

Utah State University

DigitalCommons@USU

---

All Graduate Theses and Dissertations

Graduate Studies

---

5-2000

## The Influence of Parental Attributions and Parenting Behaviors on the Attributions Utilized by Children With and Without Attention-Deficit/Hyperactivity Disorder

Brent R. Collett  
*Utah State University*

Follow this and additional works at: <https://digitalcommons.usu.edu/etd>



Part of the [Psychology Commons](#)

---

### Recommended Citation

Collett, Brent R., "The Influence of Parental Attributions and Parenting Behaviors on the Attributions Utilized by Children With and Without Attention-Deficit/Hyperactivity Disorder" (2000). *All Graduate Theses and Dissertations*. 5573.

<https://digitalcommons.usu.edu/etd/5573>

This Thesis is brought to you for free and open access by the Graduate Studies at DigitalCommons@USU. It has been accepted for inclusion in All Graduate Theses and Dissertations by an authorized administrator of DigitalCommons@USU. For more information, please contact [digitalcommons@usu.edu](mailto:digitalcommons@usu.edu).



THE INFLUENCE OF PARENTAL ATTRIBUTIONS AND PARENTING  
BEHAVIORS ON THE ATTRIBUTIONS UTILIZED BY CHILDREN WITH AND  
WITHOUT ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

by

Brent R. Collett

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

of

MASTER OF SCIENCE

in

Psychology

UTAH STATE UNIVERSITY  
Logan, Utah

2000

Copyright © Brent R. Collett 2000

All Rights Reserved

## ABSTRACT

The Influence of Parental Attributions and Parenting Behaviors  
on the Attributions Utilized by Children With and Without  
Attention-Deficit/Hyperactivity Disorder

by

Brent R. Collett, Master of Science

Utah State University, 2000

Major Professor: Gretchen A. Gimpel, Ph.D.  
Department: Psychology

Research suggests that the causal attributions utilized by children with attention-deficit/hyperactivity disorder (ADHD) differ from those of nonclinical children. Additionally, research indicates differences among the mothers of children with and without ADHD regarding parenting behaviors and attributions for child behavior. In this study, children's attributions, maternal attributions, and maternal discipline styles were examined in ADHD and non-ADHD populations. Participants included 26 children diagnosed with ADHD and their mothers as well as a nonclinical sample of 24 children who had never been diagnosed with ADHD and their mothers. The results support the hypotheses that child and maternal attributions would differ between these two groups. The hypothesis that discipline styles would differ between the two groups was not supported. Results suggest that while maternal discipline styles are correlated with

children's attributions, the nature of this association differs within ADHD versus non-ADHD populations.

(131 pages)

## ACKNOWLEDGMENTS

I would like to thank Dr. Gretchen Gimpel for all of her support and encouragement with this project. Her help with this and other research projects has been an invaluable part of my graduate education and I feel extremely fortunate to have Dr. Gimpel as an advisor, mentor, and friend. I would also like to thank Dr. Susan Crowley and Dr. Dennis Odell for serving on my committee and providing their feedback regarding this study. Further, I would like to thank Dr. Cher King, Louise Warren, R.N., and the faculty and staff at C.H. Taylor Elementary School for their help with recruiting participants for this study. Finally, I want to thank my parents, Russ and Judy Collett, for their patience and support and for instilling in me a deep appreciation for learning and education.

Brent R. Collett

## CONTENTS

	Page
ABSTRACT .....	iii
ACKNOWLEDGMENTS .....	v
LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
CHAPTER	
I INTRODUCTION .....	1
II REVIEW OF PREVIOUS LITERATURE .....	6
Attributional Style and Adult Adjustment .....	6
Attributional Style and Childhood Adjustment .....	11
Attention-Deficit/Hyperactivity Disorder .....	15
Parental Attributions for Child Behavior .....	22
Purpose and Objectives .....	28
Research Questions and Hypotheses .....	29
III METHODS .....	32
Participants .....	32
Instrumentation .....	35
Procedures .....	40
IV RESULTS .....	43
Children's Attributional Style .....	44
Maternal Attributions for Child Behavior .....	46
Maternal Discipline Styles .....	48
The Correlation Between Child and Maternal Attributions .....	49
The Correlation Between Maternal Attributions and Maternal Discipline Styles .....	50
Correlation Between Maternal Discipline Style and Child Attributions .....	51

Predicting Child Attributions from Maternal Attributions and Maternal Discipline Styles .....	53
Prediction of Group Membership via Child Attributions, Maternal Attributions, and Maternal Discipline Styles .....	55
V DISCUSSION .....	58
Review of Major Findings .....	59
Conclusions .....	70
Limitations and Directions for Future Research .....	72
REFERENCES .....	76
APPENDICES .....	90
Appendix A: Measures .....	91
Appendix B: Sample Parent Consent Form .....	116
Appendix C: Sample Child Assent Form .....	120
Appendix D: Table .....	122



## LIST OF TABLES

Table	Page
1. Summary of Demographic Features for ADHD and Non-ADHD Groups. . . . .	33
2. Descriptive Statistics for the CASQ-R, WAQ, and Parenting Scale. . . . .	43
3. One-Way Analyses of Variance Evaluating Differences in Children's Attributional Style as a Function of Group Status. . . . .	45
4. One-Way Analyses of Variance Evaluating Differences in Maternal Attributions for Negative Child Behaviors as a Function of Group Status. . . . .	47
5. One-Way Analysis of Variance Evaluating Differences in Maternal Parenting Practices as a Function of Group Status. . . . .	49
6. Pearson's Correlations Between Child Attributions, Maternal Attributions, and Maternal Discipline Practices for Children With and Without ADHD. . . . .	52
7. Regression Equations Using the Subscales of the WAQ and the Total Score from the Parenting Scale to Predict Children's Attributions on the CASQ-R . . . . .	54
8. Variables Predicting Children's Attributions for Negative Events in the Nonclinical Sample . . . . .	55
9. Discriminant Analyses Predicting Group Membership via Maternal Attributions on the "Specificity" and "Stability" Domains of the WAQ and Child Attributions for Positive Events . . . . .	57
D1. Pearson's Correlations Between Child Attributions, Maternal Attributions, and Maternal Discipline Practices for the Combined Sample (i.e., ADHD and Non-ADHD Samples Combined) . . . . .	123

LIST OF FIGURES

Figure	Page
1 Parental attributions hypothesized to influence child attributions both directly and indirectly via parental discipline styles. . . . .	26

## CHAPTER I

### INTRODUCTION

Attributional style has been linked to childhood adjustment across a variety of domains including depression, self-esteem, achievement motivation, physical health, social status, and anxiety (Bell-Dolan & Wessler, 1994; Curry & Craighead, 1990; Dua, 1995; Whitley & Frieze, 1985). Researchers have identified a pattern of causal explanations referred to as a "negative attributional style" (Abramson, Seligman, & Teasdale, 1978; Peterson & Seligman, 1984). This pattern consists of attributions for negative events that are internal to oneself, global across a variety of situations, and stable over time (Abramson et al., 1978; Peterson & Seligman, 1984). Although a considerable amount of research has been devoted to the study of these attributions in childhood depression, less is known about the attributions that characterize other childhood disorders.

One population of particular concern among educators and clinicians alike is children with attention-deficit/hyperactivity disorder (ADHD). In addition to the attentional deficits they manifest as a consequence of the disorder, children with ADHD tend to encounter difficulties in academic achievement, peer relations, and interactions with their parents and teachers (Barkley, 1997; Barkley, Fischer, Edelbrock, & Smallish, 1991; Danforth, Barkley, & Stokes, 1991; Greene, Biederman, Faraone, Sienna, & Garcia-Jetton, 1997; Hinshaw, Zupan, Simmel, Nigg, & Melnick, 1997; Pfiffner & McBurnett, 1997; Milich & Okazaki, 1991; Whalen & Henker, 1991). In addition to the considerable overlap between ADHD and other externalizing disorders (e.g., oppositional

defiant disorder, conduct disorder), research indicates that children with ADHD frequently demonstrate comorbid internalizing disorders, such as anxiety and depression (Biederman, Newcorn, & Sprich, 1991). Given the pervasive nature of the difficulties encountered by children with ADHD as well as the potential for comorbid internalizing disorders, these children may be more likely to develop a negative attributional style than their non-ADHD peers (Hoza, Pelham, Milich, Pillow, & McBride, 1993; Milich, 1994). Although previous research supports the notion that the causal explanations of children with ADHD differ from those of children without the disorder, the nature of these differences has not been well documented (Hoza et al., 1993; Milich, 1994; Milich & Okazaki, 1991; Reid & Borkowski, 1987). Information regarding the attributions utilized by children with ADHD may provide further insight into the nature of the disorder and the effects it has on other areas of functioning.

In an intriguing and related area of research, some authors have begun to examine the attributions that parents provide for children's behavior. Parental attributions have been linked with the level of stress associated with parenting, parent-child conflict, child abuse, and depression among parents (Bradley & Peters, 1991; Johnston & Freeman, 1997; Krech & Johnston, 1992; Mash & Johnston, 1990). Frequent reports of parent-child conflict among children with ADHD and related disorders have made this an area of special interest. Johnston and Freeman (1997) found that the parents of children with ADHD were more likely than other parents to view their children's inattentive and oppositional behaviors as being internal to the child, stable over time, and uncontrollable.

Further, the authors found that these parents were more likely to view their children's positive behaviors as being due to factors that were external to the child and unstable.

Existing evidence suggests that attributions are significantly related to parents' emotional responses to their children and the parenting behaviors they exhibit (Bradley & Peters, 1991; Dix & Lochman, 1990; Dix, Ruble, Grusec, & Nixon, 1986; Johnston & Patenaude, 1994; Johnston, Patenaude, & Inman, 1992; Smith & O'Leary, 1995).

Researchers have found that parents are more likely to utilize harsh discipline techniques if they attribute child misbehavior to factors they view as being internal to the child, stable over time, and under the child's control (Bradley & Peters, 1991; Johnston et al., 1992; Smith & O'Leary, 1995). These parental attributions may contribute to the formation of a similar set of causal explanations among children. Although research in this regard is limited, previous findings suggest that children's attributions do resemble the attributional style used by their parents (Bickett, Milich, & Brown, 1996; Seligman et al., 1984). Further, there is some indication that parent behaviors influence the attributions children develop (Glasgow, Dornbusch, Troyer, Steinberg, & Ritter, 1997). Thus, parental attributions may influence parenting behaviors and thereby indirectly affect children's attributions.

Given the set of parental attributions observed among parents of children with ADHD, the possibility of children modeling these attributions may be especially detrimental in this population. In other words, accepting the view that one's negative behaviors (e.g., inattentive, oppositional behaviors) are due to internal and stable

qualities, and that positive behaviors (e.g., compliance with parental demands) are external and unstable is quite similar to the negative attributional style outlined by previous research (Abramson et al., 1978). Thus, parents may inadvertently prompt their children to view their behavior as being uncontrollable and due to features of the environment rather than internal qualities. Such a pattern may impede children's subsequent attempts to behave appropriately as well as their overall level of adjustment.

Additionally, the attributions demonstrated by the parents of children with ADHD may be detrimental with regard to the associated set of parenting behaviors. Attributing the undesirable behaviors typical of ADHD to factors that are internal to the child and stable over time may lead to a form of parenting that is characterized as being harsh and punitive (Bradley & Peters, 1991; Johnston et al., 1992; Smith & O'Leary, 1995). Further, the attribution of positive child behaviors to factors that are external to the child and not within the child's control may lead to lower levels of reinforcement and positive reactions on the part of parents.

The purpose of this study was to investigate the attributions utilized by children with and without ADHD. This information is of considerable interest both clinically and empirically, and may provide a greater understanding of the role of cognitive variables in ADHD. An additional purpose was to investigate the relationship between parental and child attributions within these groups. While this would appear to be especially salient for children with ADHD and their parents, previous researchers have not investigated this relationship. Finally, the relationship between the attributions provided by parents and

their subsequent parenting practices was examined for both groups.

## CHAPTER II

## REVIEW OF PREVIOUS LITERATURE

## Attributional Style and Adult Adjustment

Animal Models of Learned Helplessness

The current interest in attributional style within the field of clinical psychology grew largely out of the findings of researchers interested in animal models of behavior (Peterson, Maier, & Seligman, 1993). In their efforts to determine the effects of classically conditioned fear responses on instrumental avoidance training, Overmier and Leaf (1965) observed the phenomenon now referred to as learned helplessness. They found that dogs initially exposed to repeated inescapable shock later demonstrated deficits in the acquisition of escape-avoidance responses. In their seminal 1967 study, Overmier and Seligman replicated these findings and proposed that the acquisitional interference reported in earlier research represented a novel form of learning. They hypothesized that these animals were not failing to learn, but rather were learning that their attempts to avoid the aversive stimulus would be in vain. Following the exposure to this paradigm, animals have been found to be less physically active, demonstrate disturbances in appetite and weight, engage in fewer species typical behaviors, and show lower levels of persistence when faced with problem solving tasks (Drugan et al., 1989; Peterson et al., 1993).



### Attributional Style and Depression

Observations regarding the behavior of animals exposed to inescapable shock led to the application of the learned helplessness model to the concept of adult depression. In the initial learned helplessness model of depression, it was hypothesized that there was a direct relationship between the experience of uncontrollable, negative events and depressed affect (Abramson et al., 1978; Seligman, 1974). Such events were believed to contribute to a pervasive and generalized belief that all future outcomes were beyond an individual's control (Seligman, 1974). However, Abramson et al. (1978) noted a number of shortcomings in this model revealed in early attributions research. It was discovered that, when confronted with a learned helplessness paradigm, some individuals attributed these uncontrollable events to factors within themselves rather than to features of the environment. This seemed counterintuitive and was difficult to explain with the theory. Further, the model did not account for individual differences in the number of situations perceived as being uncontrollable. While some individuals appeared to perceive only certain events as being uncontrollable, others experienced this perception across a number of different settings. Finally, the model did not include consideration of people's perceptions regarding the temporal stability of uncontrollable events. Some people perceived that their behaviors would never influence the outcomes they encountered while others reported that the degree to which they were able to control events was variable in nature and subject to change over time.

Abramson et al. (1978) addressed these issues by proposing a taxonomic approach

to attributional style consisting of several different dimensions. Borrowing from earlier attributional research, they suggested that individuals could attribute events to factors that were either internal (specific to some feature of themselves) or external (related to features of the environment). They also proposed a dimension regarding the specificity of uncontrollable events ranging from global (cross-situational) to specific (related only to certain situations). The final dimension related to the temporal stability of events and ranged from stable (chronic over time) to unstable (subject to change).

In their reformulation of the helplessness theory of depression, Abramson et al. (1978) hypothesized that depression was a probable result when individuals attributed uncontrollable, negative events to factors that were internal, global, and stable in nature. This attributional pattern came to be referred to as a "negative," or "depressogenic" attributional style (Abramson et al., 1978; Peterson & Seligman, 1984; Peterson et al., 1993). In general, this hypothesis has been well supported by numerous primary studies and meta-analyses and there appears to be a consistent link between depression and the attributions people provide for negative life events (Joiner & Wagner, 1995; Peterson & Seligman, 1984; Sweeney, Anderson, & Bailey, 1986). Although the model would predict that the converse set of attributions for positive events (that is, external, specific, and unstable) would also be associated with depression, findings in this regard have been less consistent (Sweeney et al., 1986).

