completed the requirements of the Doctor of Philosophy degree with a major in Psychology at Oklahoma State University in December 2001.