2000

Attention Deficit Hyperactivity Disorder and the Avoidance of Responsibility: an Evaluation of Parents' Attributions and Their Relation to Treatment Acceptability.

Urdur Njardvik
Louisiana State University and Agricultural & Mechanical College

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_disstheses

Recommended Citation
https://digitalcommons.lsu.edu/gradschool_disstheses/7290

This Dissertation is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Historical Dissertations and Theses by an authorized administrator of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.
INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

UMI

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
ATTENTION DEFICIT HYPERACTIVITY DISORDER AND THE AVOIDANCE OF RESPONSIBILITY: AN EVALUATION OF PARENTS’ ATTRIBUTIONS AND THEIR RELATION TO TREATMENT ACCEPTABILITY

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy

in

The Department of Psychology

by
Urdur Njardvik
B.A., University of Iceland, 1993
M.A., Louisiana State University, 1997
August 2000

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
I would like to start by thanking my committee members, Dr. Mary Lou Kelley, Dr. Katie E. Cherry, Dr. David Reitman, and Dr. John Northup for their guidance, patience, and support with this project. I must also acknowledge my friend Nicole Lanclos, who coordinated the data collection and made this study possible.

First and foremost I want to thank my major professor, Dr. Mary Lou Kelley, who has stood by me through many difficult times. Her guidance and support has been invaluable and I lack the words to express my gratitude for everything she has done for me. Two other teachers also hold a special place in my heart, Dr. Katie E. Cherry and Dr. David Reitman, who always challenged me to do more and think deeper.

In spite of wonderful teachers I would never have completed this degree without my family and friends. My deepest gratitude goes to my parents and sister, who gave me strength and courage even when we were separated by thousands of miles. To my friend Jenn, who was always there to pick me up. And finally, to Dr. Diane Garrett because without her help I don’t think I would have finished graduate school.

Last but not least, I dedicate this work to my husband, Ivar, who has tolerated me putting everything second to psychology for so many years. You are my everything and I love you more than words can say.
# TABLE OF CONTENTS

Acknowledgements............................................................................................................ ii  
Abstract............................................................................................................................. iv  
Introduction........................................................................................................................ 1  
Attention Deficit Hyperactivity Disorder ................................................................. 3  
Causal Attributions.......................................................................................................... 10  
Treatment Acceptability................................................................................................. 22  
Purpose............................................................................................................................. 25  
Method............................................................................................................................. 28  
Results............................................................................................................................ 33  
Discussion........................................................................................................................ 40  
References....................................................................................................................... 50  
Appendix A: The Powell Avoidance of Responsibility Scale - Parent Version .......... 58  
Appendix B: The Treatment Evaluation Inventory - Short Form.............................. 59  
Appendix C: Parents' Attributions of stability, controllability, and responsibility.... 60  
Appendix D: Vignettes and descriptions of treatments............................................... 63  
Appendix E: Demographics Questionnaire................................................................. 65  
Appendix F: Comorbidity Questionnaire....................................................................... 66  
Vita.................................................................................................................................. 67
ABSTRACT

The study examined attributions of responsibility, stability, and controllability of parents of children with or without Attention Deficit Hyperactivity Disorder (ADHD). The relationship between attributions and acceptability of commonly used behavioral treatments also was examined. Participants were recruited from a hospital based outpatient clinic that mainly serves indigent families. The sample consisted of 50 parents of children diagnosed with ADHD and 50 parents of children without the diagnosis, who served as a comparison group. Assessment measures included an adapted version of the Powell Avoidance of Responsibility Scale (Powell & Rosen, 1999), the Conner's Parent Rating Scale (Conners, 1997), and the Treatment Evaluation Inventory (Kelley, Heffer, Gresham & Elliott, 1989). Parents of children with ADHD showed a higher rate of avoidance of responsibility, defined as strategies used to escape culpability of inappropriate behaviors. Results also showed that parents of children with ADHD rated inattentive-overactive and oppositional behaviors as less likely to change, and reported less parental responsibility for inattentive-overactive behaviors than the comparison group. Attributions of stability were found to affect acceptability ratings for Spanking, and attributions of parental responsibility affected acceptability of Time-out. Results indicate that parental attributions may be an important factor to consider when implementing behavioral treatments for ADHD. Limitations and future directions are discussed.
INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a common childhood disorder characterized by multiple problems with inattention, impulse control, and noncompliance. ADHD is highly comorbid with Conduct Disorder and Oppositional Defiance Disorder and is frequently associated with aggression and interpersonal conflicts (Barkley, 1998a). These problems have been linked to several attributional biases, such as the self-serving bias, where a person attributes their failures to environmental factors but their successes to internal ones (Hewstone & Antaki, 1988; Miller & Ross, 1975; Weary-Bradley, 1978; Zuckerman, 1979). Furthermore, avoidance of responsibility for inappropriate behaviors has been found to occur with higher frequency among adults with disruptive behavior disorders than in the general population (Powell, Rosen & Huff, 1997).

Parents of children with ADHD display a higher frequency of self-serving bias than other parents and view their children's behavior as more unstable and uncontrollable (Freeman, Johnston & Barth, 1997). Parents' attributional style appears to be highly correlated with parental discipline. Specifically, among families of children with ADHD, parental attributions of behavior stability have been found to be related to increased negative interactions and coercive discipline, which in turn appears to escalate inappropriate and negative behaviors in the child (Geller & Johnston, 1995; Johnston & Patenaude, 1994). Parental attributions may therefore have significant clinical implications, as they appear to contribute to the maintenance of problematic behaviors.

Acceptability of treatment interventions has been found to affect both efficacy and adherence to treatment (Kazdin, 1980; 1984; Frentz & Kelley, 1986; Miltenberger, 1990).
How parents' attributions of their children's behavior relate to treatment acceptability has not been examined but may provide valuable information for clinicians. If attributions affect treatment acceptability, which in turn affects treatment adherence, knowledge of parents' attribution may facilitate treatment and potentially improve treatment outcome. Parents of children with ADHD have also been found to have a lower expectancy for compliance from their children and to attribute an increase of appropriate behaviors to the child's effort or medication, but not to themselves (Jenson, Green, Singh, Best & Ellis, 1998). This negative evaluation of parents' abilities to intervene, may signify a risk for learned helplessness among parents of children with ADHD and may be an important factor to consider in research studies on treatment efficacy.

The current study examined avoidance versus acceptance of responsibility in parents' attributions of problematic behaviors in families of children with and without ADHD. Parental views on the stability and controllability of the child's behavior and their relation to ratings of responsibility were also examined. Additionally, the effects of these attributions on acceptability ratings of several commonly used behavioral interventions were examined as well. The following discussion reviews the research literature on ADHD, attributions, and treatment acceptability.
ATTENTION DEFICIT HYPERACTIVITY DISORDER

Attention Deficit Hyperactivity Disorder (ADHD) is characterized by a persistent pattern of inattention and/or hyperactivity-impulsivity, which is displayed to a degree that is inappropriate for the individual’s age and developmental level (American Psychiatric Association (APA), 1994; Barkley, 1998a). The disorder is manifested by age seven and causes a pervasive impairment across settings that require the individual to pay attention, restrain movement, or inhibit impulses (Barkley, 1998a). Although most children are not diagnosed until they reach school age, most parents report signs of hyperactivity much earlier. Usually the severity of symptoms decreases in late adolescence or adulthood, although some individuals continue to be severely impaired in adulthood (APA, 1994).

ADHD is divided into three different subtypes: the predominantly inattentive type, the predominantly hyperactive type, and the combined type. The combined type is the more common form of the disorder, as well as the more serious one. It includes multiple symptoms of both inattention and hyperactivity/impulsivity, while the other two types include symptoms predominantly in one of the categories (APA, 1994).

According to Barkley (1998a), ADHD is a developmental disorder of inattention, self-regulation, and behavioral inhibition. Lack of behavioral inhibition is considered to be the most important factor, as it contributes to both inattention and impulsivity. Inattention is often conceptualized as heightened distractibility, but can, according to Barkley (1998a), be explained by the fact that children with ADHD lack the inhibition necessary to choose delayed reinforcement over immediate. Thus, if two competing activities exist simultaneously, where one results in delayed reinforcement (e.g., earning a good grade for
completing homework) and the other in immediate reinforcement (playing with a toy that is lying by the desk), the child with ADHD has a diminished ability to wait for the delayed reinforcer (Barkley, 1998a). Consequently, lack of behavioral inhibition results in an impulsive decision to play instead of work, and can be explained through schedules of reinforcement rather than inability to pay attention.

ADHD has a high prevalence rate and is considered the most common psychological disorder in childhood, estimated to occur in 3-5% of school-aged children (APA, 1994; Barkley 1998a). Children with ADHD comprise the largest category of child referrals to mental health professionals and prevalence rates in clinical samples have been reported as high as 50-60% (Buitelaar & van Engeland, 1996; Gomez & Sanson, 1994; Murphy, Greenstein & Pelham, 1993; Whalen & Henker, 1998). ADHD occurs more commonly in boys and current male to female ratios range from 4:1 to 9:1 (APA, 1994).

Children with ADHD often experience academic difficulties, peer rejection, and suffer from low self-esteem. Other associated features include noncompliance, temper outbursts, mood lability, aggression, and dysphoria (APA, 1994; Barkley, 1998a; Gomez & Sanson, 1994; Whalen & Henker, 1998). Furthermore, negative mother-child interactions have been found to be common among families of children with ADHD. The mothers of children with ADHD have been found to be more controlling, intrusive, negative, disapproving, as well as less responsive and less rewarding than mothers of non-ADHD children (Barkley, Fischer, Edelbrock & Smallish, 1991; Gomez & Sanson, 1994).

In addition, children with ADHD seem to be at a greater risk of developing several other disorders, including Oppositional Defiance Disorder (ODD), Conduct Disorder, anxiety disorders, and mood disorders, such as Major Depression or Dysthymia (Barkley,
Treatment

The research literature on the treatment of ADHD has mainly focused on two types of interventions, pharmacotherapy and behavior management. Several other treatment options have been proposed, such as cognitive-behavioral treatment and social skills training, but have generally proven to be ineffective (see Barkley, 1998b for review). Treatments proven to have some efficacy are psychopharmacological therapy, parent training in contingency management, and contingency management techniques applied to classrooms (Barkley, 1998b).