In an attempt to more fully describe the relationship between attributional style and depression, Abramson, Metalsky, and Alloy (1989) proposed yet another

reformulation of the theory. In their new model, the authors postulate that a negative attributional style consisting of attributions that are stable and global in nature creates a vulnerability to depression that is only manifest in the presence of negative life events. When a depressogenic attributional style and negative life events exist in combination, the individual is said to experience feeling of hopelessness that invariably lead to depression. Hopelessness encompasses the notion of an inability to control outcomes (i.e., learned helplessness) as well as the expectation that negative outcomes will occur (Joiner & Wagner, 1995). Joiner and Wagner (1995) asserted that hopelessness is critical in the etiology of depression and that it is a sufficient, causal factor in the development of depressive symptoms.

#### Attributions and Other Psychiatric Disorders

In addition to depression, several authors have proposed that attributional styles also play a central role in the etiology of anxiety disorders (Alloy, Kelly, Mineka, & Clements, 1990; Bell-Dolan & Wessler, 1994; Swendsen, 1997). Although attributional models of anxiety have received some support, findings are less consistent than those linking attributional style with depression (Ahrens & Haaga, 1993; Bell-Dolan & Wessler, 1994; Dowd, Claiborn, & Milne, 1985; Heimberg et al., 1989; Heimberg, Vermilyea, Dodge, Becker, & Barlow, 1987; Johnson & Miller, 1990; Riskind, Castellon, & Beck, 1989; Swendsen, 1997). In general, when significant findings have been obtained, they suggest that the global and stable dimensions of attributional style are

more closely related to anxiety than the internal-external dimension (Bell-Dolan & Wessler, 1994).

Drawing from the literature on the tripartite model of depression and anxiety (Clark & Watson, 1991), Ahrens and Haaga (1993) proposed that attributional style may be differentially related to the experience of positive and negative affectivity. Specifically, they proposed that if attributional style were related to negative affectivity, it ought to be associated with both anxiety and depression. Conversely, they hypothesized that if attributions were only related to positive affectivity, it should be specific to depression. The authors found that attributions for negative events were associated with negative but not positive affectivity. These findings suggest that negative attributions may not be a specific risk factor for depression. Rather, a negative attributional style may serve as a more general risk factor for negative affectivity which then leads to either feelings of depression or anxiety. It is important to note, however, that studies in this area are limited and require replication.

Given the findings regarding depression and anxiety, it is not surprising that attributional style has also been associated with self-esteem (Metalsky, Joiner, Hardin, & Abramson, 1993; Romney, 1994; Tennen & Herzberger, 1987; Zuckerman, 1979). Researchers have found that individuals with low self-esteem tend to utilize a negative attributional style to account for their failures (Tennen & Herzberger, 1987; Zuckerman, 1979). Further, these individuals often fail to "take credit" for their experiences of success (Tennen & Herzberger, 1987; Zuckerman, 1979). This is in contrast to the

attributions of high self-esteem individuals who tend to account for their successes as being due to factors that are internal, stable, and global and failure as being due to factors that are external, unstable, and specific (Tennen & Herzberger, 1987; Zuckerman, 1979). This has been referred to as a "self-serving bias" and is viewed as a protective factor that maintains one's self-esteem in the face of failure and builds upon self-esteem with the experience of success (Tennen & Herzberger, 1987; Whitley & Frieze, 1985). It has been postulated that the link between attributional style and self-esteem may partially account for findings regarding depression and anxiety (Tennen & Herzberger, 1987).

### Attributional Style and Childhood Adjustment

#### Attributional Style and Childhood Depression

Research findings with adult populations have sparked a great deal of interest in determining how applicable attributional models are to child populations (Gladstone & Kaslow, 1995; Joiner & Wagner, 1995; Seligman et al., 1984). As in the adult literature, attributional style has been consistently associated with childhood depression across numerous primary studies and meta-analytic reviews (Dixon & Ahrens, 1992; Gladstone & Kaslow, 1995; Joiner & Wagner, 1995; Kaslow, Rehm, & Siegel, 1984; McCauley, Mitchell, Burke, & Moss, 1988; Nolen-Hoeksema, Girgus, & Seligman, 1986, 1992; Seligman et al., 1984). These findings have mirrored those from the adult literature and generally suggest that children who demonstrate an attributional style characterized by

internal, global, and stable attributions for negative events are at greater risk for depression than others.

#### Stability of Attributional Style in Childhood

Longitudinal studies of children's attributions and depression suggest that there is a developmental trend in this relationship. Nolen-Hoeksema et al. (1992) found that children's explanatory styles were not predictive of depression when the children were in third grade, but that attributions became increasingly associated with depression when children were retested as sixth and seventh graders. Similar findings were reported in a cross-sectional study conducted by Turner and Cole (1994). Nolen-Hoeksema et al. (1992) concluded that in early childhood, negative life events serve as a greater predictor of the onset of depression than do attributions. However, as children develop, the presence of a negative attributional style serves as an important mediator in the relationship between negative life events and the experience of depressive symptoms. It is important to note, however, that children's attributions remained relatively stable over the five year period of investigation. Thus, children's attributions were not changing, but the significance of those attributions did appear to change with time (Nolen-Hoeksema et al., 1992).

Such a model coincides quite well with children's cognitive development. Among young children thinking at either a pre-operational or concrete operational level, current events are especially salient and abstract consideration of the future is limited. However, as children mature and near the formal operational stage of thinking, they are

increasingly able to consider future events. At this stage, feelings of hopelessness and a negative outlook on the future may become increasingly salient and predictive of depression (Siegler, 1991).

#### Specificity of Attributions in Childhood

In addition to investigating the stability of children's attributions over time, a number of authors have investigated whether a negative attributional style poses a specific risk factor for depression versus other disorders (Curry & Craighead, 1990; Gotlib, Lewinsohn, Seeley, Rohde, & Redner, 1993; Hammen, Adrian, & Hiroto, 1988). Gotlib et al. (1993) found that the attributional style of clinically depressed children and adolescents was distinguishable from children without current psychiatric disorders, but was not distinguishable from children with psychiatric disorders other than depression (e.g., psychoactive substance use, behavior disorders, and adjustment disorders). In their prospective examination of attributions as a risk factor for depression, Hammen et al. (1988) found that a negative attributional style presented a risk factor for the development of nonaffective disorders (e.g., anxiety, behavior disorders). Interestingly, the authors were not able to support the hypothesis that attributions would predict the onset of depression (Hammen et al., 1988).

Some authors in the field have focused on the role of children's attributions either during or following stressful life events (Benfield, Palmer, Pfefferbaum, & Stowe, 1988; Dixon & Ahrens, 1992; Robinson, Garber, & Hilsman, 1995). In one such study, Robinson et al. (1995) investigated children's attributional style, perceived self-worth,

symptoms of depression, and externalizing behaviors during the transition from elementary to junior high school. The students were pretested during the spring of their sixth-grade year and retested in the fall of their seventh-grade year. In addition, during the fall students completed self-report measures of negative life events and school hassles. The authors found that stressors predicted both depressive (internalizing) and externalizing behaviors. However, attributional style was specifically linked to internalizing symptoms in conjunction with perceived self-worth and stress.

These findings reveal few concrete answers regarding the specificity of attributions to the experience of depression. It appears as though, at least among clinical samples, a negative attributional style is often demonstrated by both depressed and non-depressed children (Benfield et al., 1988; Gotlib et al., 1993; Hammen et al., 1988). However, there is some indication that among nonclinical samples, attributions serve as a vulnerability factor specific to depressive symptoms (Robinson et al., 1995). Although the reasons for this mixture of findings remain unclear at this time, it seems possible that the children diagnosed with other psychiatric disorders may also have depressive features that are either "masked" by other symptoms or remain undiagnosed. Given the considerable "overlap" between ADHD and internalizing disorders, as well as the finding that a negative attributional style is typical of several childhood disorders, attributions appear to be an important area of concern for children with ADHD.



## Attention-Deficit/Hyperactivity Disorder

### Clinical Features of ADHD

The primary features of ADHD are an inability to sustain attention to tasks, hyperactivity, and impulsivity. Children with the disorder are often described as being continually "on the go" and difficulty sustaining attention tends to be exacerbated in settings with limited structure and a great deal of stimulation. The diagnosis of ADHD requires the endorsement of a minimum of 6 of 18 symptoms (American Psychiatric Association, 1994). The list of criteria includes two sets of nine symptoms reflective of the inattentive and hyperactive-impulsive subtypes of the disorder (APA, 1994). Further, the symptoms must be evident for at least 6 months, are required to emerge prior to age 7, and must cause clinically significant impairment in two or more settings (APA, 1994). Subtypes of the disorder are specified as being either "combined" (consisting of both inattentive and hyperactive-impulsive behaviors), "predominately inattentive" (meeting criteria requirements only for inattention), or "predominately hyperactive-impulsive" (meeting criteria requirements only for hyperactivity-impulsivity) (APA, 1994).

ADHD is estimated to occur in roughly 3 to 7% of the childhood population, with males demonstrating the disorder between three and nine times as often as females (APA, 1994; Barkley, 1997). Although there is some evidence to suggest that the overall prevalence of ADHD decreases with age (McDermott, 1996), Barkley (1997a) reported that a large percentage of the individuals diagnosed with ADHD in childhood continue to demonstrate the disorder into adolescence and adulthood (50-80% and 30-50%,

respectively). Sherman, McGue, and Iacono (1997) noted that prevalence estimates vary widely as a function of the diagnostic criteria utilized and the source of behavioral information (e.g., teacher versus parent reports). Additionally, these estimates are likely impacted by the nature of the population sampled (i.e., clinical versus nonclinical samples) and it appears as though the disparity between males and females with ADHD is considerably lower in nonclinical samples (between 2:1 and 3:1) (Arnold, 1996).

Children with ADHD frequently demonstrate comorbid psychiatric disorders (August, Realmuto, MacDonald, Nugent, & Crosby, 1996; Biederman et al., 1991; Hinshaw, 1994). Biederman et al. (1991) conducted a thorough review of previous literature on ADHD comorbidity and found that the disorder frequently occurs in conjunction with conduct disorder, oppositional defiant disorder, mood and anxiety disorders, learning disabilities, and Tourette's syndrome. Similarly, August et al. (1996) found that 61% of the children with ADHD in their sample met the criteria for one or more additional diagnoses.

Given the clinical presentation of ADHD, one would expect to observe numerous impairments in social and educational functioning. Indeed, a large body of literature supports these expectations (e.g., Barkley, 1997; Barkley et al., 1991; Fergusson, Lynskey, & Horwood, 1997; Greene et al., 1997; Hinshaw, 1994; Hinshaw et al., 1997). One of the social ramifications of the disorder is frequent rejection by peers (Hinshaw, 1994; Milich & Landau, 1982). Although this has commonly been studied in conjunction with externalizing and aggressive behaviors among males, the same trend appears to be

present for females (Arnold, 1996; Hinshaw et al., 1997). Perhaps an even more troubling area of concern is in the parent-child relationships of children with ADHD. These interactions are marked by increased levels of parental stress, frequent parent-child and family conflicts, and negative and controlling behaviors (Barkley et al., 1991; Danforth et al., 1991; Hinshaw, 1994; Mash & Johnston, 1990).

The impact ADHD has on academic achievement has also been well documented in the research literature (Biederman et al. 1996; Fergusson et al., 1997; Fischer, Barkley, Edelbrock, & Smallish, 1990; Hinshaw, 1994). In a prospective study examining the long-term outcomes of children with attention difficulties, Fergusson et al. (1997) found that these students showed significantly greater rates of school attrition prior to age 16, higher rates of leaving school without attaining certification, and lower scores on a variety of educational measures. Similarly, Biederman et al. (1996) found that children with ADHD were significantly more likely to repeat a grade, and to require tutoring and placement in special classes.

The research findings regarding ADHD and the impact the disorder has across numerous areas of functioning are striking, to say the least. An overwhelming amount of evidence has accumulated which suggests that children with ADHD are at a higher risk for the development of comorbid disorders, to be rejected by their peers, to encounter frequent parent-child conflicts and negative interactions, and to demonstrate lower levels of educational functioning than their peers. Given these findings, as well as the relative frequency with which the disorder occurs, it is apparent that efforts to further understand

ADHD and the impact of the disorder on other areas of functioning are well spent.

### Attributions and ADHD

ADHD is one of the childhood disorders wherein attributions are of special concern (Milich, 1994; Milich & Okazaki, 1991; Weiner, 1979). That concern appears warranted, given the numerous difficulties children with the disorder encounter across a vast array of intra- and interpersonal domains. It seems likely that the repeated failures encountered in the form of peer rejection, classroom failure, and negative interactions with parents and teachers would lead to changes in children's attributions for events and expectations for the future (Barkley et al. 1991; Biederman et al., 1996; Hinshaw, 1994; Milich, 1994). Further, the comorbidity between ADHD and disorders in which attributions have been demonstrated as risk factors underscores this concern (Biederman et al., 1991). In particular, Biederman et al. (1991) found that major depression is present in between 15 and 75% of children with ADHD. Thus, it may be that these children would demonstrate a pattern of attributions similar to that found among children with only depression (Hoza et al., 1993).

Much of the research on attributions among children with ADHD has emanated from the work of Bernard Weiner (1979) regarding causal attributions and academic achievement. Commensurate with the learned helplessness model described earlier, researchers have demonstrated that those students who attribute negative outcomes to variables that are uncontrollable, internal, and stable are less likely to persevere when faced with challenging tasks (Dweck, 1986; Dweck & Leggett, 1988; Nolen-Hoeksema et

al., 1986, 1992; Peterson & Barrett, 1987; Stipek & Weisz, 1981). It is important to note, however, that research in this domain has deviated from the literature involving attributional style and depression in that the dimension of "controllability" is typically included and measured along with the dimensions mentioned earlier. The absence of a controllability dimension in the clinical literature seems to reflect the assumption that certain events will invariably be viewed as uncontrollable, and the focus is therefore on the attributions people make for the set of uncontrollable events presented. However, researchers in the educational literature assert that virtually any event may be thought of as either controllable or uncontrollable, and individuals' perspectives in this regard are at least as important as their attributions in other domains (Weiner, 1979).

In describing the influence of attributions on achievement motivation, Carol Dweck and her colleagues describe children as demonstrating either a "helplessness" or "mastery-oriented" approach (Diener & Dweck, 1978; Dweck, 1975; Dweck & Reppucci, 1973). The helplessness pattern involves an avoidance of challenging tasks and declining performance following failure experiences. Conversely, a mastery-oriented approach is used to describe those children who seek out challenging tasks and are relatively undaunted by failure.

Studies investigating the persistence of children with ADHD suggest that they may be especially prone to the development of a helplessness orientation (Hoza et al., 1993; Milich, 1994; Milich & Okazaki, 1991). In his review of the literature on attributions among children with ADHD, Milich (1994) indicated that these children

initially overestimate their ability to succeed when attempting challenging tasks. However, that optimism quickly dissipates when they are confronted with failure. Milich reported that boys with ADHD typically show lower levels of persistence and greater levels of frustration upon experiencing failure. Previous research also indicates that boys with ADHD demonstrate differences in their use of "mastery" versus "helpless" orientations toward problem solving (Milich, 1994; Milich & Okazaki, 1991). In contrast with the model of Diener and Dweck (1978), children with ADHD who attribute their failures to a lack of effort (i.e., demonstrate a "mastery" orientation) showed lower levels of persistence and reported greater frustration than those who attributed their failures to external features (i.e., a "helpless" orientation) (Milich & Okazaki, 1991). Thus, it appears that the "mastery" and "helpless" orientations proposed by Diener and Dweck (1978) and supported in research among nonclinical samples of children are essentially reversed among boys with ADHD (Milich, 1994). Among these children, attributing failures to features of the environment appears to be associated with greater levels of task persistence and lower levels of frustration when faced with failure.