Behavior Therapy

Behavioral interventions have been found to be particularly effective in improving behavior at home by increasing compliance and reducing disruptive behaviors (Abramowitz, Eckstrand, O'Leary & Dulcan, 1992; Barkley, 1998a; Carlson, Pelham, Milich & Dixon, 1992; DuPaul & Barkley, 1993; Hoza, Pelham, Sams & Carlson, 1992). The most commonly used interventions are aimed at training the parent to focus more on positive reinforcement of appropriate behaviors, through selective attention and/or reward systems, as well as using punishment effectively and consistently (See Barkley, 1998b for review). Most researchers have trained parents to use contingency contracting, token systems, and selective attention to shape and increase the frequency of positive behaviors, as well as mild punishment procedures such as response cost and time-out, for inappropriate behaviors (Anastopoulos, Shelton, DuPaul & Guevremont, 1993; Horn,
The goal of behavioral management training is to help the parent become more effective in delivering prompts, recognizing positive aspects of their child's behavior, ignoring non-serious but inappropriate behaviors, and using mild punishment for serious inappropriate behaviors (Anastopoulos et al., 1993; Barkley 1998a; 1998b; Ialongo et al., 1993). The training sessions generally consist of discussions, role-playing, and didactic presentations and most researchers also include sessions focused on teaching parents about the nature of ADHD as well as the course and development of the disorder (Newby et al., 1991).

Behavior therapy also has been used to treat problem behaviors in school settings, but may be somewhat less effective, as these interventions do not seem to reduce inattention and impulsivity in the classroom to satisfactory levels (Barkley, 1998a; 1998b; Richters et al., 1995). Nevertheless, several studies have demonstrated the effectiveness of behavioral interventions on classroom behavior, including token economy systems, time-out, daily report cards, school home notes, and reprimands (Abramowitz et al., 1992; Carlson et al., 1992; Cocciarella, Wood & Low, 1995; Hoza et al., 1992; McCain & Kelley, 1993).

For example, McCain and Kelley (1993) found that when behavioral contingencies were provided at home for the child's behavior at school, attentiveness increased and activity changes decreased. Cocciarella et al. (1995) demonstrated that a brief behavioral intervention effectively decreased impulsivity both at home and in the classroom. Furthermore, in a study by Carlson et al. (1992), token economy system combined with
time-out and a daily report card, significantly improved classroom behavior but failed to increase academic accuracy or productivity.

**Psychopharmacological Therapy**

Psychopharmacological therapy has been used through prescription of three classes of psychoactive drugs: psychostimulants, antihypertensives, and antidepressants. The most frequently used medications are the psychostimulants, which have also been the most researched psychopharmalogical treatment for childhood disorders (Barkley, 1998b; Murphy et al., 1993). The most commonly used stimulants are Ritalin (methylphenidate), Cylert ( pemoline), and Dexedrine (dextroamphetamine) (Barkley, 1998b; Murphy et al., 1993; Richters et al., 1995). It is estimated that in 1996, 3% of all elementary students in the United States were receiving psychostimulants for the treatment of ADHD (Brawlett, Nelson & Reeves, 1997).

Psychostimulant medications have been found to be highly effective in the treatment of ADHD and improvement is observed in approximately 70-85% of cases (DuPaul, Barkley & McMurray, 1991; Whalen and Henker, 1991; 1998). The behavioral effects of psychostimulants are mainly on attention and impulse control, which increase, and on disruptive behavior and aggression, which decrease (Barkley, 1998b; DuPaul et al., 1991; Hinshaw, Henker, Whalen, Erhardt & Dunnington, 1989; Murphy et al., 1993). These medications have been shown to be effective, compared to placebo conditions, in reducing off-task behaviors in classroom settings and in increasing compliance. Additionally, psychostimulants also have been shown to reduce antisocial behaviors among children with ADHD, such as physical and verbal aggression, and stealing (Hinshaw, Buhrmeister, & Heller, 1989; Richters et al., 1995).
Although research studies have clearly demonstrated the efficacy of the use of psychostimulants in the treatment of ADHD, these improvements have not been found to generalize to behavior at home or other situations where the child is not on the medication, nor have the stimulants effectively achieved normalcy in the behavior of children diagnosed with ADHD (Ervin, Bankert & DuPaul, 1996; Richters et al., 1995). Furthermore, a significant drawback of this treatment approach is the fact that the effects of stimulant medication dissipate approximately four hours after ingestion (Ervin et al., 1996). Side effects of psychostimulants are also quite common, especially loss of appetite and sleep problems. Headaches, stomachaches, irritability, insomnia, withdrawal, tics and other nervous habits have also been reported (Ervin et al., 1996; Whalen & Henker, 1998). As ADHD is a disorder that is both pervasive and heterogeneous in nature, the multitude of problems that occur in children with this disorder cannot be fully addressed by medication alone (Whalen & Henker, 1998).

Combined Treatments

Many researchers have argued that the treatment of choice for children with ADHD is a combination of psychostimulants and behavior therapy, as this combination seems to provide better outcome than when either treatment is used alone (Abramowitz et al., 1992; Carlson et al., 1992; DuPaul & Barkley, 1993; Horn et al., 1990; Hoza et al., 1992). However, this notion is not without controversy and other researchers have found limited support for the popular hypothesis that pharmacotherapy combined with behavior therapy is more effective than medication alone (Ialongo et al., 1993).

Despite decades of research on treatment of ADHD, long-term effects of either pharmacotherapy, behavior therapy, or their combination, have yet to be established.
Although short-term effects have been documented, the effects of treatment on the long-term prognosis of children with ADHD have been neglected in the research literature (Richters et al., 1995). According to Richters et al. (1995) no single treatment of ADHD is likely to provide sufficient effects so that normalization is achieved long-term and across settings. Because of the lack of longitudinal studies, a 5 year multimodal, multisite study of different treatment options for ADHD was started in 1995 and is currently being conducted, to obtain information on which treatment or combination of treatments are the most effective options (Richters et al., 1995).
CAUSAL ATTRIBUTIONS

Causal attributions refer to a person's attempt to explain events in their lives. Attributions can be internal, when a person attributes the event to personal characteristics, or external, when the event is attributed to situational factors (Hewstone & Antaki, 1988). When making causal attributions, people are thought to consider several factors, including the controllability and stability of the cause of the event, as well as whether the performance during the event is due to the difficulty of the task, the effort made, or ability to perform (Weiner, Frieze, Kukla, Reed, Rest & Rosenbaum, 1971; Hewstone & Antaki, 1988; Jenson et al., 1998; Lloyd-Bostock, 1983). These factors can be combined into two categories, stability (variable versus fixed) and locus of control (external versus internal).

Attributions do not only refer to how a person interprets a past event, but also to future predictions of failure or success and thus may affect motivation. Behaviorally, locus of control refers to whether a person perceives reinforcement to be controlled by internal or external factors (Weiner et al., 1971). This model proposes that causal attributions, that is perception of the cause for the success or failure, affect response probability so that perceived personal responsibility for a rewarded response, leads to increased frequency of that response in the future (see Weiner et al., 1971 for review). Hence, causal attributions, along with reinforcement history, affect the occurrence of future responses.

In addition, causal attributions are thought to influence persistence of responses and resistance to extinction. If a failure is seen as being caused by lack of effort or bad luck, resistance to extinction will be greater than when a failure is attributed to ability (Weiner et al., 1971). The person that explains failure by lack of their own ability expects
a negative outcome, while the one that attributes the failure to bad luck may persist and repeat the response.

Attributions can be in the forms of reasons and causes, or excuses and justifications. When we give reasons for an event, it implies that the event was controlled by voluntary factors, whereas causes imply that the act was involuntary. Similarly, when we make excuses for our behavior we are trying to avoid responsibility for the act, whereas justifications include an admission to performing the act (Hewstone & Antaki, 1988).

**Attribution Errors or Biases**

Attribution errors refer to biases where the event is interpreted subjectively, such as the tendency to attribute successes to internal factors and failures to external ones. This type of error is referred to as the self-serving bias and has received considerable attention in the literature (Burgner & Hewstone, 1993; Dodge, Price, Bachorowski & Newman, 1990; Freeman et al., 1997; Hewstone & Antaki, 1988; Hoza, Pelham, Milich, Pillow & McBride, 1993; Lochman, 1987; Miller & Ross, 1975; Weary-Bradley, 1978; Zuckerman, 1979). Some researchers maintain that the self-serving bias reflects an individual's attempt to protect his self-esteem, as it is more prone to occur in situations where the person's performance is public (Burgner & Hewstone, 1993; Riess, Rosenfeld, Melburg & Tedeschi, 1981; Weary-Bradley, 1978). Persons with high self-esteem also have been found to attribute successes to controllable dimensions more often than persons with low self-esteem (Chandler, Lee & Pengilly, 1997).

A related type of attributional bias is avoidance of responsibility. The construct of avoidance of responsibility is closely related to the self-serving attributional bias and refers
to strategies that an individual uses to escape liability for inappropriate behaviors. These strategies include a variety of misattributions, as well as lying and making misleading statements (Powell et al., 1997; Powell & Rosen, 1999).

The opposite of self-serving attribution style is negative self-evaluation. This type of attribution is considered one of the hallmark symptoms of depression in children (Schneider & Leitenberg, 1989). Negative self-evaluation occurs when the individual exhibits a self-deprecating way of thinking and interpreting interactions with others. This kind of attributional bias is reflected in lower self-esteem and is frequently linked to withdrawn behavior (Schneider & Leitenberg, 1989).

**Attributional Biases and Disruptive Behavior Disorders**

In recent years, attributional biases have been increasingly researched in persons with disruptive behavior disorders, aggression, and delinquency. Some studies have found that persons with disruptive behavior disorders are more likely to display self-serving bias and may avoid responsibility by blaming fate or chance for their misbehavior (Parrott & Strongman, 1984; Powell et al., 1997; Powell & Rosen, 1999).

Avoidance of responsibility has been observed in individuals with Conduct Disorder (CD) and Oppositional Defiance Disorder (ODD). Powell et al. (1997) gave college students questionnaires about symptoms of disruptive behavior disorders and avoidance of responsibility and found a strong relationship between avoidance of responsibility and symptoms of CD and ODD. In fact, avoidance of responsibility was found to account for 21% of disruptive behavior disorder symptoms (Powell et al., 1997). In another study by Powell and Rosen (1999) the same questionnaires were filled out by adolescents with or without CD. Avoidance of responsibility accounted for 32% of the
variance in CD, indicating that CD adolescents use avoidance of responsibility strategies more frequently than their peers (Powell & Rosen, 1999).

These results are consistent with previous research on violent offenders. Henderson and Hewstone (1984) discovered that incarcerated, violent offenders attributed their acts to their victims' behavior, and thus showed a strong self-serving bias in their explanations. Similar results were found by McKay, Chapman, and Long (1996), where rapists and property offenders attributed their crimes to external factors. Furthermore, Parrott and Strongman (1984) found that delinquent, male adolescents had a strong external locus of control and even attributed success to situational factors more often than their non-delinquent peers.

Attributional biases also have been found among children. Several researchers have demonstrated that aggressive children misattribute hostile or negative intention in ambiguous situations (Dodge, 1980; Dodge, et al., 1990; Fondacaro & Heller, 1990; Lochman, 1987). Lochman (1987) found that aggressive boys tended to minimize their own aggression and maximize others', while their non-aggressive peers showed the opposite profile. Another study found that, among juvenile offenders, external attribution of blame is strongly related to aggression (Fondacaro & Heller, 1990). Moreover, this attribution of hostile intent to others has been shown to be positively correlated with severity of CD (Dodge et al., 1990).

These attributional biases may be the result of a specific deficit associated with ADHD, ODD, and CD. Matthys, Cuperus, and Van Engeland (1999) found that when compared to normal controls, boys with a combination of ADHD, ODD, and CD had deficits in social problem solving skills that seemed to make them more prone to select
aggressive responses. Furthermore, differences between these disorders were found as children with ADHD only appeared to have problems with encoding social cues while those with a combination of ADHD and CD or ODD and CD appeared to have more pervasive problems, including encoding of cues, response generation, and response selection (Matthys et al., 1999).

Negative self-evaluation, however, does not seem to occur among aggressive children. Schneider and Leitenberg (1989) found that self-deprecating attribution style was common among withdrawn children but not among aggressive children, who had a much higher self-esteem than the former group. This seems to support the idea that a self-serving bias among aggressive children serves the purpose of protecting the perpetrators self-evaluation. By attributing problematic behavior to environmental factors, the aggressive child escapes culpability to some extent, and consequently avoids seeing his behavior as the result of personal characteristics.

**Attributional Biases among Children with ADHD**

Children with ADHD appear to demonstrate a higher frequency of self-serving bias than other children. In social situations, boys with ADHD are less likely to accept responsibility of failures but readily acknowledge success (Hoza et al. 1993). This reaction may be due to the fact that children with ADHD encounter failure more frequently than their peers. For example, Milich and Okazaki (1991) found that boys with ADHD gave up more easily and reported more frustration than controls on a learned helplessness task. These results were interpreted as indicative of a stronger tendency to external locus of control among children with ADHD (Milich & Okazaki, 1991).
However, self-serving bias may not necessarily be detrimental to children with ADHD, according to Pelham et al. (1992) who, in a placebo controlled study, found that boys with ADHD attributed success to internal factors and blamed failures on the ineffectiveness of their medication. Pelham et al. (1992) determined that this attribution bias was a healthy perspective and could be beneficial to the child with ADHD, as blaming failures on external factors may preserve self-esteem. However, one could argue that these kinds of attribution are detrimental, as they may prevent the child from learning from her mistakes.

**Attributions among Parents of ADHD Children**

Attributional biases also refer to the way people explain inappropriate or maladaptive behaviors of others. The attributions of parents of children diagnosed with ADHD have been examined by several researchers and some distinct patterns have emerged.

Sobol, Ashbourne, Earn, and Cunningham (1989) administered the Parent Attribution Questionnaire (PAQ) to mothers of ADHD and non-ADHD children. The PAQ assesses parental attributions of locus, stability, and controllability of children’s behavior on a 10 point Likert scale (Sobol et al., 1989). The results indicated that mothers of ADHD children view the causes of their children’s behavior as more unstable than mothers of non-ADHD children (Sobol et al., 1989).

A higher frequency of self-serving bias has been found among parents of ADHD children. Freeman et al. (1997) looked at parents’ attributions for inattentive-overactive and oppositional-defiant behaviors, as well as pro-social behavior. Parents of children with ADHD rated the inattentive-overactive symptoms as most uncontrollable and tended to
attribute negative behaviors to situational factors. The parents also saw themselves as being less responsible for inattentive-overactive behaviors when compared to oppositional-defiant behaviors (Freeman et al., 1997). The attributions were assessed by having the parent read six scenarios that combined behaviors from each category. The parents then answered questions about stability, controllability, and locus of control in a multiple choice format (Freeman et al., 1997). One limitation of this study was that the authors did not include a control group of parents whose children did not have ADHD.

In a similar study, Johnston and Freeman (1997) used the same method as Freeman et al. (1997) but added questions about the parents' responsibility for behavior and the parents' affective response. Results showed that parents of children with ADHD rated both oppositional-defiant and inattentive-overactive behaviors as less controllable by their child, more stable, and more internally caused, when compared to parents of non-ADHD children. Parents of children with ADHD also rated pro-social behaviors as less stable and less internally caused than did parents in the control group. Furthermore, the parents of children with ADHD rated themselves as less responsible for hyperactive, inattentive, and oppositional-defiant behaviors (Johnston & Freeman, 1997).

Several researchers have demonstrated that attribution is strongly related to how parents manage their children's behaviors. When parents perceive children's inappropriate behaviors to be intentional or controllable by the child, they are more likely to use coercive discipline, such as spanking (Geller & Johnston, 1995; Johnston & Patenaude, 1994). Dix, Ruble & Zambarano (1989) found mothers of children with ADHD were more likely to use assertive or coercive discipline strategies when they attributed their child's behavior to internal factors and view the child as responsible for inappropriate behaviors.
In a similar study, Johnston and Patenaude (1994) used written scenarios of inattentive-overactive and oppositional-defiant behaviors, and asked parents to rate the child’s locus of control, stability of the behavior, and the controllability. They also asked parents how upset they were by each behavior, whether or not they would disapprove, and whether the behavior was problematic. Results showed that oppositional-defiant behaviors were judged as being more controllable by the child and these behaviors were more frequently associated with negative interactions (Johnston & Patenaude, 1994).

Inherent in the fact that parents of children with ADHD see their child’s behavior as more stable and more uncontrollable than other parents, is their lower expectancy for success in parenting and especially in achieving compliance. Sobol et al. (1989) found that mothers of children with ADHD had a much lower expectancy for future compliance than other mothers. Similarly, in a study by Jenson et al. (1998) parents of children with ADHD did not rate themselves as having more influence over their children’s behavior than medication.

In Jenson et al.’s study (1998) parents’ attributions of their children’s best and worst behaviors were assessed repeatedly over a six-week period. Parents were interviewed weekly using the Parent Attribution Scale-Revised (PAS-R), which asks parents to choose a day in the previous week when the child’s behavior was at its best and its worst. The parents are then asked about their attributions to the child’s efforts, their own efforts, or the child’s medication. Results revealed that parents blamed the ineffectiveness of the medication and the child’s lack of effort for worst behaviors and attributed best behavior to the child’s effort more than the medication or their own efforts (Jenson et al., 1998). Thus, the parents appeared to blame negative behavior on the child.
or the medication, while positive behavior was attributed to the child. The parents' poor rating of the importance of their own efforts may signify the presence of learned helplessness, where people judge themselves to be ineffective due to their perceived lack of control over the situation (Jenson et al., 1998).

Learned helplessness was first discovered in dogs, where exposure to inescapable shock in one situation impeded learning to escape in different situation where escape was a possibility (Maier & Seligman, 1976). This effect was later discovered to apply to humans as well as other species. The learned helplessness theory postulates that when a person is exposed to uncontrollable events, that experience interferes with the person's natural tendency to perceive contingencies between her behavior and consequences. Accordingly, when a person is exposed to unpleasant events that she has no control over, her motivation is reduced and response initiation decreases, as does the person's ability to learn that responding will produce reinforcement (see Maier & Seligman, 1976 for review).

Learned helplessness has been proposed as a causal factor in depression, where the individual eventually comes to the conclusion that responding is in general an ineffective way to obtain reinforcement. Additionally, if a person can be convinced that failure is not due to lack of ability, performance deficits are decreased (Alloy, Peterson, Abramson & Seligman, 1984; Klein, Fencil-Morse & Seligman, 1976).

Thereupon, if a parent views themselves as ineffective in reducing inappropriate behavior in their child, their motivation to utilize strategies taught in treatment may be diminished. This could potentially have detrimental effects on treatment outcome and
Thereupon, if a parent views themselves as ineffective in reducing inappropriate behavior in their child, their motivation to utilize strategies taught in treatment may be diminished. This could potentially have detrimental effects on treatment outcome and appears to be an important factor to consider when treating children with behavior disorders.

**Attributions in Parent-Child Conflicts**

Communication between children and parents is a contributing factor to children's social development. Open communication and satisfaction with family interactions is related to increased happiness and self-esteem among adolescents, and less conflict between children and parents (Jackson, Bijstra, Oostra & Bosma, 1998). Unfortunately, these conditions are not always present and conflicts between adolescents and their parents are common (Grace, Kelley & McCain, 1993; Jackson et al., 1998).

Negative attributions have been shown to be strongly related to frequency of conflicts. Grace et al. (1993) found that conflicts were often attributed to the other person’s characteristics in mother-adolescent dyads. Furthermore, these attributions of blame were found to lead to increased negative behavior and therefore seemed to maintain the conflict relationship.

In families of children with ADHD, parent-child interactions are consistently negative and coercive, due to the child’s noncompliance which appears to elicit increased reprimands and punishment from the parents (Barkley, Anastopoulos, Guevremont & Fletcher, 1992; Danforth, Barkley & Stokes, 1991). Interpersonal aggression, especially in situations involving anger, has been found to be strongly related to these self-serving attributional biases (Dodge et al., 1990). Parent-child conflicts may, therefore, lead to
Treatment Implications

Attributional biases in parents of children with ADHD have significant treatment implications. Because difficult or negative parent-child interactions are frequently associated with ADHD (Johnston & Freeman, 1997), it is important to assess how attribution relates to parental reactions to difficult or inappropriate behaviors. Negative parent-child interactions appear to occur with a higher frequency among families of children who display both inattentive-overactive and oppositional-defiant behaviors, than in families of children with primarily inattentive-overactive symptoms (Gomez & Sanson, 1994; Johnston & Patenaude, 1994).

These interactions have been found to increase oppositional-defiant behaviors in children, which in turn may lead to an increase in the use of coercive discipline by parents (Johnston & Patenaude, 1994). Boys with ADHD who also are defiant, are found to be at a serious risk for antisocial behavior later in life (Satterfield, Swanson, Schell & Lee, 1994). Thus, it is important to interrupt and alter these reciprocal and coercive interchanges irrespective of diagnosis. Assessment of parents’ attributional style therefore emerges as a potentially important part of designing treatments for children with oppositional, attentional, and impulse control behavior problems.