Milich (1994) noted that this pattern may be adaptive among children with ADHD, given the relative frequency with which they experience failure. Continually attributing those failures to internal factors, such as a lack of effort, may be detrimental to the self-esteem of children with ADHD. Further, it may appear to these children that the relationship between their efforts and outcomes is minimal. In other words, it may seem that they really are providing their best effort to conform with the demands of parents,

teachers, and others even though they are frequently told that they "aren't trying hard enough."

Thus, to defend themselves against such detriments to their self-esteem, children with ADHD may begin to attribute their failures to features of the environment. This pattern was noted by Hoza et al. (1993) in a study examining self-perceived competence among boys with and without ADHD. The boys in the study with ADHD were less likely to accept responsibility for social failures and more likely to take credit for social successes than their non-ADHD counterparts. Further, the authors found no differences in perceived self-competence between boys with and without ADHD. Indeed, this pattern of attributions would appear identical to that referred to by previous authors as a "self-serving attributional bias" (Tennen & Herzberger, 1987). Consistent with the assertions of Milich (1994) and the findings of Hoza et al. (1993), such a pattern is believed to serve as a protective factor when individuals are faced with failure and has been associated with higher levels of self-esteem (Tennen & Herzberger, 1987).

Unfortunately, a number of the studies involving children with ADHD have emphasized a conceptualization of causal explanations that relies on overt behaviors to infer children's attributions. Although the study by Hoza et al. (1993) is an exception, there is a relative paucity of research examining the attributions that children with ADHD provide on measures similar to those used in the depression literature, thus making the comparison of the attributions used by children with ADHD and children with other disorders quite difficult.

## Parental Attributions for Child Behavior

### The Dimensions and Implications of Parental Attributions

A recent trend in the literature has been to investigate the causal explanations parents provide for children's behavior (Joiner & Wagner, 1996). Joiner and Wagner (1996) suggested that parents may attribute their child's behavior to factors which are centered either on their child or on themselves as parents. In their meta-analysis of this relatively new area of research, the authors note that previous findings indicate that the attributions parents provide for their children's problems have a significant impact on the child and the parent-child relationship. Although there is a great deal of variation in the literature, they report that the dimensions of parental attributions are essentially the same as those utilized in other attributional research (i.e., locus, stability, specificity, and controllability). Joiner and Wagner indicated that the dimensions of stability and specificity appear to be well supported as correlates of child adjustment and parent-child relationship satisfaction.

In their investigation of maternal attributions for child behavior, Gretarsson and Gelfand (1988) found that mothers attributed their children's positive behaviors to variables which were internal to the child and temporally stable. Mothers attributed undesirable behaviors to transitory factors which were external to the child. They noted the similarity between this pattern and the "self-serving bias" observed in earlier research on self-esteem and attributional styles. The authors proposed that such a bias may



promote parents' feelings of self-worth as well as positive attitudes toward their children.

Indeed, evidence suggests that parental attributions are linked to the emotional and behavioral reactions that parents have to their children (Bradley & Peters, 1991; Dix & Lochman, 1990; Dix et al., 1986; Johnston & Freeman, 1997; Krech & Johnston, 1992; Larrance & Twentyman, 1983; Mash & Johnston, 1990; Smith & O'Leary, 1995; Strassberg, 1995). Research indicates that mothers who attribute negative child behaviors to internal and stable qualities are more likely to become emotionally aroused when they encounter or anticipate resistance on the part of their child (Dix & Lochman, 1990; Strassberg, 1995). Further, when parents make such attributions the discipline techniques utilized tend to be increasingly harsh and punitive (Smith & O'Leary, 1995). Studies conducted with abusive parents have revealed that they tend to provide stable/internal attributions for their children's transgressions and failures, and external/unstable attributions for their children's successes (Bradley & Peters, 1991; Larrance & Twentyman, 1983). Thus, it appears that parents make an initial attempt to determine the cause of their child's behavior. The nature of that causal attribution then influences their emotional response and subsequent parenting behaviors. It is notable that much of this research has focused on parents' use of discipline, with little attention given to other parenting practices (e.g., reinforcement or praise for desirable behaviors).

#### The Relationship Between Child and Parental Attributions

In addition to their impact on parental emotions and behaviors, it seems likely that

parental attributions influence the attributions utilized by children. Surprisingly, few studies have been conducted to investigate whether children tend to model parental attributions in formulating their own causal explanations for events. However, related studies suggest that such a process may take place. In a study examining attributions and depressive symptoms among parents and their children, Seligman et al. (1984) found that maternal attributions for negative events correlated significantly with those of their children and depressive symptoms among children.

A related study was conducted by Bickett et al. (1996) investigating the relationship between the attributions of aggressive boys and their mothers. These authors were specifically interested in whether both aggressive children and their mothers would demonstrate the "hostile attributional bias" noted in previous research on aggression. As expected, the authors found that aggressive boys were more likely to assume hostile intent when faced with ambiguous interpersonal situations. Additionally, the mothers of these boys were more likely to demonstrate a hostile attributional bias when evaluating the motives of their child's peers and teacher in ambiguous situations. The authors proposed that the aggressive males may model the attributions demonstrated by their mother and develop a similar bias when interpreting future events.

In addition to the potential for direct modeling, parental attributions may also influence child attributions indirectly via parenting behaviors. In a particularly interesting study, Glasgow et al. (1997) found that parenting style influenced the attributions adolescents provided for academic achievement outcomes. The authors

utilized the parenting style categories established by Baumrind (1971) and later reformulated by Maccoby and Martin (1983). Specifically, the categories of authoritative, authoritarian, neglectful, and indulgent parenting styles were utilized, corresponding to varying levels of parental authority, demandingness, and responsiveness. In general, research suggests that those children whose parents are able to balance high demands with high levels of support and responsiveness (authoritative) demonstrate the best adjustment while those whose parents are neglectful tend to suffer the worst outcomes (Baumrind, 1989, 1991). Therefore, Glasgow et al. proposed that children whose parents did not utilize an authoritative style might demonstrate dysfunctional attributions regarding academic achievement. The findings were supportive of this hypothesis, with each of the non-authoritative styles significantly related to dysfunctional attributions. This suggests that children's attributions are shaped, at least in part, by the parenting practices to which they are exposed.

Thus, children's attributions may be influenced by parental attributions via both direct and indirect factors. Children may experience a direct impact by being exposed to the explanations their parents provide for their behavior and subsequently modeling those attributions for themselves. Indirectly, parental attributions for child behaviors appear to influence parenting practices. In turn, those practices may prompt the development of adaptive or maladaptive attributions among children (see Figure 1).

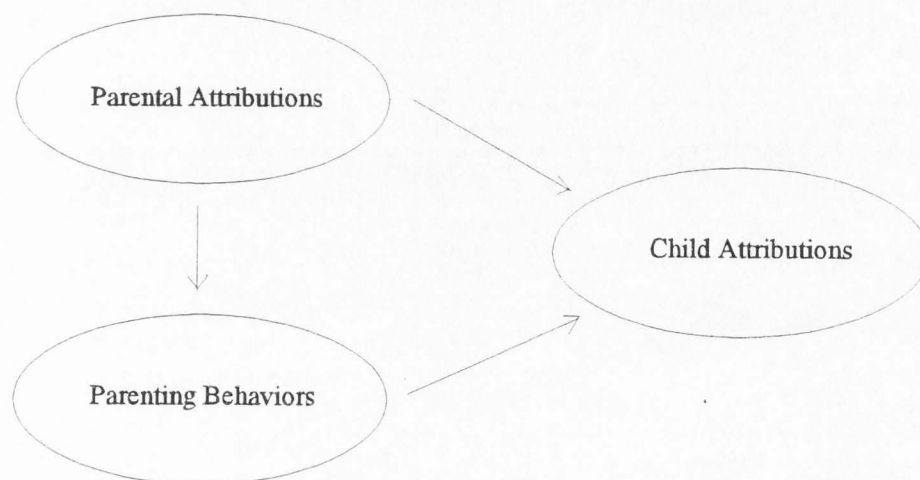


Figure 1. Parental attributions hypothesized to influence child attributions both directly and indirectly via parental discipline styles.

#### Parental Attributions and ADHD

Previous authors have reported that children with ADHD tend to be less compliant and more negative when interacting with their mothers. The parents of children with ADHD tend to give more commands to their children, provide fewer rewards for compliance, and interact less than the parents of children without the disorder (Cunningham & Barkley, 1979; Mash & Johnston, 1982). As might be expected, the parents of children with ADHD have been found to report higher levels of stress associated with parenting than do the parents of non-ADHD children (Fischer, 1990; Mash & Johnston, 1990). The conflictual nature of these interactions has prompted recent interest in parental attributions among the parents of children with ADHD (Johnston & Freeman, 1997).

Researchers have observed that the parents of children with ADHD attribute non-compliant and inattentive-overactive behaviors to factors that are internal and uncontrollable for the child, stable over time, and pervasive across situations (Johnston & Freeman, 1997; Sobol, Ashbourne, Earn, & Cunningham, 1989). The parents of children with ADHD also tend to view themselves as having less control over their child's behavior than other parents (Johnston & Freeman, 1997; Sobol et al., 1989). Johnston and Freeman (1997) found that these parents were more likely than others to view their children's positive behaviors as being due to factors that were external to their child and unstable over time. The authors observe that "[the parents of children with ADHD] do not appear to blame the children for ADHD behaviors; rather, they see these behaviors as enduring symptoms of an underlying disorder" (p. 643). Unfortunately, these attributions do not translate into fewer negative emotional and behavioral responses on the part of the parents of children with ADHD (Johnston & Freeman, 1997). These parents were equally likely to become frustrated and respond negatively to their children's undesirable behaviors. This finding is consistent with those previously reported regarding parents' emotional responses and discipline techniques utilized as a function of parental attributions.

Utilizing the model presented earlier, this pattern of parental attributions may be deleterious to children with ADHD in several ways. Assuming that children model the parental attributions to which they are exposed, children with ADHD may receive the message that their undesirable behaviors are due to internal features, are beyond their

control, they will always be beyond their control, and they extend across a variety of situations (i.e., internal, uncontrollable, stable, and global). Indirectly, children with ADHD may be more likely to be exposed to parental behaviors that are harsh and punitive. Such an environment may be detrimental in its own right, and may further contribute to the development of a dysfunctional attributional style.

### Purpose and Objectives

One of the aims for the present research was to further examine the attributions utilized by children with and without ADHD. Although previous research has been conducted in this regard, few studies have employed the same attributional measures used in other areas of clinical research. Exploring differences in this manner will enable the comparison of attributions utilized by children with ADHD versus children without the disorder. Additionally, this approach makes it possible to evaluate the attributional patterns demonstrated by children with ADHD relative to studies involving other childhood disorders. Further information regarding the attributions used by children with ADHD relative to their non-ADHD peers may increase the understanding of the multiple difficulties and comorbid disorders these children experience.

The analysis of parental attributions for both groups of children served several purposes. One of these was to further examine the differences between the parents of children with ADHD versus the parents of non-ADHD children. Based on previous research, such an investigation appeared warranted and enhances the understanding of the

parental perspective on children's behaviors. Additionally, inclusion of these measures allowed for a comparison between parental and child attributions for both groups. While prior authors have alluded to the notion that children may model the attributions that their parents provide for their behaviors, few studies have been designed to empirically test this notion. Additionally, it is not known whether such modeling would occur equally for children with and without ADHD.

The present study also investigated the relationship between parental attributions and parenting behaviors for both groups. The information gleaned from this analysis should provide vital and clinically relevant information. Addressing the conflict that often exists between children with ADHD and their parents requires a working knowledge of the impact parents' perceptions of their children have on their actual behaviors with their child.

Finally, this study investigated the relationship between parenting behaviors and children's attributions. Previous authors have demonstrated that children's attributions are correlated with the parenting styles to which they are exposed. However, the nature of this interaction between children with ADHD and their parents has yet to be explored. Again, this will yield information applicable to clinical work with this population.

#### Research Questions and Hypotheses

The specific research questions and hypotheses that were addressed in the present study were as follows:

1. Do children with ADHD differ from their non-ADHD counterparts with regard to the causal explanations they provide on a measure of attributional style? It was hypothesized that children with ADHD will demonstrate attributions for negative events which are more internal, stable, and global than those used by children without the disorder. Further, it was hypothesized that children with ADHD would provide more external, unstable, and specific attributions for positive events than children without the disorder.
2. Do parental attributions differ among the mothers of children with and without ADHD? It was hypothesized that the mothers of children with ADHD will attribute their child's undesirable behaviors (i.e., inattentive-overactive and oppositional-defiant behaviors) to factors which are internal to the child, uncontrollable, stable over time, and global across situations more often than the mothers of children without ADHD.
3. Do differences exist in the discipline styles demonstrated by the mothers of children with and without ADHD? It was hypothesized that the mothers of children diagnosed with ADHD would demonstrate higher levels of dysfunctional discipline than the mothers of children without the disorder.
4. What is the relationship between child and parental attributions in ADHD versus non-ADHD populations? The attributions of children with and without ADHD were hypothesized to correlate with the attributions provided by their mothers.
5. What is the relationship between parental attributions and parenting behaviors in ADHD versus non-ADHD populations? It was predicted that those mothers who provide parental attributions that are internal to their child, stable over time, uncontrollable on the



part of the child, and global across situations will demonstrate higher levels of dysfunctional parenting.

6. What is the relationship between parenting behaviors and children's attributions in ADHD versus non-ADHD populations? It was predicted that children whose mothers utilize punitive discipline practices would tend to utilize attributions for negative events that were more internal, global, and stable than those of other children.

7. To what extent can children's attributions for positive and negative events be predicted given information regarding parental attributions and parenting behaviors in ADHD and non-ADHD populations? It was hypothesized that a model incorporating these variables will be predictive of the attributions children with and without ADHD utilize.

8. When evaluating the attributions utilized by children and the attributions and behaviors of their parents, are populations with ADHD discernable from populations without the disorder? It was predicted that these variables will discriminate ADHD from non-ADHD children.

## CHAPTER III

### METHODS

#### Participants

A clinical sample of 26 children (20 male, 6 female) diagnosed with ADHD and their mothers were recruited for participation through the Clinical Services Program in the Center for Persons with Disabilities (see Table 1 for a summary of demographic characteristics). Children ranged from 7 to 12 years of age, with a mean age of 9.46 years ( $SD = 1.50$ ). The ethnic background of all children in the clinical sample was Caucasian. The mothers of these children tended to be well educated, with the majority having completed at least some college or vocational education. Within this sample, nine children were diagnosed with the combined subtype of ADHD, 14 children were diagnosed with the predominately inattentive subtype, one child was diagnosed with the predominately hyperactive-impulsive subtype, and the subtype for two children was unspecified. The time between children being diagnosed with ADHD and participating in the study ranged from 1 to 64 months (mean = 17.83 months,  $SD = 15.29$ ). Thirteen children in the clinical sample were receiving medication (Ritalin = 9, Adderall = 4) to treat their ADHD. In addition to ADHD, five of these children's mothers reported that their child had been diagnosed with another, comorbid condition (depression = 2, tics/Tourette's = 2, unspecified = 1). Eleven of these children were receiving special

education or other academic assistance services in school (Title I = 5, speech/language = 1, unspecified = 5).