Furthermore, if parents of children with ADHD are likely to be at risk to develop a belief system in which they feel powerless over their children’s behavior, it is extremely important to consider their attributional style when designing treatment. An intervention that incorporates knowledge of parent attributional biases and aims at increasing the parents’ perception of control, may improve treatment adherence, which in turn maximizes treatment efficacy. Perceptions regarding the causes of behavior may affect perception of
responsibility, controllability, and consequently motivation to employ behavioral interventions and other socializing efforts.
TREATMENT ACCEPTABILITY

Behavioral interventions, that consist of parent training are recognized as being the most effective, non-pharmacological treatment of ADHD (Horn et al., 1990). Several factors have been shown to affect the efficacy of parent training. These include treatment acceptability, defined as the judgment of a non-professional person of the appropriateness, fairness, and level of intrusiveness of a treatment intervention (Kazdin, 1980). Treatment acceptability therefore refers to the social validity of the intervention, as it reflects the views of potential consumers (Forehand, Wells & Griest, 1980; Wolf, 1978).

Treatment acceptability is considered an important construct, as it may influence parents' adherence to treatment. If parent training focuses on teaching parents to use treatments that they find unacceptable or unappealing, they are likely to either discontinue treatment or not use it consistently, which in turn would make it less effective (Kazdin, 1980; 1984; Frentz & Kelley, 1986; Miltenberger, 1990).

Treatment acceptability has been found to vary greatly between parents and is affected by demographic variables such as gender, ethnic background, and socioeconomic status (SES). Specifically, mothers have been found to rate rewards, response cost, and time out significantly higher than fathers, who seem to favor spanking and medication. Fathers therefore appear to prefer more intrusive or punitive measures, whereas mothers seem to prefer reinforcement and less punitive reductive interventions (Miller & Kelley, 1992).

Acceptability ratings also have been found to be affected by race and socioeconomic background. Heffer and Kelley (1987) found that families of low
socioeconomic status rated time out significantly less acceptable than did middle or upper class families. Furthermore, low income, black parents rated spanking and medication as much more acceptable than time out, while low income, white parents agreed on ratings of medication but not spanking (Heffer & Kelley, 1987). Ethnic and cultural issues therefore appear to be an important aspect of treatment acceptability. Unfortunately, most of the research conducted on parent training has been with middle class, Caucasian families and this treatment option does, in general, not incorporate culturally sensitive techniques (Forehand & Kotchick, 1996).

Other factors such as knowledge of behavioral principles, outcome expectancy, and perceived severity of the child’s problems have also been found to affect treatment acceptability (Frentz & Kelley, 1986; Heffer & Kelley, 1987; Hobbs, Walle & Hammersly, 1990; Miller & Kelley, 1992; Miltenberger, 1990; Rasnake, Martin, Tarnowski & Mulick, 1993).

A few studies have specifically looked at treatment acceptability of parents of children with ADHD. Bennett, Power, Rostain and Carr (1996) found that severity of externalizing problems was positively correlated with counseling acceptability but not with medication acceptability. They found that parents were initially resistant to medication as a treatment option, but that medication acceptability tended to increase with education about ADHD (Bennett et al., 1996). In another study, Rostain, Power and Atkins (1993) found that parents’ acceptability of pharmacotherapy was not related to socioeconomic status, parenting stress, or family coping style.

Parents’ attributions regarding their children’s behavior, and their perceived responsibility for managing the behavior have not been studied in the context of treatment
acceptability. However, it seems plausible that the construct of avoidance of responsibility and attributional bias may affect acceptability of treatment strategies. If a parent views the causes of their child’s behavior as being caused by environmental factors, and not controlled by the child, they may, for example, view punishment procedures unacceptable. This viewpoint may affect adherence to treatment that does not take the parents’ perspective into account. Alternatively, a parent who feels that their child is responsible for inappropriate behaviors may have a tendency to overuse punitive measures and neglect to shape appropriate behaviors through the use of positive reinforcement. Information about the parents’ perception of the child’s behavior, and the relationship between these perceptions and acceptability of treatment may prove valuable to clinicians and aid in the development of more effective, individualized treatment options, as well as adherence to treatments.
PURPOSE

The purpose of this study was to examine the attributions of responsibility, stability, and controllability of inappropriate child behaviors and their relation to treatment acceptability among parents of children with ADHD. The parents were compared to parents of non-ADHD children, on a measure of avoidance of responsibility, as well as attributions of controllability, stability, and responsibility. The parents also rated their acceptability of six commonly prescribed behavioral interventions. Although attributions of parents of children diagnosed with ADHD have previously been documented (Freeman et al., 1997; Johnston & Freeman, 1997; Sobol et al., 1989), the relationship between attributions and treatment acceptability has not been examined.

In view of the results from Powell et al. (1997) and Powell and Rosen (1999), who found symptoms of disruptive behavior disorders to be positively correlated with avoidance of responsibility, and the results of Freeman et al. (1997), who found parents of ADHD to accept less responsibility of their children’s overactive and inattentive behaviors, it was expected that parents of children with ADHD would show a higher rate of avoidance of responsibility than parents in the control group.

In light of the results from Geller and Johnston (1995), Johnston and Patenaude (1994), and Dix et al. (1989), who demonstrated that parents are more likely to use coercive parenting techniques when they view their children’s inappropriate behaviors to be intentional or controllable by the child, it also was expected that parents’ attributions of responsibility would affect ratings of treatment acceptability. Parents who viewed their children as being more responsible for their inappropriate behaviors were expected to
provide higher ratings of intrusive or punitive methods such as spanking, while parents who viewed their children as less responsible for their misbehavior were expected to give medication and positive reinforcement higher ratings.

The results of this study may have several clinical implications. Attention Deficit Hyperactivity Disorder (ADHD) is now considered the most common psychological disorder in childhood (Murphy et al., 1993; Whalen & Henker, 1998). Children with ADHD frequently experience interpersonal difficulties, especially with their parents (Danforth et al., 1991), and therefore, an understanding of parental attributions of problems may be helpful in treating and preventing these difficulties (Freeman et al., 1997).

Acceptability of commonly used behavioral interventions also was assessed to examine whether different attribution styles are related to acceptability of specific treatments. This is important as treatment acceptability has been shown to affect treatment outcome and adherence to treatment (Kazdin, 1980; 1984; Frentz & Kelley, 1986; Miltenberger, 1990). As the parent is the primary therapist in behavioral interventions for ADHD, their cooperation and motivation may be enhanced when the intervention matches their attributions about the problem behavior (Sobol, et al., 1989).

Research has also shown that parents' reactions to their children's behaviors are influenced by their attributions. Use of coercive discipline may exacerbate oppositional-defiant behaviors, which in turn may place the child at risk for developing antisocial behaviors later in life (Johnston & Patenaude, 1994; Satterfield et al., 1994). When children are perceived as responsible for their inappropriate behaviors, parents have been found to be more likely to be upset by it and use assertive discipline (Dix et al., 1989).
view of these results, parents' view of responsibility may be contributing to the maintenance of inappropriate behaviors, and is therefore an important construct to consider in the treatment of ADHD.

Furthermore, research on parents from a low socioeconomic background and ethnic minorities is lacking in the parent training literature (Forehand & Kotchick, 1996). As the sample used in the current study, consisted mainly of parents from a low income, ethnic minority background, the results may provide important information about attributions and treatment acceptability among parents from cultural minority groups.
METHOD

Participants

Participants were 100 parents of children aged 6-13 years, recruited from an outpatient clinic at a university hospital in Baton Rouge, Louisiana, that primarily serves impoverished families. Half of the participants were parents of children attending an outpatient clinic for treatment of ADHD (n=50), while the second half of the sample consisted of parents attending medically oriented outpatient visits, who served as a control group (n=50). All parents filled out the Conners’ Parent Rating Scale-Revised (CPRS-R) to determine group placement. ADHD was defined as a t-score of 65 or higher on the ‘DSM-IV: Total’ subscale on the CPRS-R. The mean T-score for children of parents in the ADHD group was 78 (range 68-90), and for the children of parents in the control group 51 (range 39-61). There were no significant differences between the two groups on any demographic variable.

The ADHD group consisted of 44 females and 6 males. Demographic information can be found in Table 1. All the parents in this group had children who were receiving behavioral and pharmacological treatment in an outpatient clinic for children with behavior disorders. In addition to having children with ADHD, 15 (30%) of the parents in this group indicated presence of symptoms of Oppositional Defiance Disorder (ODD), and 2 (4%) indicated symptoms of anxiety (see Table 1).

The control group consisted of 47 females and 3 males (see Table 1 for demographic information). All the children in this group were attending medically oriented outpatient visits at the same hospital. These visits were either routine well-child follow-up visits or visits for treatment of minor medical problems. Parents of children
with chronic medical disorders were excluded to avoid a potential confound. Initially, 67 parents participated in the study but 14 had children that had a t-score of 65 or higher on the CPRS-R, thus indicating presence of ADHD and three indicated that their children might suffer from depression and were therefore excluded. All parents in the control group were offered psychological services if they felt their children needed professional help.

Table 1
Demographic Information

<table>
<thead>
<tr>
<th></th>
<th>ADHD  (n=50)</th>
<th>Control (n=50)</th>
<th>Total (n=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conners' DSM-IV Index</td>
<td>78</td>
<td>51</td>
<td>64.5</td>
</tr>
<tr>
<td>SES (SD)</td>
<td>25.1 (SD 11.2)</td>
<td>24.8 (SD 9.9)</td>
<td>25.0 (SD 10.5)</td>
</tr>
<tr>
<td>Parent Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>female</td>
<td>44</td>
<td>47</td>
<td>91</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>32</td>
<td>38</td>
<td>70</td>
</tr>
<tr>
<td>Caucasian</td>
<td>16</td>
<td>9</td>
<td>25</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Native American</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-40 years</td>
<td>35</td>
<td>40</td>
<td>75</td>
</tr>
<tr>
<td>40 and up</td>
<td>15</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>Family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>married</td>
<td>18</td>
<td>26</td>
<td>44</td>
</tr>
<tr>
<td>single parent</td>
<td>26</td>
<td>22</td>
<td>48</td>
</tr>
<tr>
<td>foster parent</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: Conners' scores are T-scores and SES index is mean score on the Hollingshead scale (Hollingshead & Redlich, 1958).

Measurement

The following measures were used in this study: The Powell Avoidance of Responsibility Scale - Parent Version (see Appendix A), Conners' Parent Rating Scale-Revised, the Treatment Evaluation Inventory - Short Form (see Appendix B), and a
measure of parental attributions of controllability and stability of inappropriate child behaviors (see Appendix C).