A nonclinical sample of 24 children (10 male, 14 female) was obtained through an elementary school in Ogden, Utah. Children were included in this group if they had not been previously diagnosed with a psychological or behavioral disorder and their scores on a parent rating of behavior were all within the "normal" range (i.e., below the 98th percentile on all clinical scales). Fifteen children were eliminated because of either a previous diagnosis ( $n = 7$ ) or scores in the clinical range on the behavior rating scale completed by their mother ( $n = 8$ ). Child participants ranged in age from 7 to 10 years, with a mean age of 8.75 years ( $SD = 1.19$ ). Although the ethnic background of this sample was also predominately Caucasian, Latino, African American, and "other" backgrounds were also represented. The reported levels of maternal education in the nonclinical sample were somewhat lower than the clinical sample. One child in this sample was receiving special education services in school (services unspecified).

### Instrumentation

#### Parent Measures

As a means of evaluating children's symptoms of psychopathology, the Conners' Parent Rating Scale - Revised: Long Form (CPRS-R:L) was completed by each child's mother in accordance with standard instructions (Conners, 1997). Although children's scores on this measure were not included in data analyses, the results were used to

Table 1

Summary of Demographic Features for ADHD and Non-ADHD Groups

Demographic characteristics	Group			
	ADHD ( $n = 26$ )		Non-ADHD ( $n = 24$ )	
Gender	male	20 (76.9%)	male	10 (41.7%)
	female	6 (23.1%)	female	14 (58.3%)
Age (years)	mean	9.46	mean	8.75
	<u>SD</u>	1.50	<u>SD</u>	1.19
Grade level	1	1 (3.8%)	2	8 (33.3%)
	2	2 (7.7%)	3	5 (20.8%)
	3	4 (15.4%)	4	5 (20.8%)
	4	5 (19.2%)	5	6 (25.0%)
	5	9 (34.6%)		
	6	3 (11.5%)		
	7	2 (7.7%)		
Ethnicity	Caucasian	26 (100.0%)	Caucasian	17 (70.8%)
			Latino/a	5 (20.8%)
			Afr. American	1 (4.2%)
			Other	1 (4.2%)
Maternal education	Didn't complete high school Completed high school Completed some college or vocational ed. Completed college or vocational ed. Completed graduate or post-graduate ed. Unspecified	0 (0.0%)	Didn't complete high school	2 (8.3%)
		4 (15.4%)	Completed high school	5 (20.8%)
		8 (30.8%)	Completed some college or vocational ed.	8 (33.3%)
		7 (26.9%)	Completed college or vocational ed.	6 (25.0%)
		2 (7.7%)	Completed graduate or post-graduate ed.	1 (4.2%)
		5 (19.2%)	Unspecified	2 (8.3%)
Special education/academic assistance	Total Title I Speech/Language Unspecified	11 (42.3%)	Total	1 (4.2%)
		5 (19.2%)	Unspecified	1 (4.2%)
		1 (3.8%)		
		5 (19.2%)		
ADHD subtype	Inattentive Hyperactive-impulsive Combined Unspecified	14 (53.8%)	NA	
		1 (3.8%)		
		9 (34.6%)		
		2 (7.7%)		

(table continues)

Demographic characteristics		Group	
		ADHD ( $n = 26$ )	Non-ADHD ( $n = 24$ )
Date of diagnosis (# mo. prior)	mean	17.83	NA
	<u>SD</u>	15.29	
Medication	Total	13 (50.0%)	NA
	Ritalin	9 (34.6%)	
	Adderall	4 (15.4%)	
Comorbid diagnoses	Total	5 (20.8%)	NA
	Depression	2 (7.7%)	
	Tics/Tourette's	2 (7.7%)	
	Unspecified =	1 (3.8%)	

determine whether children would be retained in the nonclinical group. The CPRS-R:L includes a total of 80 items and is intended for use with children ages 3 to 17. Parents are asked to rate their child for each item on a scale of "0" (indicating that the statement is "not true at all" for their child) to "3" (indicating that the item is "very much true" for their child). Subscales on this measure include: oppositional, cognitive problems, hyperactivity, anxious-shy, perfectionism, social problems, and psychosomatic. In addition, composite scores related to ADHD symptomatology are obtained on the following scales: ADHD index, Conners' Global Index (Restless-Impulsive), Conners' Global Index (Emotional Lability), Conners' Global Index (Total), DSM-IV Symptoms Subscales (Inattentive), DSM-IV Symptoms Subscales (Hyperactive-Impulsive), and DSM-IV Symptoms Subscales (Total). The author reports good internal reliability, with total reliability coefficients ranging from .728 to .942. In addition, the measure demonstrates adequate to good test-retest reliability over a period of 6 to 8 weeks, with reliability coefficients ranging from .47 to .85 for the various subscales. Conners (1997)

also reported that the CPRS-R:L demonstrates adequate discriminant validity with a particular emphasis on differentiating children with ADHD from those without the disorder.

Parental attributions were assessed using the Written Analogue Questionnaire (WAQ) developed by Johnston and Freeman (1997). Although its use is considered experimental at this point, the WAQ has been demonstrated to correlate with parental attributions for video scenarios and recalled incidents involving their own children (Johnston & Freeman, 1997). Parents are asked to read a series of 12 vignettes describing a child's inattentive-overactive, oppositional-defiant, or prosocial behaviors. Respondents are then instructed to imagine their child in each scenario and rate the degree to which the behavior was due to internal, stable, global, and controllable factors on a scale of 1 to 10. The measure contains additional ratings for parents to indicate how problematic the behavior is, how upset they are by the behavior, and whether they were responsible for their child's behavior. However, these items were not of particular interest for the current study and were therefore eliminated to reduce administration time. Mean scores were obtained for each of the attributional dimensions and a composite score was calculated for the internal, stable, uncontrollable, and global dimensions collapsed across the inattentive-overactive and oppositional-defiant scenarios. While maternal attributions for prosocial child behaviors were not of interest in the current study, these scenarios were retained in the administration to maintain the integrity of the measure.

Data regarding parenting behaviors were collected via the Parenting Scale

developed by Arnold, O'Leary, Wolff, and Acker (1993). The measure was developed with an emphasis on assessing dysfunctional parental discipline practices associated with childhood externalizing disorders. Parents are asked to rate themselves on a 7-point scale for 30 items describing a discipline situation. Each item consists of a description of a "parenting mistake" at one anchor of the rating scale and the converse, effective discipline technique at the other. Higher scores on all subscales of the measure are indicative of higher levels of dysfunctional parenting. Based on the results of a principal components factor analysis conducted with the standardization sample of 168 mothers, Arnold et al. suggested a three factor solution for the Parenting Scale. Factor scores are obtained for parental "laxness," "overreactivity," and "verbosity." Additionally, a total score or "general dysfunctional discipline" score is obtained as a composite score. In the development of the Parenting Scale, the authors report taking efforts to create a measure with dimensions that are consistent with the parenting styles described by Baumrind (1966). Specifically, Arnold et al. (1993) suggested that the "laxness" factor is roughly equivalent to the parenting style Baumrind (1966) described as "permissive" (p. 889). They suggested that high scores on the "overreactivity" domain may be indicative of an "authoritarian" style. Although not included in Baumrind's conceptualization of parenting, the authors suggested that parents demonstrating considerable verbosity in their discipline may inadvertently reinforce their child's misbehavior and thereby increase the likelihood of inappropriate behavior in the future.

Arnold et al. (1993) reported internal consistency coefficients of .83, .82, .63, and

.84 for the laxness, overreactivity, verbosity, and total scales, respectively. In addition, they found test-retest coefficients over a 2-week interval to range from .79 to .84 for the various scales. The authors demonstrated that the measure correlates well with observational ratings of parent behaviors and parental ratings of their children's externalizing symptoms.

The Parenting Scale was utilized as it is described by Arnold et al. (1993). Although the measure was developed for the parents of younger children (ages 18 months to 4 years), the items do not appear to be specific for children within that age range. A survey conducted by Stewart (1997) indicates that the measure is generally viewed as appropriate by the parents of children in grades three through six. Similarly, recent research involving the parents of 785 children in preschool through fifth grade suggests that there are minimal differences in parental discipline style as a function of child age and the values obtained on the total score of the Parenting Scale are similar to those reported by Arnold et al. (Collett, Gimpel, Greenson, & Gunderson, 1999). However, initial exploratory factor analyses with this large sample indicate that the factor structure of the measure may differ in this population, with only two well defined factors emerging. Thus, a conservative approach was taken in this study and only the scores from the total scale were utilized.

### Child Measures

The KASTAN-Revised Children's Attributional Style Questionnaire (CASQ-R) was utilized as a measure of children's attributions (Kaslow & Nolen-Hoeksema, 1991).



Children are presented with 24 vignettes and are asked imagine that they have just encountered the given situation. They are then instructed to endorse one of two explanations for the event. Scores on the CASQ-R are obtained for both positive and negative events and indicate the degree to which children attribute the events to factors that are internal, stable, and global in nature. A child with a negative attributional style would be predicted to demonstrate a high score on the negative composite and a low score on the positive composite. They would tend to attribute undesirable events to factors that are internal to themselves, stable over time, and global or pervasive in nature. At the same time, children with this attributional pattern would tend to attribute positive events to factors that are external, unstable, and specific to the given situation.

The CASQ and CASQ-R are generally considered to be the "primary measure of [children's] attributional style" (Gladstone & Kaslow, 1995, p. 598). The current version of the CASQ has been shortened from the original 48-item version for ease of administration and psychometric purposes (Kaslow & Nolen-Hoeksema, 1991). Studies investigating the psychometric properties of the revised CASQ and its predecessor reveal moderate internal consistency reliabilities ranging from .47 to .73 for positive composite scores and .42 to .67 for negative composites (Gladstone & Kaslow, 1995). Seligman et al. (1984) found test-retest reliability coefficients of .71 for positive events and .66 for negative events. The CASQ-R was administered in accordance with the standard instructions provided by the authors (Kaslow, Tanenbaum, & Seligman, 1978). Copies of

all measures to be utilized (including a demographic information form) can be found in Appendix A.

### Procedures

As noted previously, participants in the nonclinical sample were recruited from an elementary school in Ogden, Utah. Three hundred and fifty research packets containing the parent measures were provided to teachers in this school to send home with their students. Students were offered small incentives (e.g., special pencils) for returning the measures (regardless of their mothers' decision to participate) and mothers' names were entered into a drawing for a fifty dollar gift certificate to an area merchant if they completed the measures. Mothers were provided with a letter describing the study and were asked to sign a consent form if they wished to participate (see Appendix B for a copy of the parent letter and a sample parent consent form). In addition, they were asked to review a child assent form with their children and have them sign it if they were willing to take part in the study (see Appendix C for sample child assent form). Upon providing their consent to participate, mothers in the nonclinical sample were asked to complete the research measures and return them with their child to the school. All data were collected in the nonclinical sample in November 1998.

Of the measures sent out, 39 (11.1%) were returned complete and an additional 88 (25.1%) were returned either blank or incomplete. Children whose mothers provided consent for their participation were asked to complete the CASQ-R during school hours

in accordance with standard instructions. To control for variation in reading ability, the CASQ-R was administered orally to children either individually or in small groups in a quiet area of the school (the lunchroom during non-lunch hours, the library, or a private office). The CASQ-R was completed by most children in this sample in approximately 15 minutes.

As noted earlier, participants in the clinical sample were recruited from the Clinical Services program in the Center for Persons with Disabilities at Utah State University and other ongoing research projects at Utah State University. Mothers were contacted by a staff member and provided verbal consent to be contacted by the researcher. Children in the clinical sample were offered small incentives (e.g., ice cream cones) in return for completing the measures. An appointment was then scheduled and mothers were asked to bring their child with them to complete the research measures. As with the nonclinical sample, participants were provided with information about the study and asked to sign informed consent and child assent forms expressing their willingness to participate.

Upon providing consent to participate in the study, mothers in the clinical sample completed the measures in the clinic setting and returned them to either the researcher or an assistant. Most mothers were able to complete these measures in approximately 30 to 40 minutes. While their mothers were completing these measures, the CASQ-R was administered orally to each child by either the researcher or an assistant. The CASQ-R

was typically completed in 5 to 10 minutes. Data collection in the clinical sample began in August 1998 and was completed in October 1999.

## CHAPTER IV

## RESULTS

Descriptive analyses (i.e., means and standard deviations) were performed separately for the ADHD and non-ADHD samples as well as for the entire sample (i.e., ADHD and non-ADHD samples combined) for each dependent measure. Within the ADHD sample, these analyses were also performed separately for children diagnosed with the predominately inattentive, predominately hyperactive-impulsive, and combined subtypes of ADHD. The results of all descriptive analyses conducted are presented in Table 2. The analyses comparing the ADHD and non-ADHD samples were used to address the first three research questions.

Table 2

Descriptive Statistics for the CASQ-R, WAQ, and Parenting Scale

Dependent measures	Full sample ( $\underline{n} = 50$ )	Non-ADHD ( $\underline{n} = 24$ )	ADHD - total ( $\underline{n} = 26$ )	ADHD - inattentive ( $\underline{n} = 14$ )	ADHD - hyper.-imp. ( $\underline{n} = 1$ )	ADHD-combined ( $\underline{n} = 9$ )
CA (+) $\underline{m}$ ( $\underline{SD}$ )	7.76 (1.71)	8.25 (1.78)	7.31 (1.54)	7.29 (1.82)	7.00 (NA)	7.22 (1.30)
CA (-) $\underline{m}$ ( $\underline{SD}$ )	3.30 (1.98)	3.08 (2.10)	3.50 (1.88)	3.50 (1.95)	5.00 (NA)	3.33 (1.73)
WAQ (I-E) $\underline{m}$ ( $\underline{SD}$ )	3.24 (1.59)	3.30 (1.70)	3.18 (1.52)	3.02 (1.62)	1.00 (NA)	3.83 (1.30)
WAQ (U-C) $\underline{m}$ ( $\underline{SD}$ )	2.34 (1.61)	2.07 (1.86)	2.60 (1.33)	2.71 (1.68)	3.25 (NA)	2.38 (0.92)

(table continues)

Dependent measures	Full sample ( <u>n</u> = 50)	Non-ADHD ( <u>n</u> = 24)	ADHD - total ( <u>n</u> = 26)	ADHD - inattentive ( <u>n</u> = 14)	ADHD - hyper.-imp. ( <u>n</u> = 1)	ADHD-combined ( <u>n</u> = 9)
WAQ (G-S) <u>m</u> (SD)	4.10 (1.72)	4.94 (1.70)	3.32 (1.34)	3.18 (1.50)	2.50 (NA)	3.68 (1.25)
WAQ (U-S) <u>m</u> (SD)	5.21 (1.80)	4.39 (1.74)	5.98 (1.53)	6.35 (1.66)	7.25 (NA)	5.36 (1.31)
PS (T) <u>m</u> (SD)	3.08 (0.57)	2.98 (0.60)	3.16 (0.54)	3.22 (0.55)	2.87 (NA)	3.11 (0.57)

Note. Higher scores on the "negative event composite" of the CASQ-R indicate a depressogenic attributional style (i.e., internal, global, and stable attributions for negative events). Conversely, higher scores on the "positive event composite" indicate the tendency to attribute positive events to internal, global, and stable factors. The negative child behavior composites of the WAQ include the mean score for inattentive-overactive and oppositional-defiant scenarios. Higher scores indicate a tendency to attribute negative child behaviors to external, uncontrollable, specific, and stable factors. Higher scores on the Parenting Scale indicate dysfunctional parenting. CA(+) = child attributions for positive events; CA(-) = child attributions for negative events; WAQ(I-E) = maternal internal/external attributions; WAQ(U-C) = maternal uncontrollable/controllable attributions; WAQ(G-S) = maternal global/stable attributions; WAQ(U-S) = maternal unstable/stable attributions; PS(T) = Parenting Scale, Total.

### Children's Attributional Style

To test the hypothesis that children diagnosed with ADHD would be more likely than children without the disorder to demonstrate a depressogenic attributional style, differences on the CASQ-R were evaluated for statistical significance via one-way analyses of variance (see Table 3). To control for the increased possibility of Type I errors when using multiple univariate analyses, a bonferroni correction was used and

Table 3

One-Way Analyses of Variance Evaluating Differences in Children's Attributional Style  
as a Function of Group Status

CASQ-R dimension	Source	Sum of squares	Degrees freedom	Mean square	F	One-tailed signif. ( $\alpha = .025$ )	Mean difference effect size
CA (-)	Between	2.17	1	2.17	.55	.23	.21
	Within	190.33	48	3.97			
	Total	192.50	49				
CA (+)	Between	11.08	1	11.08	4.03	.025*	-.34
	Within	132.04	48	2.75			
	Total	143.12	49				

Note. Higher scores on the "negative event composite" indicate a depressogenic attributional style (i.e., internal, global, and stable attributions for negative events). Conversely, higher scores on the "positive event composite" indicate the tendency to attribute positive events to internal, global, and stable factors. CA(+) = children's attributions for positive events; CA(-) = children's attributions for negative events.

\*indicates a statistically significant (i.e.,  $p < .025$ ) difference between groups.

alpha levels were adjusted by the number of tests conducted (i.e., rather than using an alpha of .05, a more conservative alpha of .025 was chosen for both tests). Consistent with the hypothesis, children in the ADHD group were statistically significantly less likely than those in the nonclinical group to attribute positive events to internal, stable, and global qualities ( $F = 4.03$ ,  $p = .03$ ). The standard mean difference effect size ( $ES = -.34$ ) suggests that while statistically significant, the magnitude of this difference is relatively small. Although attributional differences for negative events were not statistically significant ( $F = .55$ ,  $p = .23$ ), children in the ADHD group were somewhat more likely to provide attributions that were internal, stable, and global for these

scenarios. Estimates of this effect size ( $ES = .21$ ) suggest that the magnitude of this difference is also relatively small. Overall, these results indicate that children who had been diagnosed with ADHD were less likely to "take credit" for positive events. They also tended to view these outcomes as specific to the given situation and likely to change in the future.

#### Maternal Attributions for Child Behavior

The hypothesis that the mothers of children with ADHD would be more likely to attribute undesirable child behaviors to factors that are internal to the child, uncontrollable, stable over time, and global in nature was tested via one-way analyses of variance (see Table 4). As with previous analyses, a Bonferroni correction was utilized and the alpha level was adjusted by the number of tests performed to control for the increased possibility of Type I errors when conducting multiple univariate analyses (i.e., rather than using an alpha of .05, a more conservative alpha of .01 was used for all four tests). Contrary to the hypothesis, the results reveal minimal differences in the "internal" and "uncontrollable" maternal attributions for negative child behaviors. Specifically, the results suggest that the mothers of children with ADHD were no more likely to attribute inattentive-overactive and oppositional defiant child behaviors to features internal to their child than mothers of children without ADHD ( $F = .07, p = .40$ ). The mean difference effect size further suggests that the size of this difference was minimal ( $ES = -.07$ ). Similarly, the mothers of children with ADHD were no more likely than mothers in the



Table 4

One-Way Analyses of Variance Evaluating Differences in Maternal Attributions for  
Negative Child Behaviors as a Function of Group Status

WAQ dimension	Source	Sum of squares	Degrees freedom	Mean square	F	One-tailed signif. ( $\alpha = .01$ )	Mean difference effect size
WAQ (I-E)	Between	.17	1	.17		.40	-.07
	Within	124.36	48	2.59	.07		
	Total	124.53	49				
WAQ (U-C)	Between	3.57	1	3.57		.12	.33
	Within	124.06	48	2.59	1.38		
	Total	127.63	49				
WAQ (G-S)	Between	32.98	1	32.98	14.1	< .001**	-1.07
	Within	111.63	48	2.33	8		
	Total	144.61	49				
WAQ (U-S)	Between	31.57	1	31.57	11.8	< .001**	.98
	Within	127.86	48	2.66	5		
	Total	159.43	49				

Note. The negative child behavior composites of the WAQ include the mean score for inattentive-overactive and oppositional-defiant scenarios. Higher scores on these scales indicate a tendency to attribute negative child behaviors to external, uncontrollable, specific, and stable factors. WAQ(I-E) = maternal internal/external attributions; WAQ(U-C) = maternal uncontrollable/controllable attributions; WAQ(G-S) = maternal global/stable attributions; WAQ(U-S) = maternal unstable/stable attributions.

\*\*indicates a statistically significant (i.e.,  $p < .01$ ) difference between groups.

nonclinical group to attribute these undesirable behaviors to factors that are uncontrollable for their child ( $F = 1.38$ ,  $p = .12$ ). Again, the mean difference effect size suggests that the magnitude of this difference was relatively small ( $ES = .33$ ). However, mothers in the ADHD group were found to be more likely than mothers in the nonclinical

group to view these behaviors as global in nature rather than specific to the scenario provided ( $F = 14.12, p < .001$ ). The mean difference effect size suggests that the magnitude of this difference is large ( $ES = -1.07$ ). Mothers of children with ADHD were also more likely to view these negative child behaviors as being stable over time ( $F = 11.85, p = .001$ ). Again, the magnitude of this difference was found to be large ( $ES = .98$ ). Taken together, these findings lend mixed support to the hypothesis that the mothers of children with ADHD would demonstrate a different set of attributions than the mothers of children without ADHD. While statistically significant differences were revealed on select dimensions (i.e., stability and specificity), differences were not revealed with regard to mothers' tendency to attribute undesirable child behaviors to internal or controllable factors.

#### Maternal Discipline Styles

To determine whether the mothers of children with ADHD demonstrate statistically significant differences in their styles of discipline compared to the mothers of children without the disorder, a one-way analysis of variance was performed (see Table 5). Mothers in the clinical sample demonstrated a slightly higher score on the composite scale of the Parenting Scale. However, the magnitude of this difference was relatively small ( $ES = .32$ ) and was not statistically significant. Thus, mothers in the ADHD group were not found to differ significantly from the nonclinical group regarding discipline.

Table 5

One-Way Analysis of Variance Evaluating Differences in Maternal Parenting Practices as a Function of Group Status

Parenting Scale	Source	Sum of squares	Degrees freedom	Mean square	F	One-tailed signif. ( $\alpha = .05$ )	Mean difference effect size
PS (T)	Between	.40	1	.40	1.23	.14	.32
	Within	15.39	48	.32			
	Total	15.80	49				

Note. Higher scores indicate an increased level of dysfunctional parenting. PS(T) =Parenting Scale, Total.

#### The Correlation Between Child and Maternal Attributions

The relationship between child and parent attributions was examined via Pearson's correlation statistics (see Table 6 for a summary of all correlation analyses). Given the differences in child and maternal attributions reported above, these analyses were conducted separately by group (correlations for the combined sample are reported in Appendix D). Specifically, separate correlation analyses were performed for children in the clinical and nonclinical groups to evaluate the relationship between children's scores on the negative and positive scales of the CASQ-R and mother's scores on the various dimensions of the WAQ for undesirable child behaviors. Within the nonclinical group, results indicated minimal and statistically insignificant (i.e.,  $p > .05$ ) correlations between child and maternal attributions. This suggests that within the nonclinical sample there was relatively little relationship between children's attributional style and the attributions their mothers provided for undesirable child behaviors. Similarly, within the ADHD

sample the correlations between child and maternal attributions were quite low and none were statistically significant. These findings suggest that regardless of diagnostic status, the association between children's attributional style and maternal attributions is minimal.

### The Correlation Between Maternal Attributions and Maternal Discipline Styles

To investigate the hypothesis that dysfunctional parenting would be associated with a tendency to attribute negative child behaviors to internal, stable, uncontrollable, and global child features, correlations between the total score on the Parenting Scale and the various dimensions on the WAQ were examined (see Table 6). Consistent with this hypothesis, there was a moderate and statistically significant negative correlation between the total score on the Parenting Scale and the "specificity" dimension of maternal attributions within the nonclinical sample ( $r = -.36, p = .04$ ). Results suggest that mothers who attributed negative child behaviors to global factors tended to demonstrate a greater number of dysfunctional discipline practices. Contrary to the hypothesis, correlations between parenting behaviors and the other dimensions of the WAQ were low and statistically insignificant within this group. Within the ADHD group, the correlations between parenting behaviors and maternal attributions on all dimensions were quite low and statistically insignificant (i.e.,  $p > .05$ ). This suggests that there was minimal relationship between maternal attributions and the discipline practices mothers demonstrated within this sample. Taken together, these findings lend little support to the

hypothesis that a tendency for mothers to attribute undesirable child behaviors to internal, global, uncontrollable, and stable child features is related to dysfunctional discipline practices.

#### Correlation Between Maternal Discipline Style and Child Attributions

To investigate the hypothesis that dysfunctional discipline practices would be associated with a negative attributional style among children, the correlations among these measures were examined separately by group (see Table 6). Results in the nonclinical sample of children do not support this hypothesis. In fact, the findings suggest that in this sample, higher levels of dysfunctional maternal discipline were associated with more adaptive child attributions for negative events ( $r = -.37, p = .08$ ). However, the hypothesis was supported within the clinical sample where a moderate, statistically significant correlation was observed between dysfunctional maternal discipline and children's depressogenic attributions ( $r = .35, p = .04$ ). Further, higher rates of dysfunctional discipline were negatively correlated with adaptive child attributions for positive events in this sample ( $r = -.42, p = .02$ ). These findings suggest that within the clinical group, children whose mothers displayed higher levels of dysfunctional discipline tended to demonstrate a depressogenic attributional style regarding both positive and negative events. The inverse pattern was evinced by children in the nonclinical sample, with higher rates of dysfunctional discipline actually associated with more adaptive child attributions for both positive and negative events.

Table 6

Pearson's Correlations Between Child Attributions, Maternal Attributions, and Maternal Discipline Practices for Children With and Without ADHD

Non-ADHD ( $n = 24$ ) \ *ADHD* (*in italics; n = 26*)

	CA (+)	CA (-)	WAQ (I-E)	WAQ (U-C)	WAQ (G-S)	WAQ (U-S)	PS (T)
CA (+)		<i>-.51*</i>	<i>-.29</i>	<i>.04</i>	<i>-.20</i>	<i>.14</i>	<i>-.42*</i>
CA (-)	<i>-.16</i>		<i>.09</i>	<i>.08</i>	<i>.22</i>	<i>-.16</i>	<i>.35*</i>
WAQ (I-E)	<i>.10</i>	<i>.09</i>		<i>.03</i>	<i>.63*</i>	<i>-.62</i>	<i>-.12</i>
WAQ (U-C)	<i>.07</i>	<i>.14</i>	<i>.81*</i>		<i>-.26</i>	<i>.30</i>	<i>-.29</i>
WAQ (G-S)	<i>.09</i>	<i>-.33</i>	<i>.16</i>	<i>.09</i>		<i>-.80*</i>	<i>.13</i>
WAQ (U-S)	<i>-.18</i>	<i>.27</i>	<i>-.29</i>	<i>-.28</i>	<i>-.80*</i>		<i>.03</i>
PS (T)	<i>.23</i>	<i>-.37<sup>a</sup></i>	<i>-.08</i>	<i>.06</i>	<i>-.36*</i>	<i>.20</i>	

Note. CA(+) = children's attributions for positive events; CA(-) = children's attributions for negative events; WAQ(I-E) = maternal internal/external attributions; WAQ(U-C) = maternal uncontrollable/controllable attributions; WAQ(G-S) = maternal global/stable attributions; WAQ(U-S) = maternal unstable/stable attributions; PS(T) = Parenting Scale, Total.

<sup>a</sup>Note: Correlation is in the opposite direction of that predicted, and is therefore not statistically significant using a one-tailed test of significance.

\*Indicates a statistically significant correlation (i.e.,  $p < .05$ ) between variables.

## Predicting Child Attributions from Maternal Attributions and Maternal Discipline Styles

Regression analyses were completed for both groups to investigate whether children's attributions for positive and negative events could be predicted using maternal attributions and parenting behaviors (see Table 7). Scores on each of the dimensions of the WAQ and the composite score from the Parenting Scale were entered simultaneously as predictor variables. Results from the nonclinical sample suggest that this model accounted for only a small and statistically insignificant portion of children's attributions for positive events ( $R^2 = .11$ ,  $F = .465$ ,  $p = .80$ ). Although the model accounted for a slightly higher proportion of the variance in the clinical sample, findings were not statistically significant ( $R^2 = .30$ ,  $F = 1.702$ ,  $p = .18$ ). With regard to children's attributions for negative events, the model was able to account for a statistically significant portion of the variance for the nonclinical sample ( $R^2 = .44$ ,  $F = 2.822$ ,  $p = .05$ ). Within this model, the composite score on the Parenting Scale was the only variable that served as a statistically significant predictor of child attributions ( $t = -3.079$ ,  $p = .01$ ; see Table 8). It is important to note, however, that the direction of this relationship was the inverse of what was expected. That is, higher levels of dysfunctional discipline were predictive of fewer depressogenic attributions among children. Within the clinical sample, the model was not able to account for a statistically significant portion of the variance in children's attributions for negative events ( $R^2 = .22$ ,  $F = 1.131$ ,  $p = .38$ ). In sum, these findings provide little support for the hypothesis that children's attributions

for positive and negative events may be predicted on the basis of parenting behaviors and maternal attributions. Although mothers' discipline styles were predictive of child attributions for negative events within the nonclinical group, the nature of this relationship was the inverse of that expected with higher levels of dysfunctional parenting predictive of fewer depressogenic attributions.

Table 7

Regression Equations Using the Subscales of the WAQ and the Total Score from the Parenting Scale to Predict Children's Attributions on the CASQ-R

CASQ-R dimension	Source	Sum of squares	Degrees freedom	Mean square	F	Two-tailed signif. ( $\alpha = .05$ )	R <sup>2</sup>
Non-ADHD ( $n = 24$ )							
CA (-) <sup>1</sup>	Regression	44.75	5	8.95	2.82	.05*	.44
	Residual	57.08	18	3.17			
	Total	101.83	23				
CA (+) <sup>1</sup>	Regression	8.30	5	1.66	.47	.80	.11
	Residual	64.20	18	3.57			
	Total	72.50	23				
ADHD ( $n = 26$ )							
CA (-)	Regression	19.51	5	3.90	1.13	.38	.22
	Residual	69.00	20	3.45			
	Total	88.50	25				
CA (+)	Regression	17.77	5	3.56	1.70	.18	.30
	Residual	41.77	20	2.09			
	Total	59.54	25				

Note. CA(+) = children's attributions for positive events; CA(-) = children's attributions for negative events.

\* Indicates that a statistically significant (i.e.,  $p < .05$ ) portion of the variance in the dependent variable is accounted for by the regression model.



Table 8

Variables Predicting Children's Attributions for Negative Events in the NonclinicalSample

Predictor variables	Unstandardized coefficients		Standardized coefficients		Two-tailed signif. ( $\alpha = .05$ )
	B	Standard error	Beta	$t$	
Constant	12.59	4.59		2.75	.01
WAQ (I-E)	-.23	.38	-.19	-.61	.55
WAQ (C-U)	.43	.35	.38	1.24	.23
WAQ (G-S)	-.68	.39	-.55	-1.74	.10
WAQ (U-S)	5.39E-03	.38	.004	.01	.99
PS (T)	-2.12	.69	-.60	-3.08	.01*

Note. WAQ(I-E) = maternal internal/external attributions; WAQ(U-C) = maternal uncontrollable/controllable attributions; WAQ(G-S) = maternal global/stable attributions; WAQ(U-S) = maternal unstable/stable attributions; PS(T) = Parenting Scale, Total.