The Powell Avoidance of Responsibility Scale (PARS) is a self-report measure designed to measure strategies which people use to escape liability for their inappropriate behaviors (Powell & Rosen, 1999). The scale consists of 23 statements that the respondent rates as being either true or false. The PARS measures degree of general avoidance of responsibility by providing one total score (Powell & Rosen, 1999). The internal consistency of the PARS has been reported to be .74, indicating adequate reliability (Powell & Rosen, 1999). The construct validity of the PARS is also satisfactory, it has been found to correlate with the Nowicki-Strickland Locus of Control Scale (N-SLCS), so that as external locus of control increases, so does avoidance of responsibility (Powell & Rosen, 1999).

For this study, the original version of the PARS was revised to design a parent version of the scale (see Appendix A). For the parent version, the original statements of the PARS were changed to have the parent rate how they view their child’s responsibility of inappropriate behavior (for example, “When I get in trouble it is because I am angry” was changed to “When my child gets in trouble it is because he/she is angry”).

The Conners’ Parent Rating Scale - Revised: Long form (CPRS-R:L) also was used in this study. The CPRS-R:L is a behavior checklists that is filled out by the parent and is useful for screening childhood problems. The CPRS-R:L is geared towards the assessment of ADHD and provides useful information about inattentive and hyperactive symptoms. The CPRS-R:L was designed to fit the DSM-IV diagnostic criteria for ADHD and has a cut-off score for both inattentive symptoms and hyperactivity-impulsivity...
symptoms (Conners, 1997). The parent rates behavior problems on a 4-point Likert scale ranging from ‘not at all true’ (0) to ‘very much true’ (3). The results from the CPRS-R:L are reported in T-scores and percentiles on 14 subscales: Oppositional, Cognitive Problems, Hyperactivity, Anxious-Shy, Perfectionism, Social Problems, Psychosomatic, Conners’ ADHD Index, Conners’ Global Index: Restless-Impulsive, Conners’ Global Index: Emotional Lability, Conners’ Global Index: Total, DSM-IV: Inattentive, DSM-IV: Hyperactive-Impulsive, and DSM-IV: Total (Conners, 1997). The psychometrics of the Conners’ are adequate. Test-retest reliability (6-8 week interval) for the CPRS-R:L (long version - parent form) ranged from .47 to .85 with majority of subscales above .65. The CPRS-R:L is also reported to have adequate convergent and discriminant validity (Conners, 1997).

The Treatment Evaluation Inventory - Short Form is a nine-item questionnaire that assesses treatment acceptability on a 5-point Likert scale, ranging from strongly “disagree” to “strongly agree” (see Appendix B). The internal consistency of the TEI-SF is .85 (Kelley et al., 1989). Stimuli used to assess treatment acceptability consisted of a short vignette describing an 8 year old boy with behavior problems. Half the participants received a vignette where the boy is diagnosed with ADHD, while the other half received the same vignette without any mention of diagnosis. Following the vignette was a description of six treatment options: medication, time-out, response cost, reprimands, differential attention, and spanking (see Appendix D).

A measure of parents’ attribution regarding parental responsibility and their perceptions of the stability and controllability of the child’s behavior was created for this study. The measure consisted of four short scenarios that are partially based on the
Written Analogue Questionnaire (Johnston & Freeman, 1997). The scenarios describe children displaying inattentive-overactive behaviors (fail to finish tasks and being hyperactive) and oppositional-defiant behaviors (arguing and being uncooperative) (See Appendix C). For each of the four scenarios, the parents' attributions for the controllability, stability, and parental responsibility were assessed on a six point Likert scale, ranging from strongly disagree to strongly agree.\footnote{The intercorrelations between the ratings of stability, controllability, and parental responsibility questions were assessed using the Pearson's R test to ensure that these ratings are measuring independent constructs. Results showed no significant correlations between the three types of questions.} For the statistical analyses, these 12 attribution questions were collapsed into three attribution variables; controllability, stability, and responsibility.

Finally, to exclude participants whose children had symptoms of depression or anxiety, as well as to identify children with comorbid Oppositional Defiance Disorder, the parents answered four questions about their child's behavior (see Appendix F).

**Procedure**

Parents were recruited as they awaited their outpatient pediatric appointments. The parents completed a demographic questionnaire (see Appendix E), the PARS, the TEI-SF, and the parental attribution questions in addition to the CPRS-R:L. If the child was receiving medication, the parent was asked to rate the child's behaviors when they are not taking the medication. The parents were given school supplies for their children (paper, pencils, etc...) as a token of gratitude for their participation.
RESULTS

Statistical Analyses

The data were analyzed according to the following plan. First, a Multivariate Analysis of Variance (MANOVA) was conducted with group (ADHD or control) as the independent variable and ratings on the PARS, as well as the three attribution questions, as the dependent variables. This analysis was performed to determine whether there was a main effect of group membership on any of the dependent variables, as well as to test for interactions between these variables. Follow-up one-way Analyses of Variance (ANOVAs) were subsequently conducted to assess group differences.

To assess the effects of attributions on TEI-SF scores, a 2x2x6 mixed MANOVA was conducted for each group, with two between subjects variables (PARS and vignette type) and one within subjects variable (TEI-SF). Follow-up one-way ANOVAs were conducted for any main effects. Additionally, a series of one-way ANOVAs were conducted to see if the groups differed on their TEI-SF scores in general.

Finally, to explore the relationship between the attribution ratings and the treatment acceptability ratings, a 2x2x2x6 mixed MANOVA with three between subjects variables (high/low controllability, stability, and responsibility) and one within subjects variable (TEI-SF) was conducted. As before, one-way ANOVAs were used to follow-up significant main effects.

Attributions

The first MANOVA procedure yielded a significant main effect of group membership on participants' ratings on the PARS and the three attribution questions (stability, controllability, and responsibility) (Wilk's $\Lambda=.003$, $F(13, 83)=136.3, p<.01$). A
one-way ANOVA showed that the ADHD group had a significantly higher score on the PARS than the control group \( (F(I)=6.1, p<.05) \) (see table 2).

**Table 2**  
**Mean scores on the PARS and three attribution questions**

<table>
<thead>
<tr>
<th></th>
<th>ADHD (n=50)</th>
<th>Control (n=50)</th>
<th>Total (n=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARS score</td>
<td>7.8* (SD 3.4)</td>
<td>6.1* (SD 3.1)</td>
<td>7.0 (SD 3.3)</td>
</tr>
<tr>
<td>Controllability</td>
<td>15.2 (SD 4.9)</td>
<td>15.2 (SD 5.4)</td>
<td>15.2 (SD 5.1)</td>
</tr>
<tr>
<td>Stability</td>
<td>12.0**(SD 4.8)</td>
<td>8.7**(SD 3.8)</td>
<td>10.4 (SD 4.6)</td>
</tr>
<tr>
<td>Responsibility</td>
<td>12.7 (SD 4.9)</td>
<td>10.8 (SD 5.6)</td>
<td>11.7 (SD 5.3)</td>
</tr>
</tbody>
</table>

* \( p<.05 \)  
** \( p<.01 \)  

**Note:**  
Control: The higher the score the higher the rating of child's control  
Stability: The higher the score the higher the rating of behavior's stability  
Responsibility: The higher the score the lower the rating of parent's responsibility

A one-way ANOVA revealed significant differences between the two groups on their ratings of stability, where the ADHD group's mean score of 12.0, was significantly higher than the control group's score of 8.7 \( (F(I)=14.9, p<.01) \). Significant differences were not found for ratings of controllability or responsibility \( (F'I's<3.0, p's>.08) \) (see Table 2).

To further examine the groups' differences on the attribution questions, the ratings of the three attributions were examined as a function of the type of behavior being rated, i.e. inattentive-overactive or oppositional-defiant. One-way ANOVAs showed that the groups differed significantly on their ratings of stability for both inattentive-overactive \( (F(I)=10.0, p<.05) \) and oppositional-defiant behaviors \( (F(I)=16.0, p<.01) \). Specifically, the ADHD group rated both behaviors as less likely to change. Additionally, significant differences were found on ratings of parental responsibility for inattentive-overactive behaviors, where the ADHD group reported lower responsibility ratings than the control.
group ($F(1)=4.1, p<.05$). The groups’ ratings of responsibility for oppositional-defiant behaviors, and ratings of controllability for both types of behavior, were not significantly different ($F’s<1.0, p’s>.32$)(see Table 3).

**Table 3**

Mean scores of attribution as a function of behavior

<table>
<thead>
<tr>
<th></th>
<th>ADHD (n=50)</th>
<th>Control (n=50)</th>
<th>Total (n=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Controllability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>inattentive-overactive</td>
<td>7.6 (SD 2.8)</td>
<td>8.1 (SD 2.7)</td>
<td>7.8 (SD 2.8)</td>
</tr>
<tr>
<td>oppositional-defiant</td>
<td>7.7 (SD 3.1)</td>
<td>7.0 (SD 3.3)</td>
<td>7.4 (SD 3.2)</td>
</tr>
<tr>
<td><strong>Stability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>inattentive-overactive</td>
<td>6.3* (SD 2.5)</td>
<td>4.8* (SD 2.1)</td>
<td>5.5 (SD 2.4)</td>
</tr>
<tr>
<td>oppositional-defiant</td>
<td>5.8**(SD 2.6)</td>
<td>3.9**(SD 1.9)</td>
<td>4.9 (SD 2.5)</td>
</tr>
<tr>
<td><strong>Responsibility</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>inattentive-overactive</td>
<td>6.7* (SD 2.7)</td>
<td>5.5* (SD 2.9)</td>
<td>6.1 (SD 2.8)</td>
</tr>
<tr>
<td>oppositional-defiant</td>
<td>5.9 (SD 2.9)</td>
<td>5.3 (SD 3.1)</td>
<td>5.6 (SD 3.0)</td>
</tr>
</tbody>
</table>

* $p<.05$ ** $p<.01$ Note: **Control:** The higher the score the higher the rating of child’s control  
**Stability:** The higher the score the higher the rating of behavior’s stability  
**Responsibility:** The higher the score the lower the rating of parent’s responsibility

**Treatment Acceptability**

To explore the relationship between avoidance of responsibility and the treatment acceptability ratings, a mixed 2x2x6 MANOVA was conducted with the PARS score and the type of vignette (with the boy in the vignette either diagnosed with ADHD or no mention of diagnosis) as the independent variables, and the TEI-SF score for each of the six treatments as the dependent variables. This analysis was performed separately for each group. The first MANOVA was conducted on the ADHD group only and yielded a significant main effect of the PARS and vignette type on the TEI-SF scores (Wilk’s $\Lambda=.103$, $F(5, 23)=40.2, p<.01$). Follow-up ANOVAs showed that the PARS score did not
significantly affect any of the treatment acceptability ratings ($F's < 1.8, p's > .078$) but the parents' ratings of differential reinforcement (DRO) were significantly lower for the vignette mentioning diagnosis, than for the other vignette ($F(1)=7.7, p < .01$). The vignette type did not have a significant effect on ratings of the other five treatments ($F's < 1.4, p's > .25$).