\* Indicates a statistically significant ( $p < .05$ ) regression coefficient.

Prediction of Group Membership via Child Attributions, Maternal  
Attributions, and Maternal Discipline Styles

A discriminant function analysis was performed to determine whether children with ADHD may be discerned from their non-ADHD counterparts on the basis of their mothers' parenting behaviors, maternal attributions, and child attributions (see Table 9). While analyses of variance (like those reported above) can be used to evaluate the

statistical significance of differences between groups, discriminant function analyses allow for an examination of the degree to which group membership can be accurately predicted on the basis of given variables. It was assumed that the only variables that would provide adequate discrimination between the two groups were those on which significant differences were revealed in previous analyses. Thus, predictor variables were only selected for these analyses if statistically significant differences were found in the analyses of variance reported above. The predictor variables used included maternal attributions on the specificity and stability dimensions in addition to children's attributions for positive events. Each of these variables demonstrated an adequate within-groups correlation with the standardized canonical discriminant functions (.864, -.790, and .460, respectively). Prior probabilities were based upon group size and all variables were entered into the model simultaneously. Overall, 62% of the cases were correctly classified on the discriminant function using these variables as predictors. Of the nonclinical cases, 50.0% were correctly classified while 73.1% of the clinical cases were classified correctly. This suggests that the model resulted in a higher number of "false-positives" with more children incorrectly classified in the clinical group. These results suggest that it was not possible to adequately predict children's membership in the ADHD versus non-ADHD group based upon the maternal attributions used and children's attributions for positive events.

Table 9

Discriminant Analyses Predicting Group Membership Via Maternal Attributions on the "Specificity" and "Stability" Domains of the WAQ and Child Attributions for Positive Events

Actual group	Predicted group membership		Total
	ADHD	Non-ADHD	
ADHD	19 (73.1%)	7 (26.9%)	26
Non-ADHD	12 (50.0%)	12 (50.0%)	24

## CHAPTER V

## DISCUSSION

The purpose of the present research was to evaluate child attributions, maternal attributions, and maternal discipline styles in ADHD versus non-ADHD samples. The research questions addressed included: (a) Do children with ADHD differ from their non-ADHD counterparts with regard to the causal explanations they provide on a measure of attributional style?; (b) Do parental attributions differ among the mothers of children with and without ADHD?; (c) Do differences exist in the discipline styles demonstrated by the mothers of children with and without ADHD?; (d) What is the relationship between child attributions, parental attributions for child behavior, and parenting behaviors in ADHD versus non-ADHD populations?; (e) Is it possible to predict children's attributions given information regarding parental attributions and parenting behaviors?; and (f) When evaluating the attributions utilized by children and the attributions and behaviors of their parents, are populations with ADHD discernable from populations without the disorder? The discussion that follows will include a review and interpretation of the findings related to each of the above research questions. In addition, conclusions based upon these findings will be discussed. Finally, the discussion will conclude with a review of the limitations of this study and suggestions for future research projects.

## Review of Major Findings

### Attributional Style in Children With and Without ADHD

Based on previous research in the attributional style and ADHD literature, it was hypothesized that children with ADHD would be more likely than their peers without the disorder to demonstrate a depressogenic attributional style. Such a style would be characterized by internal, global, and stable attributions for negative events.

Additionally, children with this attributional pattern are proposed to demonstrate the inverse set of explanations for positive events (i.e., external, specific, unstable). By utilizing methodology similar to that used in the childhood depression literature, it was hoped that the findings of the current study would contribute to the understanding of attributions within ADHD populations and elucidate how these compare to the attributions used by children with other disorders.

The results obtained in this study lend partial support to the hypothesis that children with ADHD would demonstrate a more depressogenic attributional style than non-ADHD peers. Although differences were not statistically significant, children in the ADHD sample were found to provide more internal, global, and stable attributions for negative events on average than were their non-ADHD peers. In addition, statistically significant differences were found in the attributions for positive events for the two groups. Specifically, children with ADHD tended to provide significantly fewer internal, global, and stable attributions for positive events.

While previous findings regarding the relationship between attributions for positive events and the development of depression have been mixed, research does suggest that these attributions are related to self-esteem (Sweeney et al., 1986; Tennen & Herzberger, 1987; Whitley & Frieze, 1985; Zuckerman, 1979). The findings of this study suggest that in general, children with ADHD tended to demonstrate a less adaptive attributional style than children without the disorder. That is, children in the ADHD group were less likely to "take credit" for positive events and generally viewed these desirable outcomes as being specific to the situation and unstable over time. Children in the nonclinical sample were more likely to demonstrate the "self-serving bias" as described by Tennen and Herzberger (1987) and Whitley and Frieze (1985). As noted in Chapter II, this bias is believed to help maintain one's self-esteem during failures and build self-esteem with experiences of success. Unfortunately, previous research suggests that children's attributions tend to be relatively stable over time (Nolen-Hoeksema et al., 1992). The attributional pattern demonstrated by children with ADHD in this study may be deleterious over time, placing these children at greater risk for the development of poor self-esteem or symptoms of depression later in life.

#### Maternal Attributions for Child Behavior

Based largely upon the previous work of Johnston and Freeman (1997), it was hypothesized that the mothers of children with ADHD would be more likely to attribute inattentive-overactive and oppositional-defiant child behaviors to variables that are internal to the child, uncontrollable, stable over time, and global across situations. The

results partially support this hypothesis, with statistically significant differences regarding attributions for undesirable child behaviors on the dimensions of "stability" and "specificity." The mothers of children with ADHD demonstrated more stable attributions for these undesirable child behaviors than did mothers in the nonclinical sample, suggesting that they tended to view these behaviors as being persistent over time. Further, within the ADHD sample mothers demonstrated fewer specific attributions than did mothers in the non-ADHD group. This finding reveals that mothers within the clinical group tended to view their child's undesirable behaviors as being global, with a high likelihood that they would demonstrate similar behaviors in a variety of situations. Mean difference effect sizes for both the stability and specificity domains suggest that the relative magnitude of these differences was quite large. Statistically significant differences were not revealed on the "locus" and "controllability" factors. However, it was noted that differences in the mean scores on these scales were in the predicted direction. That is, mothers in the clinical group tended to provide more internal and uncontrollable attributions for negative child behaviors than mothers in the nonclinical group.

Overall, these findings suggest that the mothers of children with ADHD tend to view their children's undesirable behaviors as being pervasive in nature and stable over time. As noted by Johnston and Freeman (1997), such a pattern is consistent with a biological model of ADHD, suggesting that the disorder is evidenced across settings and tends to be chronic. These dimensions are of particular interest, given the findings of

Joiner and Wagner (1996) in their meta-analytic review of the parental attributions literature. Specifically, the authors found that the dimensions of stability and specificity were both well supported correlates of child adjustment and parent-child satisfaction. The general attributional pattern demonstrated by the mothers of children with ADHD in the current study is similar to that found in previous research to be associated with poor child adjustment and lower satisfaction in parent-child relationships. It is important to note, however, that the research reviewed by Joiner and Wagner was correlational in nature and it is not possible to make inferences about the directionality of the relationship observed. In other words, it cannot be determined whether stable and global attributions are a cause or consequence of decreased satisfaction with parent-child relationships and poor child adjustment.

#### Maternal Discipline Styles

Given the well documented difficulties associated with parenting children with ADHD, it was predicted that differences in maternal discipline practices would emerge in the current study (Cunningham & Barkley, 1979; Fischer, 1990; Mash & Johnston, 1982, 1990). Though differences were found between the two groups, these differences were relatively low in magnitude and were not statistically significant. This finding is not consistent with the research of Arnold et al. (1993), which revealed that the parents of clinically referred children tended to demonstrate a more dysfunctional style of discipline than those in a nonclinical sample. Similarly, a study conducted by Collett, Greenon, Gimpel, and Phillips (1999) demonstrated that in a preschool sample, scores on a measure



of ADHD symptomatology tended to be positively correlated with scores on the Parenting Scale.

The negligible differences in maternal discipline revealed in the current study may be reflective of several factors. First, it is important to note that in both samples there was relatively little variability in mothers' self-reported discipline styles. For both groups, the maximum mean score on the total scale of the Parenting Scale was 4 (out of a possible 7). Thus, few mothers in either group were reporting extreme levels of dysfunctional discipline. This may suggest that this measure is not sensitive enough to detect differences in parenting behaviors. Second, the sample of mothers in the ADHD group tended to have a higher level of education than mothers in the non-ADHD group. Given previous research suggesting that higher levels of maternal education are associated with more adaptive forms of parenting and discipline styles (e.g., DeGarmo, Forgatch, & Martinez, 1999), any differences that may have existed between the ADHD and non-ADHD samples could have been masked by these differences in maternal education. Alternatively, maternal education may have influenced responding in that the mothers of children with ADHD may have been more sensitive to the face validity of the measure and therefore less likely to endorse dysfunctional practices than mothers in the nonclinical group. Such a pattern may have reduced any differences that exist in the discipline styles of these two groups. Third, many of the children in the ADHD group had been diagnosed with the disorder for quite some time. Upon receiving this diagnosis, mothers in this group may have sought out psychological services that focused on

improving parenting practices and they may have altered their parenting behaviors accordingly. Similarly, these mothers may have obtained other, widely available resources which inform parents about ADHD and address parenting skills to cope effectively with children's disruptive behaviors. Fourth, many of the children in the ADHD group were receiving stimulant medication to address their symptoms of ADHD. Such treatment may have improved child behaviors and subsequently influenced maternal discipline practices. Given the bi-directional nature of parent-child interactions, improvements in child behavior may serve to elicit more adaptive parenting behaviors and discipline practices. Finally, there were a number of children in the clinical sample diagnosed with the "inattentive" subtype of ADHD. Although differences have not been addressed in previous literature, it seems likely that parenting practices may differ between the parents of children with the "predominately inattentive" form of ADHD relative to the parents of children with either the "combined" or "predominately hyperactive-impulsive" subtypes. In other words, previously reported differences may be accounted for more by the overt and disruptive hyperactive and impulsive behaviors displayed by children with these other subtypes.

#### The Correlation Between Child and Maternal Attributions

Although previous research has not directly examined the correlation between children's attributional style and parental attributions for child behavior, it was hypothesized that children may tend to model the attributions used by their mothers to

account for their behaviors. That is, it was hypothesized that children's attributional style on the CASQ-R would correlate with maternal attributions for child behavior on the various dimensions of the WAQ. The results of the current study do not support this hypothesis in either the ADHD or non-ADHD groups. Within both groups, the correlations between children's attributions on the CASQ-R and maternal attributions on the various dimensions of the WAQ were low in magnitude and statistically insignificant.

These results are in contrast to the findings of Seligman et al. (1984) in a related area of research. In their study, Seligman et al. found a significant correlation between maternal and child attributional styles. In other words, the attributions mothers provided for negative life events were significantly correlated with the attributions their children provided for a different set of negative situations. The findings of this study are also in contrast to those obtained by Bickett et al. (1996) in their study of hostile attributional biases among aggressive children and their mothers. An important difference between the current study and previous research is that the constructs being measured in children and mothers were slightly different. In the current study, mothers were asked to indicate their explanations specifically for child behaviors but children were asked to indicate their attributions for more general life events. Conversely, in both the study conducted by Seligman et al. and the research of Bickett et al., the constructs being measured in both children and mothers were essentially identical. It seems possible that the minimal correlations found in the current study suggest that the constructs being measured (i.e., maternal attributions for child behavior versus child attributions for negative life events)

are substantially different and are truly not related. In addition, the current findings may suggest that maternal attributions do not influence children's attributional style directly, but rather indirectly via overt parenting behaviors or some other factor. In other words, children may not have the opportunity to model maternal attributions if these are not overtly expressed.

#### The Correlation Between Maternal Attributions and Maternal Discipline Styles

Based on previous research, it was hypothesized that mothers who attributed negative child behaviors to internal, stable, uncontrollable, and global factors would tend to demonstrate a dysfunctional style of discipline (Bradley & Peters, 1991; Larrance & Twentyman, 1983; Smith & O'Leary, 1995). However, the results of this study provide little support for this hypothesis in either the ADHD or non-ADHD sample. Within both groups correlations for virtually all of the subscales of the WAQ and the total score on the Parenting Scale tended to be low and statistically insignificant. The only exception was the statistically significant correlation within the nonclinical sample between the "specificity" dimension and dysfunctional discipline.

The discrepancy between these findings and those of previous researchers may be due in part to the restriction of range evidenced on the Parenting Scale for both groups. This may have masked correlations that would be evidenced with more extreme levels of dysfunctional discipline. Further, the findings of this study might reflect differences in measurement of these constructs. Differences in the nature of the scenarios provided in

the WAQ and the Parenting Scale may have minimized the relationship between these constructs. Alternatively, mothers' discipline practices may be more influenced by other variables (e.g., child behaviors, the nature of the transgression, characteristics of the setting, etc.) than their attributions. Given that different scenarios were provided for the two measures, these other factors may have been more influential in mothers' responses than were their causal attributions for the events.

#### The Correlation Between Maternal Discipline Styles and Child Attributions

It was hypothesized that dysfunctional maternal discipline would be associated with a depressogenic attributional style among children. This prediction was based upon the assumption that children's attributions may be indirectly influenced by parenting behaviors and the messages children receive via their mothers' response to their misbehavior. In a related study, Glasgow et al. (1997) found that parenting style was associated with the attributional style demonstrated by adolescents regarding academic achievement. The authors demonstrated that ineffective parenting styles (e.g., authoritarian, neglectful, and indulgent parenting) were associated with less adaptive attributions among adolescents. Consistent with the findings of previous researchers and the above hypothesis, within the ADHD sample higher levels of dysfunctional maternal discipline were associated with a less adaptive attributional style for both negative and positive events. In other words, children diagnosed with ADHD whose mothers displayed high levels of ineffective discipline tended to demonstrate a depressogenic

attributional style. Contrary to the prediction, the inverse pattern was demonstrated within the nonclinical sample. Surprisingly, higher levels of dysfunctional maternal discipline in this population were associated with more adaptive attributions among children.

It is difficult to speculate on the possible reasons for this discrepant finding within the nonclinical sample. Given the relatively small size of this group, these findings may reflect an idiosyncrasy within this sample that may not be observed in the larger population. It is also important to note the minimal variability in mothers' self-reported levels of dysfunctional discipline. This restriction of range may have influenced the nature of the associations observed. Additionally, the influence of parenting styles may differ for children with and without behavior problems. Maternal discipline practices that are maladaptive for children who tend to demonstrate a high level of inappropriate behavior may be appropriate for children who do not demonstrate significant behavior problems. For example, some degree of "laxness" or "verbosity" may be adaptive when children demonstrate relatively few inappropriate behaviors. Alternatively, these same parenting practices in combination with the high degree of disruptive behavior typically evidenced by children with ADHD may be quite problematic.