The second MANOVA was conducted with the control group only and as for the ADHD group, this analysis yielded a significant main effect of the PARS and story type on the TEI-SF scores (Wilk's $\Lambda = .256 F(5, 23)=13.3, p < .01$). Follow-up ANOVAs showed that neither the PARS score nor the type of story had a significant effect on any of the treatment acceptability ratings (PARS: $F's < 1.5, p's > .18$; type of story: $F's < 2.3, p's > .13$).

In addition, a series of one-way ANOVAs were conducted to see if the ADHD and control groups differed on their ratings of treatment acceptability (TEI-SF scores). As the groups rated two different types of vignettes (Vignette 1: boy is diagnosed with ADHD; Vignette 2: no diagnosis) the participants were divided into four groups for these analyses. Significant differences were found between the four groups' ratings of two treatments; Response Cost ($F(3)=3.2, p < .05$) where both the ADHD and the control group rated the acceptability lower for Vignette 1 than for Vignette 2; and Differential Reinforcement ($F(3)=5.5, p < .01$) where the ADHD group rated the acceptability lower for Vignette 1, but the control group did not. Ratings of the four remaining treatments (Spanking, Time-out, Medication and Reprimands) were not significantly different between any of the four groups ($F's < 2.0, p's > .10$) (see Table 4).

When the acceptability ratings were examined irrespective of vignette type, the same results emerged for ratings of Response Cost ($F(1)=8.5, p < .01$) and Differential
Reinforcement ($F(1)=6.4, p<.05$) (ADHD group rated both higher), but in addition, the ADHD group rated the acceptability of Medication significantly higher than the control group ($F(1)=5.1, p<.05$). No significant differences were found between ratings of the remaining three treatments (Spanking, Time-out, and Reprimands) ($F's<2.9, p's>.09$).

Table 4
Mean rating of Treatment Acceptability (TEI-SF)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>ADHD (n=50)</th>
<th>Control (n=50)</th>
<th>Total (n=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanking</td>
<td>21.4 (SD 8.7)</td>
<td>24.3 (SD 7.9)</td>
<td>22.9 (SD 8.4)</td>
</tr>
<tr>
<td>Vignette 1 (n=25)</td>
<td>22.1 (SD 8.9)</td>
<td>22.2 (SD 6.4)</td>
<td>22.1 (SD 7.6)</td>
</tr>
<tr>
<td>Vignette 2 (n=25)</td>
<td>20.8 (SD 4.8)</td>
<td>25.7 (SD 8.5)</td>
<td>23.2 (SD 6.6)</td>
</tr>
<tr>
<td>Response Cost</td>
<td>38.0** (SD 4.2)</td>
<td>35.0** (SD 5.6)</td>
<td>36.5 (SD 5.2)</td>
</tr>
<tr>
<td>Vignette 1 (n=25)</td>
<td>38.7* (SD 4.8)</td>
<td>34.7* (SD 6.8)</td>
<td>36.6 (SD 5.8)</td>
</tr>
<tr>
<td>Vignette 2 (n=25)</td>
<td>37.3* (SD 3.5)</td>
<td>35.3* (SD 4.9)</td>
<td>36.3 (SD 4.2)</td>
</tr>
<tr>
<td>Time-out</td>
<td>32.2 (SD 7.3)</td>
<td>29.8 (SD 6.9)</td>
<td>31.0 (SD 7.1)</td>
</tr>
<tr>
<td>Vignette 1 (n=25)</td>
<td>32.3 (SD 7.5)</td>
<td>29.9 (SD 7.0)</td>
<td>31.1 (SD 7.2)</td>
</tr>
<tr>
<td>Vignette 2 (n=25)</td>
<td>31.7 (SD 7.1)</td>
<td>30.3 (SD 6.8)</td>
<td>31.0 (SD 6.9)</td>
</tr>
<tr>
<td>Differential Reinf.</td>
<td>24.3* (SD 9.7)</td>
<td>19.9* (SD 7.4)</td>
<td>22.2 (SD 8.8)</td>
</tr>
<tr>
<td>Vignette 1 (n=25)</td>
<td>20.6** (SD 9.0)</td>
<td>18.9** (SD 7.9)</td>
<td>19.7 (SD 8.4)</td>
</tr>
<tr>
<td>Vignette 2 (n=25)</td>
<td>27.8** (SD 9.2)</td>
<td>20.7** (SD 7.0)</td>
<td>24.2 (SD 8.1)</td>
</tr>
<tr>
<td>Medication</td>
<td>31.8* (SD 7.3)</td>
<td>27.9* (SD 9.7)</td>
<td>29.8 (SD 8.8)</td>
</tr>
<tr>
<td>Vignette 1 (n=25)</td>
<td>30.6 (SD 7.7)</td>
<td>27.1 (SD 9.1)</td>
<td>28.8 (SD 8.4)</td>
</tr>
<tr>
<td>Vignette 2 (n=25)</td>
<td>33.0 (SD 6.8)</td>
<td>28.4 (SD 10.2)</td>
<td>30.7 (SD 8.5)</td>
</tr>
<tr>
<td>Reprimands</td>
<td>30.7 (SD 6.8)</td>
<td>31.1 (SD 7.2)</td>
<td>30.9 (SD 7.0)</td>
</tr>
<tr>
<td>Vignette 1 (n=25)</td>
<td>30.8 (SD 7.1)</td>
<td>31.2 (SD 6.8)</td>
<td>31.0 (SD 6.9)</td>
</tr>
<tr>
<td>Vignette 2 (n=25)</td>
<td>30.6 (SD 6.7)</td>
<td>30.8 (SD 7.5)</td>
<td>30.7 (SD 7.1)</td>
</tr>
</tbody>
</table>

* $p<.05$ ** $p<.01$  Note: The higher the score, the more acceptable the treatment is rated.
Vignette 1= Boy is diagnosed with ADHD.
Vignette 2= No mention of diagnosis.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Attributions and Treatment Acceptability

Finally, the relationship between the attribution ratings and the treatment acceptability ratings was examined in a 2x2x2x6 mixed MANOVA, with three between subjects variable (high/low controllability, stability and responsibility) and one within subjects variable (TEI-SF). In order for the attribution ratings to be used as a between subjects factor, the answers to each attribution question were collapsed into either high or low categories (high: agree somewhat to strongly agree; low: disagree somewhat to strongly disagree), thus creating two groups for each attribution variable (controllability, stability, and responsibility).

The MANOVA yielded a significant main effect of attribution ratings on treatment acceptability scores (TEI-SF) (Wilk’s Λ= .499, F(5, 84)=16.9, p<.01). Follow-up one-way ANOVAs yielded significant differences on the acceptability ratings of two treatments. Parents who rated inappropriate behaviors as less likely to change (answers fell in the high stability group), gave significantly higher acceptability ratings for Spanking than did parents in the low stability group (F(1)=9.3, p<.01).

Furthermore, parents who felt less responsible for their child’s inappropriate behavior (falling in the high responsibility group as this question was reverse scored), rated Time-out significantly more acceptable than did parents who reported more responsibility (F(1)=4.1, p<.05). No other significant differences were found for the high and low responsibility groups (F’s<2.7, p’s>.10), or for the high and low stability groups (F’s<2.9, p’s>.08). Finally, no significant differences were found between the treatment acceptability ratings of the high and low controllability groups (F’s<3.2, p’s>.07) (See table 5).
Table 5
Mean scores on the TEI-SF based on attribution ratings (total sample)

<table>
<thead>
<tr>
<th></th>
<th>Controllability</th>
<th>Stability</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>(n=48)</td>
<td>(n=52)</td>
<td>(n=84)</td>
</tr>
<tr>
<td>Spanking</td>
<td>23.6 (SD 8.4)</td>
<td>22.3</td>
<td>28.5** (SD 8.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SD 8.0)</td>
</tr>
<tr>
<td>Response Cost</td>
<td>37.5 (SD 4.6)</td>
<td>35.5</td>
<td>37.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SD 5.6)</td>
</tr>
<tr>
<td>Time-out</td>
<td>31.7 (SD 6.8)</td>
<td>30.2</td>
<td>33.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SD 7.5)</td>
</tr>
<tr>
<td>Differential</td>
<td>22.2 (SD 9.3)</td>
<td>21.8</td>
<td>22.8</td>
</tr>
<tr>
<td>Reinforcement</td>
<td></td>
<td></td>
<td>(SD 8.3)</td>
</tr>
<tr>
<td>Medication</td>
<td>29.7 (SD 9.1)</td>
<td>29.9</td>
<td>32.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SD 8.6)</td>
</tr>
<tr>
<td>Reprimands</td>
<td>31.8 (SD 7.2)</td>
<td>29.9</td>
<td>31.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SD 6.8)</td>
</tr>
</tbody>
</table>

* p<.05 ** p<.01 Note: Controllability: High = Higher rating of child’s control
Stability: High = Higher rating of behavior’s stability
Responsibility: High = Lower rating of parent’s responsibility
DISCUSSION

The majority of studies focusing on behavioral parent training have been conducted with middle class, Caucasian families and this treatment has been criticized for failing to include culturally sensitive techniques (Forehand & Kotchick, 1996). The current study examined the relationship between attributions and treatment acceptability in a sample of low-income, ethnic minority parents of children with or without ADHD. Previous studies have found that parents of children with ADHD are less likely to accept responsibility for their child’s behavior and view behavior as being more stable, than parents of children who are not diagnosed with ADHD (Freeman et al., 1997, Johnston & Freeman, 1997).

The relationship between attributions and treatment acceptability has not been examined before, but may have important clinical implications. Parental attributions have been shown to negatively affect problematic behaviors in the child (Geller & Johnston, 1995; Johnston & Patenaude, 1994) and lack of treatment acceptability may negatively affect treatment adherence and treatment outcome (Kazdin, 1980; 1984).

The present study compared parents’ ratings of avoidance of responsibility as well as ratings of the controllability, stability, and parental responsibility for problematic behaviors in children. In addition, the relationship between these attributions and ratings of acceptability of six commonly used behavioral treatments was examined.

Avoidance of Responsibility

As expected, the parents of children with ADHD reported significantly higher rates of avoidance of responsibility than parents in the control group. These results are consistent with those of Freeman et al. (1997), who found that parents of ADHD children
accepted less responsibility for their children’s overactive and inattentive behaviors than
parents in a control group. However, while Freeman et al. (1997) were specifically
assessing how much responsibility the parents accepted themselves, the PARS is more
extrinsic and looks at how much the parent blames environmental factors for the child’s
problematic behavior. Therefore, the parent version of the PARS does not directly assess
the parents’ view of their own role, but rather looks at how much liability is attributed to
the child’s environment. These results are also, to an extent, consistent with those of
Powell et al. (1997; 1999), where young adults with behavior disorders scored higher on
the PARS than their peers.

When ratings of the parents’ own responsibility were examined, similar results
emerged. The parents of children with ADHD rated themselves as being less responsible
for inappropriate behaviors than the parents in the control group did, and the ADHD
group also accepted less responsibility for inattentive-overactive behaviors than for
oppositional-defiant ones. These results are consistent with those of Freeman et al. (1997),
as well as with Johnston and Freeman (1997), where parents of ADHD accepted less
responsibility for inattentive-overactive behavior than for oppositional-defiant behavior.

Other Attributions

The groups also differed on their perceptions of the stability of their children’s
behavior. The parents of children with ADHD rated both inattentive-overactive and
oppositional-defiant behaviors as less likely to change, than the parents in the control
group. Furthermore, both groups rated inattentive-overactive behaviors as less likely to
change than oppositional-defiant behaviors, but these differences were not significant.
Nonetheless, these results indicate that parents may, in general, feel less optimistic about
their ability to change inattentive-overactive behaviors, regardless of the frequency and/or intensity of these behaviors.

Specifically for the ADHD group, the fact that they viewed both types of behaviors as more permanent could potentially reflect pessimism that is consistent with the theory of learned helplessness or self-esteem protection (Maier & Seligman, 1976; Klein et al., 1976; Alloy et al., 1984; Witowski & Stiensmeier-Pelster, 1998). Additionally, in congruence with the results of Freeman et al. (1997), parents of children with ADHD rated their own responsibility for inattentive-overactive behavior significantly lower than the parents of non-ADHD children. This is interesting in light of the fact that they also rated this behavior as less likely to change.

One hypothesis is that the parents’ discouraging view of the child’s prognosis is due to a lack of success with their previous interventions. If their strategies have heretofore been unsuccessful, the parents may feel they have little control or power to change the child’s behaviors, and subsequently may view behavior as being stable and internal. Such a viewpoint could reflect either a way to cope with failure, or be a direct cause of failure. In either case, these results have significant clinical implications as the parents may lack motivation to use behavioral interventions.

The notion that past failures may lead to a negative outlook may seem contradictory to the fact that the parents in the ADHD group rated most treatments as more acceptable than the control group. Nevertheless, these results did not apply to ratings of Spanking and Reprimands (see discussion on treatment acceptability below), and studies on treatment acceptability have shown that low income parents from ethnic minority groups favor Spanking over Time-out and other less coercive strategies (Heffer
& Kelley, 1987). Hence, the group differences on treatment acceptability ratings may also reflect lack of success with previously used, and culturally favored strategies.

### Treatment Acceptability

When ratings of treatment acceptability were examined, some interesting results emerged. Parents in the ADHD group rated the acceptability of three treatments significantly higher than parents in the control group. First, ratings of the acceptability of medication were higher among parents of children with ADHD, irrespective of whether the child in the vignette was diagnosed with ADHD (vignette 1) or not (vignette 2). These results were to be expected, as all of the parents in this group had children who were receiving stimulant medication, and parents of children with severe hyperactivity and attentional problems could logically be expected to find medication more acceptable than a parent that does not have first-hand experience with the disorder.

However, the fact that the parents in the ADHD group rated both Response Cost and Differential Reinforcement as more acceptable than the control group, was somewhat unexpected. As discussed previously, knowledge of behavioral principles, outcome expectancy and perceived severity of behavior, have been shown to affect treatment acceptability (Frentz & Kelley, 1986; Heffer & Kelley, 1987; Hobbs et al., 1990; Miller & Kelley, 1992; Miltenberger, 1990; Rasnake et al., 1993), and could have affected the ratings of the ADHD group. In fact, perceived severity of behavior appears to be a plausible explanation, given that the parents in the ADHD group rated all but two treatments (Spanking and Reprimands) as more acceptable than parents in the control group. The parent of a child with severe behavioral difficulties may be more inclined to intervene in general, which would lead to higher ratings of treatment acceptability.
Additionally, as discussed above, the higher ratings of acceptability of the less punitive methods, may be the product of past failures with Spanking and Reprimands.

Another interesting and unexpected finding was that for the parents in the ADHD group, the type of vignette affected the acceptability ratings for Differential Reinforcement. If the boy in the vignette was diagnosed with ADHD, Differential Reinforcement was rated as less acceptable than if the boy was not diagnosed. Differential Reinforcement involves ignoring the inappropriate behaviors and rewarding appropriate ones and may consequently be unacceptable to a parent of a child diagnosed with ADHD, as they may feel the child's disorder is not being treated. Using Differential Reinforcement could then potentially be viewed as a neglectful approach. On the other hand, the parent may have either previously tried ignoring in vain, or feel that based on their experience the behaviors are too severe to ignore. Hence, the finding that Differential Reinforcement is found less acceptable for a child with ADHD may again be affected by the parents' perception of the behavior's severity. These findings are important to consider when treating children with ADHD, as Differential Reinforcement has been found to be an effective method to reduce inappropriate behaviors and is frequently prescribed in behavioral treatment (Handen, 1998; Lentz, 1988).

Treatment Acceptability and Attributions

The hypotheses that perceptions of the child's controllability would affect treatment acceptability were not supported. Nonetheless, treatment acceptability appears to be affected by parent attributions to some extent. The present study's results showed that when parents viewed the behavior as more stable, the acceptability of Spanking was rated higher. This finding is interesting as most of the other treatment approaches are
more time consuming than spanking, which only involved hitting the child twice on the bottom. Thus, if the behavior is viewed as more persistent the parent may choose to use the method that is the least time consuming and demands the least effort on the parents hand.

The fact that parents rated Spanking as more acceptable than some of the other treatments is also disturbing from a prognostic perspective. Aggression and anger in families tend to have a detrimental effect on parent-child interactions and may lead to physical abuse in families of children with behavior problems (Grace et al., 1993). Furthermore, negative parent-child interactions have been shown to intensify oppositional and defiant behaviors in children with ADHD and can place them at risk for developing more serious antisocial problems (Satterfield et al., 1994). Consequently, the child with ADHD, who is frequently disciplined through the use of Spanking, may be at a greater risk for developing other problems and have a poorer prognosis.

Another finding was that when parental responsibility was rated lower, Time-out was reported to be more acceptable. This may reflect that the parents were concerned with the fairness of Time-out. Although perception of low parental responsibility may not necessarily reflect the idea that the child is responsible, these results indicate that parents are more willing to use this approach when they feel that they themselves, are not accountable. Still, the fact that the perception of the child’s own controllability did not affect acceptability ratings of any treatment, may indicate that overall, parents are more focused on the potential effects of the treatment, instead of its fairness.
Limitations

The current study has several limitations that need to be considered when interpreting the results. First of all, the relationship between attributions and treatment acceptability should not be viewed as a causal one. The fact that in this sample, a relationship was found does not imply that one causes the other. Multiple factors may affect both attributions and treatment acceptability and this relationship needs to be explored further.

Second, it is important to keep in mind that the sample used in this study was not representative of the entire population. In fact, the sample was fairly restricted, consisting of mostly mothers from a low SES background and ethnic minorities. The generalizability of the present results is therefore limited and should not be viewed as applicable to other groups.

Third, when the parents were divided into groups based on their attributions of stability and parental responsibility, the groups were unequal in size. As unequal group distribution can skew statistical outcome, the results of analyses for these two attributions should be interpreted with caution.

Finally, it is important to consider that the parents' ratings of treatment acceptability do not reflect their use of the interventions in reality. A parent may rate spanking as less acceptable than Differential Reinforcement, but may still use spanking to discipline his child at home. Thus, in the current study the parents of children with ADHD may seem to favor less punitive measures than the parents in the control group, but may very well at the same time use more punitive measures at home.
**Future Directions**

In view of the limitations of the present study, it would be interesting to repeat it with other social groups to see if the same results emerge. Whether parents of higher SES status view things differently remains to be seen, and considering that gender effects have been previously documented in the treatment acceptability literature (Miller & Kelley, 1992), a study looking at fathers’ attributions and treatment acceptability seems called for.

The results of the current study do also have several implications for clinicians. It has been documented that treatment acceptability affects treatment adherence (Kazdin, 1980; 1984). However, the present study reveals that parents’ attributions may also be an important factor to consider when selecting appropriate treatments. It remains to be seen whether attributions are related to treatment outcome, but the present results seem to indicate that further research is needed in this area.

In general, the findings of the current study seemed to reveal some paradoxical reports by the parents in the ADHD group. In spite of having a pessimistic view of their ability to change the problematic behavior, they seemed to feel more inclined to intervene, and find it less acceptable to ignore the problem. This is important to consider when using behavioral parent training, as the parents may have ambivalent ideas about treatment efficacy and appropriateness, that need to be addressed by the clinician in order to maximize treatment outcome.

Specifically, the relationship between attributions and motivation to use treatment interventions needs to be explored. Perhaps taking the parents’ attributions into account, or even working towards changing the parents’ attributions of the child’s behavior, may improve treatment outcome by increasing adherence. For example, the present results may
imply that parents are concerned about side-effects of treatment. The ratings of parent responsibility affected ratings of Time-out, which involved sending the child to a corner for a specified period of time. Perhaps the parent that fails to adhere to using Time-out at home consistently, is not willing to deal with the child’s reaction, or is reluctant to use such a punitive measure. A clinician faced with lack of success may be able to improve outcome by helping the parent view the behavior as less chronic and the parent’s own capability to change the behavior as stronger. Studies have shown that if a person can be persuaded that past failures are not due to lack of ability, but rather environmental factors, symptoms of learned helplessness decrease (Klein et al., 1976).