#### Predicting Child Attributions with Maternal Attributions and Maternal Discipline Styles

It was hypothesized that in both the ADHD and non-ADHD samples children's attributions for positive and negative events could be predicted via maternal attributions

and maternal discipline styles. With regard to children's attributions for positive events, this hypothesis was not supported in either the ADHD or non-ADHD sample. In both cases, maternal attributions and maternal discipline accounted for a relatively small and statistically insignificant proportion of the variance in children's attributions. The regression model was able to account for a statistically significant portion of the variance in children's attributions for negative events within the nonclinical sample, but not within the ADHD sample. Within the sample of non-ADHD children, this model accounted for roughly 44.0% of the variance in children's attributions. Importantly, the only variable that served as a significant predictor of child attributions was the total score on the Parenting Scale. As noted with regard to the correlations between maternal discipline and child attributions in this sample, the relationship between dysfunctional discipline and children's attributions for negative events was the inverse of what was expected. Higher levels of dysfunctional discipline were predictive of fewer depressogenic attributions for negative events. As reported earlier, this surprising finding may suggest that the impact of maternal discipline practices differ within clinical versus nonclinical populations.

#### Predicting Group Membership via Child Attributions, Maternal Attributions, and Maternal Discipline Styles

It was hypothesized that children with ADHD could be discriminated from non-ADHD children on the basis of their attributions for positive events and maternal attributions on the "specificity" and "stability" dimensions of the WAQ. While similar to the analyses of variance reported above, a discriminant function analysis differs in that it

allows the researcher to determine whether group membership can be reliably predicted on the basis of certain predictor variables (Tabachnick & Fidell, 1989). The results suggest that the predictor variables selected did not adequately predict ADHD versus non-ADHD status in the current study. These variables resulted in a number of "false positive" predictions and only 62.0% of the subjects were correctly classified. Thus, the findings suggest that while these two groups differ significantly on these variables, they are not adequate predictors of children's diagnostic status.

Given these findings, it appears that the differences in children's attributions for positive events and maternal attributions are not reliable predictors of group membership for ADHD and non-ADHD children. The high number of "false positive" predictions suggest that many children in the nonclinical sample demonstrate a maladaptive attributional pattern with regard to positive events (i.e., external, unstable, and specific attributions for positive events). Similarly, many of the mothers in the nonclinical sample may have demonstrated stable and global attributions for negative child behaviors. Thus, while these patterns appear to be more prevalent in ADHD populations, the presence of these child and maternal attributions does not necessarily indicate the presence of ADHD.

### Conclusions

Based on the findings of the current study, it can be concluded that differences do exist between ADHD and non-ADHD populations with regard to children's attributions.



Consistent with the prediction that children with ADHD would demonstrate a more depressogenic attributional style than their non-ADHD peers, this pattern was revealed with regard to attributions for positive events. Though significant differences were not found for children's attributions for negative events, children with ADHD were less likely to "take credit" for positive outcomes. While attributions for positive events have not been linked to depression as frequently as attributions for negative events, this pattern is of concern with regard to children's ability to build upon their self-esteem with the experience of success. Clinically, this may suggest a need to help children diagnosed with ADHD to internalize their successes and emphasize a sense of agency and ability to control outcomes. Specifically, it may be especially helpful when working with children with ADHD to emphasize the role of internal variables that are within their control (e.g., effort) as mediators of positive outcomes. When accurate, praise statements such as "you worked really hard on that project" or "it looked like you were really trying to be patient with your younger brother" may help these children to internalize positive events.

It can also be concluded based on the results of this study that differences exist in maternal attributions for negative child behaviors. Consistent with the predictions of this study and the previous work of Johnston and Freeman (1997), mothers of children with ADHD were found to provide more "stable" and "global" attributions for inattentive-overactive and oppositional-defiant child behaviors than the mothers of non-ADHD children. This suggests that these mothers tended to view these inappropriate child behaviors as being pervasive both in terms of the settings they may occur in and the

likelihood that they will be demonstrated again in the future. While this set of attributions is consistent with current conceptualizations of ADHD, it may be of concern in that these attributions have been linked to lower satisfaction with parent-child interactions and poor childhood adjustment (Joiner & Wagner, 1996). Given the correlational nature of research supporting this association, it is not possible to determine whether maternal attributions lead to reduced satisfaction in parent-child relationships and childhood adjustment or whether these attributions are the result of continual and pervasive difficulties in these areas.

While differences were not revealed with regard to maternal discipline styles, this may be an area worthy of further research. In future studies, it may be valuable to assess this construct via multiple sources of data rather than a single, self-report measure. Research utilizing structured interviews or standardized parent-child interactions may be particularly useful. Such research may also be an important means of validating the use of self-report measures like the Parenting Scale, and evaluating how parents' responses relate to actual parenting behaviors. Given the mixed findings regarding the relationship between maternal discipline styles and child attributions, further research into this relationship is likely warranted. It would be particularly useful to continue to examine how this relationship may differ in clinical versus nonclinical populations.

#### Limitations and Directions for Future Research

In evaluating the results of this study, several limitations must be considered. One

of the central limitations involves the relatively small sample size obtained in both the clinical and nonclinical groups. The obtained results may have been heavily influenced by sampling error and these findings may not adequately generalize to the larger populations of children with and without ADHD. Of particular concern is the extremely low response rate achieved in the nonclinical group. Given that only 39 of the 350 measures sent out were returned complete (11.1%), the possibility that differences exist between the mothers and children who agreed to participate and those who did not must be entertained. The generalizability of these findings may also be limited by the ethnically homogenous samples obtained in both the clinical and nonclinical groups. Although the influence of this variable has not been examined in previous research, the results obtained may not be applicable to non-Caucasian ethnic groups. Future research including larger samples with a more diverse population of mothers and children may help to elucidate the impact of ethnicity and other demographic variables (e.g., socioeconomic status, gender, maternal education level, age) on children's attributions, maternal attributions, and maternal discipline styles.

The high proportion of children diagnosed with the predominately inattentive subtype of ADHD in the clinical group may also limit the findings of the current study. While the combined subtype tends to be the most common form of ADHD, only 9 (34.6%) of the 26 children in the current study had been diagnosed with this subtype and only 1 child (3.8%) had been diagnosed with the predominately hyperactive-impulsive subtype. The high number of children with the predominately inattentive subtype of

ADHD obtained in the current sample appears to reflect the population served by the referral source used for this study. Given the considerable differences in the clinical presentation of these diverse forms of ADHD, it seems likely that the variables investigated in this study would differ among the various subtypes. Indeed, the descriptive analyses presented in Table 2 suggest that differences do exist between the various subtypes of ADHD with regard to several of the dependent variables. Further research into the differences among these subgroups may provide vital information for clinicians working to provide effective interventions for children and the parents of children with ADHD.

A related limitation involves the duration between children's being diagnosed with ADHD and participating in this study. As noted earlier, after receiving this diagnosis mothers may have sought out additional information about ADHD and may have obtained resources to address parenting skills necessary for dealing with the disorder. Similarly, many of the children in the study were receiving stimulant medication. Improvements in child behavior may have resulted in changes in children's attributions, maternal attributions, and maternal discipline. Research conducted with newly diagnosed ADHD populations would help to address this issue. Additionally, having participants complete the research measures prior to and after receiving treatment would provide useful information about the changes this produces in child and maternal attributions and maternal discipline practices.

It should also be noted that while the measures of child and maternal attributions

are commensurate with the "state of the art" in this field, both the CASQ-R and WAQ ought to be considered experimental, and their psychometric properties require further examination. While these constructs are of considerable interest, both appear to be quite difficult to measure adequately and further research validating the use of these measures with more rigorous methodology would appear to be warranted. In future research, it may be useful to assess these constructs via multiple methodologies to help detect and account for the influence of measurement error.

Finally, several related constructs that were not examined in this study may have influenced the findings. In particular, data were obtained only from mothers rather than including both mothers and fathers. While this is a difficult pragmatic research issue to overcome, further investigation into the differences between mothers and fathers with regard to parental attributions, discipline styles, and their influence on child behavior and attributions is likely warranted. In addition, further research on parental psychopathology (e.g., maternal depression, features of ADHD among parents) may lend valuable insight into factors that mediate parental attributions and discipline styles.

## REFERENCES

- Abramson, L.Y., Metalsky, G.I., & Alloy, L.B. (1989). Hopelessness depression: A theory-based subtype of depression. Psychological Review, *96*, 358-372.
- Abramson, L.Y., Seligman, M.E.P., & Teasdale, J.D. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, *87*, 49-74.
- Alloy, L.B., Kelly, K.A., Mineka, S., & Clements, C.M. (1990). Comorbidity in anxiety and depressive disorders: A helplessness-hopelessness perspective. In J.D. Maeser & C.R. Cloninger (Eds.), Comorbidity in anxiety and mood disorders (pp. 499-543). Washington, DC: American Psychiatric Press.
- Ahrens, A.H., & Haaga, D.A.F. (1993). The specificity of attributional style and expectations to positive and negative affectivity, depression, and anxiety. Cognitive Therapy and Research, *17*, 83-98.
- American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.
- Arnold, L.E. (1996). Sex differences in ADHD: Conference summary. Journal of Abnormal Child Psychology, *24*, 555-569.
- Arnold, D.S., O'Leary, S.G., Wolff, L.S., & Acker, M.M. (1993). The parenting scale: A measure of dysfunctional parenting in discipline situations. Psychological Assessment, *5*, 137-144.

August, G.J., Realmuto, G.M., MacDonald, A.W., Nugent, S.M., & Crosby, R. (1996).

Prevalence of ADHD and comorbid disorders among elementary school children screened for disruptive behavior. Journal of Abnormal Child Psychology, 24, 571-595.

Barkley, R.A. (1997a). ADHD and the nature of self-control. New York: Guilford Press.

Barkley, R.A., Fischer, M., Edelbrock, C., & Smallish, L. (1991). The adolescent outcome of hyperactive children diagnosed by research criteria - III. Mother-child interactions, family conflicts and maternal psychopathology. Journal of Clinical Psychiatry, 32, 233-255.

Baumrind, D. (1966). Effects of authoritative control on child behavior. Child Development, 37, 887-907.

Baumrind, D. (1971). Current patterns of parental authority. Developmental Psychology Monograph, 4, 1-103.

Baumrind, D. (1989). Rearing competent children. In W. Damon (Ed.), Child development today and tomorrow (pp. 349-378). San Francisco: Jossey-Bass.

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. Journal of Early Adolescence, 11, 56-95.

Bell-Dolan, D., & Wessler, A.E. (1994). Attributional style of anxious children: Extensions from cognitive theory and research on adult anxiety. Journal of Anxiety Disorders, 8, 79-96.

- Benfield, C.Y., Palmer, D.J., Pfefferbaum, B., & Stowe, M.L. (1988). A comparison of depressed and nondisturbed children on measures of attributional style, hopelessness, life stress, and temperament. Journal of Abnormal Child Psychology, *16*, 397-410.
- Bickett, L.R., Milich, R., & Brown, R.T. (1996). Attributional styles of aggressive boys and their mothers. Journal of Abnormal Child Psychology, *24*, 456-472.
- Biederman, J., Faraone, S., Milberger, S., Guite, J., Mick, E., Chen, L., Mennin, D., Marris, A., Ouellette, C., Moore, P., Spencer, T., Norman, D., Wilens, T., Kraus, I., & Perrin, J. (1996). A prospective 4-year follow-up study of attention-deficit hyperactivity and related disorders. Archives of General Psychiatry, *53*, 437-446.
- Biederman, J., Newcorn, J., & Sprich, S. (1991). Comorbidity of attention deficit - hyperactivity disorder with conduct, depressive, anxiety, and other disorders. American Journal of Psychiatry, *148*, 564-577.
- Bradley, E.J., & Peters, R.D. (1991). Physically abusive and nonabusive mothers' perceptions of parenting and child behavior. American Journal of Orthopsychiatry, *61*, 455-460.
- Clark, L.A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. Journal of Abnormal Psychology, *100*, 316-336.



- Collett, B.R., Gimpel, G.A., Greenson, J.N., & Gunderson, T. (1999). The assessment of discipline styles among the parents of preschool through late elementary school children. Manuscript in preparation, Utah State University, Logan, UT.
- Collett, B.R., Greenson, J.N., Gimpel, G.A., & Phillips, P.L. (1999, August). Parenting discipline styles and ADHD symptoms in preschool children. Poster presented at the American Psychological Association Conference. Boston, MA.
- Conners, C.K. (1997). Conners' rating scales--revised. North Tonawanda, NY: Multi-Health Systems, Inc.
- Cunningham, C.E., & Barkley, R.A. (1979). The interactions of normal and hyperactive children with their mothers in free play and structured tasks. Child Development, *50*, 217-224.
- Curry, J.F., & Craighead, W.E. (1990). Attributional style in clinically depressed and conduct disordered adolescents. Journal of Consulting and Clinical Psychology, *58*, 109-115.
- Danforth, J.S., Barkley, R.A., & Stokes, T.F. (1991). Observations of parent-child interactions with hyperactive children: Research and clinical implications. Clinical Psychology Review, *11*, 703-727.
- DeGarmo, D.S., Forgatch, M.S., & Martinez, C.R. (1999). Parenting of divorced mothers as a link between social status and boy's academic outcomes: Unpacking the effects of socioeconomic status. Child Development, *70*, 1231-1245.

- Diener, C.I., & Dweck, C.S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. Journal of Personality and Social Psychology, *36*, 451-462.
- Dix, T., & Lochman, J. (1990). Social cognition and negative reactions to children: A comparison of mothers of aggressive and nonaggressive boys. Journal of Social and Clinical Psychology, *9*, 418-438.
- Dix, T., Ruble, D.N., Grusec, J.E., & Nixon, S. (1986). Social cognition in parents: Inferential and affective reactions to children of three age levels. Child Development, *57*, 879-894.
- Dixon, J.F., & Ahrens, A.H. (1992). Stress and attributional style as predictors of self-reported depression in children. Cognitive Therapy and Research, *16*, 623-634.
- Dowd, E.T., Claiborn, C.D., & Milne, C.R. (1985). Anxiety, attributional style, and perceived coping ability. Cognitive Therapy and Research, *9*, 575-582.
- Drugan, R.C., Morrow, A.L., Weizman, R., Weizman, A., Deutsch, S.I., Crawley, J.N., & Paul, S.M. (1989). Stress-induced behavioral depression in the rat is associated with a decrease in GABA receptor-mediated chloride ion flux and brain benzodiazepine receptor occupancy. Brain Research, *487*, 45-51.
- Dua, J.K. (1995). Retrospective and prospective psychological and physical health as a function of negative affect and attributional style. Journal of Clinical Psychology, *51*, 507-518.

- Dweck, C.S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. Journal of Personality and Social Psychology, 31, 674-685.
- Dweck, C.S. (1986). Motivational processes affecting learning. American Psychologist, 41, 1040-1048.
- Dweck, C.S., & Leggett, E.L. (1988). A social-cognitive approach to motivation and personality. Psychological Review, 95, 256-273.
- Dweck, C.S., & Reppucci, N.D. (1973). Learned helplessness and reinforcement responsibility in children. Journal of Personality and Social Psychology, 25, 109-116.
- Fergusson, D.M., Lynskey, M.T., & Horwood, L.J. (1997). Attentional difficulties in middle childhood and psychosocial outcomes in young adulthood. Journal of Clinical Psychology and Psychiatry, 38, 633-644.
- Fischer, M. (1990). Parenting stress and the child with attention deficit-hyperactivity disorder. Journal of Clinical Child Psychology, 19, 337-346.
- Fischer, M., Barkley, R.A., Edelbrock, C.S., & Smallish, L. (1990). The adolescent outcome of hyperactive children diagnosed by research criteria: II. Academic, attentional, and neuropsychological status. Journal of Consulting and Clinical Psychology, 58, 580-588.
- Gladstone, T.R.G., & Kaslow, N.J. (1995). Depression and attributions in children and adolescents: A meta-analytic review. Journal of Abnormal Child Psychology, 23, 597-606.