In fact, the parents in the ADHD group seemed less optimistic about potential change and could be suffering from learned helplessness. From a behavioral standpoint this has significant clinical implications, as a parent that doubts her own ability to change the behavior may be seriously discouraged by the frequent extinction bursts typically seen in children when new consequences are delivered (Handen, 1998). It seems plausible to propose that both treatment adherence and treatment integrity may improve if the parents’ attributions and acceptability of the chosen treatment are taken into account. Additionally, the parents’ adherence to treatment may not only improve treatment outcome but may also serve as a preventative measure. Negative interactions and coercive discipline have been shown to escalate problematic behaviors in children with ADHD (Geller & Johnston, 1995; Johnston & Patenaude, 1994), which may place them at greater risk for developing Conduct Disorder in the future.

In summary, parental attributions appear to be related to treatment acceptability and can be considered as a contributing factor to childhood behavior problems.
Consideration of parents' attributions, especially perception of the parents' capability to change the behavior, may lead to improved treatment outcome when using behavioral treatment for ADHD.
REFERENCES


Pelham, W.E., Murphy, D.A., Vannatta, K., Milich, R., Licht, B.G., Gnagy, E.M.,
attributions in boys with attention-deficit hyperactivity disorder. *Journal of Consulting
and Clinical Psychology, 60*, 282-292.

Pisterman, S., McGrath, P., Firestone, P., Goodman, J.T., Webster, I. & Mallory, R.
(1989). Outcome of parent-mediated treatment of preschoolers with attention deficit
disorder with hyperactivity. *Journal of Consulting and Clinical Psychology, 57*, 628-
635.


behavioral treatments: Influence of knowledge of behavioral principles. *Mental

Richters, J.E., Arnold, L.E., Jensen, P.S., Abikoff, H., Conners, C.K., Greenhill, L.L.,
collaborative multisite multimodal treatment study of children with ADHD: I.
Background and rationale. *Journal of the American Academy of Child and Adolescent
Psychiatry, 34*, 987-1000.

Biased private perceptions and distorted public descriptions. *Journal of Personality
and Social Psychology, 41*, 224-231.

pursue treatment for children with attention-deficit hyperactivity disorder. *Journal of
the American Academy of Child and Adolescent Psychiatry, 32*, 175-181.

in attention-deficit hyperactivity disorder boys form aggression/defiance scores.

children's self-esteem, optimism, and pessimism, and causal attributions for success

attributions for achieving compliance from attention-deficit-disordered children.


APPENDIX A

THE POWELL AVOIDANCE OF RESPONSIBILITY SCALE - PARENT VERSION

Directions: Think about the last few times your child has gotten in trouble. Read each statement below and decide whether it is true about your child or false about your child. Please circle the answer that best describes your child.

1. T  F When my child gets in trouble it is because he/she is angry.
2. T  F When my child gets in trouble it is because he/she is depressed.
3. T  F People are always making my child mad.
4. T  F When my child gets in trouble people make too ‘big of a deal’ out of it.
5. T  F When my child gets in trouble it is someone else’s fault.
6. T  F People treat my child unfairly.
7. T  F When my child gets in trouble, he/she deserves it.
8. T  F My child has good reasons for his/her behaviors when he/she gets in trouble.
9. T  F My child is fully responsible for his/her actions when he/she gets in trouble.
10. T  F People don’t understand my child’s reasons for his/her actions.
11. T  F When my child gets in trouble, he/she thinks to herself ‘I did not do it’.
12. T  F When my child gets in trouble it is because of the bad things that have happened to him/her.
13. T  F When my child gets in trouble it is because he/she is sad.
14. T  F When my child gets in trouble it is because he/she is lonely.
15. T  F If my child could turn back time after getting in trouble, he/she would do everything exactly the same.
16. T  F My child’s rough life is why he/she gets in trouble.
17. T  F If my child’s actions hurt someone, they deserve it.
18. T  F When my child gets in trouble it is his/her own fault.
19. T  F My child feels bad about his/her actions when he/she gets in trouble.
20. T  F I think authority figures (teachers, police) are too rigid and uptight.
21. T  F My child feels bad about his/her wrong behaviors.
22. T  F My child lies when he/she gets in trouble.
23. T  F My child will do something wrong if he/she knows he/she won’t get caught.
APPENDIX B

THE TREATMENT EVALUATION INVENTORY - SHORT FORM

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I find this treatment to be an acceptable way of dealing with the child’s problem behavior.</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>2.</td>
<td>I would be willing to use this procedure if I had to change the child’s problem behavior.</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>3.</td>
<td>I believe that it would be acceptable to use this treatment without children’s consent.</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>4.</td>
<td>I like the procedures used in this treatment.</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>5.</td>
<td>I believe this treatment is likely to be effective.</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>6.</td>
<td>I believe the child will experience discomfort during the treatment.</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>7.</td>
<td>I believe this treatment is likely to result in permanent improvement</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>8.</td>
<td>I believe it would be acceptable to use this treatment with individuals who cannot choose treatment for themselves.</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>9.</td>
<td>Overall, I have a positive reaction to this treatment.</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
</tbody>
</table>
APPENDIX C

PARENTS' ATTRIBUTIONS OF STABILITY, CONTROLLABILITY, AND RESPONSIBILITY

Imagine that the following scenarios describe an interaction between you and your child. Read the descriptions carefully and the statements that follow each one. Please circle the answer that best fit your opinion:

A. You ask your child to clean up their room. He/she starts putting toys away for a few minutes but then start playing and fail to finish the task.

1. This behavior is completely within my child’s control.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

2. This behavior is NOT likely to change.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

3. When this behavior occurs, I am NOT responsible.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
B. You are at your friend’s house and your children are playing together. During the play your child starts to run around, talking and laughing loudly.

1. **This behavior is completely within my child’s control.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

2. **This behavior is NOT likely to change.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

3. **When this behavior occurs, I am NOT responsible.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

C. You ask your child to help you clean up after dinner but he/she refuses and goes back outside to play.

1. **This behavior is completely within my child’s control.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
2. **This behavior is NOT likely to change.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

3. **When this behavior occurs, I am NOT responsible.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

D. **You tell your child it’s time for bed but he/she starts arguing with you that their bedtime is too early.**

1. **This behavior is completely within my child’s control.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

2. **This behavior is NOT likely to change.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

3. **When this behavior occurs, I am NOT responsible.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
APPENDIX D

VIGNETTES AND DESCRIPTIONS OF TREATMENTS

Joe has a behavior Problem

Joe is an 8 year old boy who is diagnosed with ADHD and frequently disobeys his parents. He often ignores his parents and argues when they ask him to do his chores, such as picking up his toys. Joe rarely obeys an instruction the first time he is told to do something. Also, Joe often teases or bothers his younger sister, Sue. It seems that he upsets her at least twice a day.

Treatment 1 (Spanking)

To improve Joe’s behavior, his parents spank him by hitting him twice firmly on the bottom with the palm of their hand. They spank Joe each time he does not obey or is mean to his sister. If Joe’s misbehavior continues, then they give him two more swats on the bottom.

Treatment 2 (Response Cost)

To improve Joe’s behavior, his parents take away his privileges when he disobeys or is mean to his sister. The privileges include things that Joe really enjoys such as watching TV, going to a friend’s house, staying up late, and playing video games. Each time Joe disobeys or teases, his parents take away one privilege.

Treatment 3 (Time-Out)

To improve Joe’s behavior, his parents make him sit in the corner of a boring room for 8 minutes, each time Joe either disobeys or is mean to his sister. If Joe’s misbehavior continues, he must go back to the corner again for 8 minutes.

Treatment 4 (Differential Attention)

To improve Joe’s behavior, his parents ignore him each time he disobeys or is mean to his sister. They ignore him as long as his misbehavior continues. Also, when Joe does obey or treats his sister nicely, they give him lots of attention and praise.
Treatment 5 (Medication)

To improve Joe's behavior his parents take him to their family doctor. They tell the doctor about his disobeying and how he is mean to his sister. The doctor gives Joe medication to help him calm down, listen better, and control himself. Joe's parents give him the medication twice a day to improve his attention and behavior.

Treatment 6 (Reprimands)

To improve Joe's behavior, his parents reprimand him each time he disobeys or is mean to his sister. They firmly tell him to stop and/or that he is not allowed to behave like this.
APPENDIX E

DEMOGRAPHICS QUESTIONNAIRE

Please give us the following information about yourself. It is very important for the study. Thank you!

Gender:  ____ Female  ____ Male

Age:  ____ 20-30 years  ____ 30-40  ____ 40-50  ____ 50 and up

Race:  ____ Caucasian  ____ African American  ____ Hispanic  ____ Asian American  ____ Native American  ____ Other

Education: (please mark highest grade achieved)

____ Elementary
____ Junior High (6th to 8th grade)
____ Some High School
____ High School Diploma
____ Some College or Trade School
____ College Graduate
____ Graduate School

Occupation: ____________________________

Who does your child live with?

____ mother and father  ____ mother and stepfather
____ mother only  ____ father and stepmother
____ father only  ____ other (please specify ______________________)

Have you ever sought professional advice on parenting?  ____ Yes  ____ No

If yes, with whom?  ____ a pediatrician  ____ a priest  ____ a psychologist

____ a teacher  ____ other (please explain)
APPENDIX F

COMORBIDITY QUESTIONNAIRE

Please answer the following questions about your child:

Does your child often become angry, argue, or actively refuse to comply with adult requests?

_____ YES   _____ NO

Does your child often bully, threaten, intimidate, or initiate physical fights with others?

_____ YES   _____ NO

Does your child appear to be fearful, anxious, or worry more than most kids their age?

_____ YES   _____ NO

Does your child appear sad, easily upset, irritable, or no longer interested in usual activities?

_____ YES   _____ NO
VITA

Urdur Njardvik was born on September 11th 1970 in Goteborg, Sweden. She is the daughter of Dr. Njordur P. Njardvik and Bera Thorisdottir, and the wife of Ivar Gudjonsson. Urdur received a bachelor of arts degree in psychology from the University of Iceland in June 1993, and a master of arts degree in the same field from Louisiana State University in December 1997. Urdur has been a fellow of the Fulbright Foundation and of the American Scandinavian Association since 1995 and received a research award from the Icelandic Association for Women in Science in 1999. As a requirement for the doctor of philosophy degree in psychology Urdur completed a year long internship in clinical psychology at the Kennedy Krieger Institute and Johns Hopkins University Medical School. After completing her doctor of philosophy degree in psychology, Urdur will return to her homeland, Iceland, where she will be working for the University of Iceland.
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Urdur Njardvik

Major Field: Psychology

Title of Dissertation: Attention Deficit Hyperactivity Disorder and the Avoidance of Responsibility: An Evaluation of Parents' Attributions and Their Relation to Treatment Acceptability

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

5/3/2000