Glasgow, K.L., Dornbusch, S.M., Troyer, L., Steinberg, L., & Ritter, P.L. (1997).

Parenting styles, adolescents' attributions, and educational outcomes in nine heterogeneous high schools. Child Development, 68, 507-529.

Gotlib, I.H., Lewinsohn, P.M., Seeley, J.R., Rohde, P., & Redner, J.E. (1993). Negative cognitions and attributional style in depressed adolescents: An examination of stability and specificity. Journal of Abnormal Psychology, 102, 607-615.

Greene, R.W., Biederman, J., Faraone, S.V., Sienna, M., & Garcia-Jetton, J. (1997).

Adolescent outcome of boys with attention-deficit/hyperactivity disorder and social disability: Results from a 4-year longitudinal follow-up study. Journal of Consulting and Clinical Psychology, 65, 758-767.

Gretarsson, S.J., & Gelfand, D.M. (1988). Mothers' attributions regarding their children's social behavior and personality characteristics. Developmental Psychology, 24, 264-269.

Hammen, C., Adrian, C., & Hiroto, D. (1988). A longitudinal test of the attributional vulnerability model in children at risk for depression. British Journal of Clinical Psychology, 27, 37-46.

Heimberg, R.G., Klosko, J.S., Dodge, C.S., Shadick, R., Becker, R.E., & Barlow, D.H.

(1989). Anxiety disorders, depression, and attributional style: A further test of the specificity of depressive attributions. Cognitive Therapy and Research, 13, 21-36.

- Heimberg, R.G., Vermilyea, J.A., Dodge, C.S., Becker, R.E., & Barlow, D.H. (1987). Attributional style, depression, and anxiety: An evaluation of the specificity of depressive attributions. Cognitive Therapy and Research, 11, 537-550.
- Hinshaw, S.P. (1994). Attention deficits and hyperactivity in children. London: Sage.
- Hinshaw, S.P., Zupan, B.A., Simmel, C., Nigg, J.T., & Melnick, S. (1997). Peer status in boys with and without attention-deficit/hyperactivity disorder: Predictions from overt and covert antisocial behavior, social isolation, and authoritative parenting beliefs. Child Development, 68, 880-896.
- Hoza, B., Pelham, W.E., Milich, R., Pillow, D., & McBride, K. (1993). The self-perceptions and attributions of attention deficit-hyperactivity disordered and nonreferred boys. Journal of Abnormal Child Psychology, 21, 271-286.
- Johnson, J.G., & Miller, S.M. (1990). Attributional, life-event, and affective predictors of onset of depression, anxiety, and negative attributional style. Cognitive Therapy and Research, 14, 417-430.
- Johnston, C., & Freeman, W. (1997). Attributions for child behavior in parents of children with behavior disorders and children with attention-deficit/hyperactivity disorder. Journal of Consulting and Clinical Psychology, 65, 636-645.
- Johnston, C., & Patenaude, R. (1994). Parent attributions for inattentive-overactive and oppositional-defiant child behaviors. Cognitive Therapy and Research, 18, 261-275.

- Johnston, C., Patenaude, R.L., & Inman, G. (1992). Attributions for hyperactive and aggressive child behaviors. Social Cognition, 10, 255-270.
- Joiner, T.E., & Wagner, K.D. (1995). Attributional style and depression in children and adolescents: A meta-analytic review. Clinical Psychology Review, 15, 777-798.
- Joiner, T.E., & Wagner, K.D. (1996). Parental, child-centered attributions and outcome: A meta-analytic review with conceptual and methodological implications. Journal of Abnormal Child Psychology, 24, 37-52.
- Kaslow, N.J., & Nolen-Hoeksema, S. (1991). Children's attributional style questionnaire-revised (CASQ-R). Unpublished manuscript, Emory University, Atlanta.
- Kaslow, N.J., Rehm, L.P., & Siegel, A.W. (1984). Social-cognitive and cognitive correlates of depression in children. Journal of Abnormal Child Psychology, 12, 605-620.
- Kaslow, N.J., Tanenbaum, R.L., & Seligman, M.E.P. (1978). The KASTAN-R: A children's attributional style questionnaire (KASTAN-R-CASQ). Unpublished manuscript, University of Pennsylvania, Philadelphia.
- Krech, K.H., & Johnston, C. (1992). The relationship of depressed mood and life stress to maternal perceptions of child behavior. Journal of Clinical Child Psychology, 21, 115-122.
- Larrance, D.T., & Twentyman, C.T. (1983). Maternal attributions and child abuse. Journal of Abnormal Psychology, 92, 449-457.

- Maccoby, E., & Martin, J. (1983). Socialization in the context of the family: Parent-child interaction. In E.M. Heatherington (Ed.), P.H. Mussen (Series Ed.), Handbook of child psychology: Vol. 4. Socialization, personality, and social development (pp. 1-101). New York: Wiley.
- Mash, E.J., & Johnston, C. (1982). A comparison of the mother-child interactions of younger and older hyperactive and normal children. Child Development, *53*, 1371-1381.
- Mash, E.J., & Johnston, C. (1990). Determinants of parenting stress: Illustrations from families of hyperactive children and families of physically abused children. Journal of Clinical Child Psychology, *19*, 313-328.
- McCauley, E., Mitchell, J.R., Burke, P., & Moss, S. (1988). Cognitive attributes of depression in children and adolescents. Journal of Consulting and Clinical Psychology, *56*, 903-908.
- McDermott, P.A. (1996). A nationwide study of developmental and gender prevalence for psychopathology in childhood and adolescence. Journal of Abnormal Child Psychology, *24*, 53-66.
- Metalsky, G.I., Joiner, T.E., Jr., Hardin, T.S., & Abramson, L.Y. (1993). Depressive reactions to failure in a naturalistic setting: A test of the hopelessness and self-esteem theories of depression. Journal of Abnormal Psychology, *102*, 101-109.
- Milich, R. (1994). The response of children with ADHD to failure: If at first you don't succeed, do you try, try, again? School Psychology Review, *23*, 11-18.

- Milich, R., & Landau, S. (1982). Socialization and peer relations in hyperactive children. In K.D. Gadow & I. Bialer (Eds.), Advances in learning and behavioral disabilities (Vol. 1., pp 283-339). Greenwich, CT: JAI.
- Milich, R., & Okazaki, M. (1991). An examination of learned helplessness among attention-deficit/hyperactivity disordered boys. Journal of Abnormal Child Psychology, 19, 607-623.
- Nolen-Hoeksema, S., Girgus, J.S., & Seligman, M.E.P. (1986). Learned helplessness in children: A longitudinal study of depression, achievement, and explanatory style. Journal of Personality and Social Psychology, 51, 435-442.
- Nolen-Hoeksema, S., Girgus, J.S., & Seligman, M.E.P. (1992). Predictors and consequences of childhood depressive symptoms: A 5-year longitudinal study. Journal of Abnormal Psychology, 101, 405-422.
- Overmier, J.B., & Leaf, R.C. (1965). Effects of discriminative Pavlovian fear conditioning upon previously or subsequently acquired avoidance responding. Journal of Comparative and Physiological Psychology, 60, 213-217.
- Overmier, J.B., & Seligman, M.E.P. (1967). Effects of inescapable shock upon subsequent escape and avoidance learning. Journal of Comparative and Physiological Psychology, 63, 28-33.
- Peterson, C., & Barrett, L.C. (1987). Explanatory style and academic performance among university freshmen. Journal of Personality and Social Psychology, 53, 603-607.



- Peterson, C., Maier, S.F., & Seligman, M.E.P. (1993). Learned helplessness: A theory for the age of personal control. New York: Oxford University Press.
- Peterson, C., & Seligman, M.E.P. (1984). Causal explanations as a risk factor for depression: Theory and evidence. Psychological Review, *91*, 347-374.
- Pfiffner, L.J., & McBurnett, K. (1997). Social skills training with parent generalization: Treatment effects for children with attention deficit disorder. Journal of Consulting and Clinical Psychology, *65*, 749-757.
- Reid, M.K., & Borkowski, J.G. (1987). Causal attributions of hyperactive children: Implications for teaching strategies and self-control. Journal of Educational Psychology, *79*, 296-307.
- Riskind, J.H., Castellon, C.S., & Beck, A.T. (1989). Spontaneous causal explanations in unipolar depression and generalized anxiety: Content analysis of dysfunctional-thought diaries. Cognitive Therapy and Research, *13*, 97-108.
- Robinson, N.S., Garber, J., & Hilsman, R. (1995). Cognitions and stress: Direct and moderating effects on depressive versus externalizing symptoms during the junior high school transition. Journal of Abnormal Psychology, *104*, 453-463.
- Romney, D.M. (1994). Cross-validating a causal model relating attributional style, self-esteem, and depression: An heuristic study. Psychological Reports, *74*, 203-207.
- Seligman, M.E.P. (1974). Depression and learned helplessness. In R.J. Friedman & M.M. Katz (Eds.), The psychology of depression: Contemporary theory and research. Washington, DC: Winston-Wiley.

- Seligman, M.E.P., Peterson, C., Kaslow, N.J., Tanenbaum, R.L., Alloy, L.B., & Abramson, L.Y. (1984). Attributional style and depressive symptoms among children. Journal of Abnormal Psychology, *93*, 235-238.
- Sherman, D.K., McGue, M.K., & Iacono, W.G. (1997). Twin concordance for attention deficit-hyperactivity disorder: A comparison of teachers' and mothers' reports. American Journal of Psychiatry, *154*, 532-535.
- Siegler, R.S. (1991). Children's thinking (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Smith, A.M., & O'Leary, S.G. (1995). Attributions and arousal as predictors of maternal discipline. Cognitive Therapy and Research, *19*, 459-471.
- Sobol, M.P., Ashbourne, D.T., Earn, B.M., & Cunningham, C.E. (1989). Parents' attributions for achieving compliance from attention-deficit-disordered children. Journal of Abnormal Child Psychology, *17*, 359-369.
- Stewart, K. (1997). Analysis of internalizing symptoms of children and parent discipline styles: An exploratory study. Unpublished manuscript, Utah State University, Logan.
- Stipek, D.J., & Weisz, J.R. (1981). Perceived personal control and academic achievement. Review of Educational Research, *51*, 101-137.
- Strassberg, Z. (1995). Social information processing in compliance situations by mothers of behavior-problem boys. Child Development, *66*, 376-389.
- Sweeney, P.D., Anderson, K., & Bailey, S. (1986). Attributional style in depression: A meta-analytic review. Journal of Personality and Social Psychology, *50*, 974-991.

- Swendsen, J.D. (1997). Anxiety, depression, and their comorbidity: An experience sampling test of the helplessness-hopelessness theory. Cognitive Therapy and Research, *21*, 97-114.
- Tabachnick, B.G., & Fidell, L.S. (1989). Using multivariate statistics (2nd ed.). New York: HarperCollins.
- Tennen, H., & Herzberger, S. (1987). Depression, self-esteem, and the absence of self-protective attributional biases. Journal of Personality and Social Psychology, *52*, 72-80.
- Turner, J.E., & Cole, D.A. (1994). Developmental differences in cognitive diathesis for child depression. Journal of Abnormal Child Psychology, *22*, 15-32.
- Weiner, B. (1979). A theory of motivation for some classroom experiences. Journal of Educational Psychology, *71*, 3-25.
- Whalen, C.K., & Henker, B. (1991). Therapies for hyperactive children: Comparisons, combinations, and compromises. Journal of Consulting and Clinical Psychology, *59*, 126-137.
- Whitley, B.E., & Frieze, I.H. (1985). Children's causal attributions for success and failure in achievement settings: A meta-analysis. Journal of Educational Psychology, *77*, 608-616.
- Zuckerman, M. (1979). Attribution of success and failure revisited, or: The motivational bias is alive and well in attribution theory. Journal of Personality, *47*, 245-287.

Department of  
Lithography  
No. 25  
Lithography

APPENDICES

THE  
FOLK SAVING BANK  
NORTH

Appendix A: Measures



# Conners' Parent Rating Scale - Revised (L)

by C. Keith Conners, Ph.D.

Child's Name: _____	Gender: M F <small>(Circle One)</small>
Birthdate: ____/____/____ <small>Month Day Year</small>	Age: _____ School Grade: _____
Parent's Name: _____	Today's Date: ____/____/____ <small>Month Day Year</small>

Instructions: Below are a number of common problems that children have. Please rate each item according to your child's behavior in the last month. For each item, ask yourself "How much of a problem has this been in the last month?", and circle the best answer for each one. If none, not at all, seldom, or very infrequently, you would circle 0. If very much true, or it occurs very often or frequently, you would circle 3. You would circle 1 or 2 for ratings in between. Please respond to all the items.

NOT TRUE AT ALL (Never, Seldom)	JUST A LITTLE TRUE (Occasionally)	PRETTY MUCH TRUE (Often, Quite a Bit)	VERY MUCH TRUE (Very Often, Very Frequent)
--	--	--	---

1. Angry and resentful .....	0	1	2	3
2. Difficulty doing or completing homework .....	0	1	2	3
3. Is always "on the go" or acts as if driven by a motor .....	0	1	2	3
4. Timid, easily frightened .....	0	1	2	3
5. Everything must be just so .....	0	1	2	3
6. Has no friends .....	0	1	2	3
7. Stomach aches .....	0	1	2	3
8. Fights .....	0	1	2	3
9. Avoids, expresses reluctance about, or has difficulties engaging in tasks that require sustained mental effort (such as schoolwork or homework) .....	0	1	2	3
10. Has difficulty sustaining attention in tasks or play activities .....	0	1	2	3
11. Argues with adults .....	0	1	2	3
12. Fails to complete assignments .....	0	1	2	3
13. Hard to control in malls or while grocery shopping .....	0	1	2	3
14. Afraid of people .....	0	1	2	3
15. Keeps checking things over again and again .....	0	1	2	3
16. Loses friends quickly .....	0	1	2	3
17. Aches and pains .....	0	1	2	3
18. Restless or overactive .....	0	1	2	3
19. Has trouble concentrating in class .....	0	1	2	3
20. Does not seem to listen to what is being said to him/her .....	0	1	2	3
21. Loses temper .....	0	1	2	3
22. Needs close supervision to get through assignments .....	0	1	2	3
23. Runs about or climbs excessively in situations where it is inappropriate .....	0	1	2	3
24. Afraid of new situations .....	0	1	2	3
25. Fussy about cleanliness .....	0	1	2	3
26. Does not know how to make friends .....	0	1	2	3
27. Gets aches and pains or stomachaches before school .....	0	1	2	3
28. Excitable, impulsive .....	0	1	2	3
29. Does not follow through on instructions and fails to finish schoolwork, chores or duties in the workplace (not due to oppositional behavior or failure to understand instructions) .....	0	1	2	3
30. Has difficulty organizing tasks and activities .....	0	1	2	3
31. Irritable .....	0	1	2	3
32. Restless in the "squimpy sense" .....	0	1	2	3
33. Afraid of being alone .....	0	1	2	3
34. Things must be done the same way every time .....	0	1	2	3
35. Does not get invited over to friends' houses .....	0	1	2	3
36. Headaches .....	0	1	2	3
37. Fails to finish things he/she starts .....	0	1	2	3

*Items continued on back page...*

## Conners' Parent Rating Scale - Revised (L)

by C. Keith Conners, Ph.D.

	NOT TRUE AT ALL (Never, Seldom)	JUST A LITTLE TRUE (Occasionally)	PRETTY MUCH TRUE (Often, Quite a Bit)	VERY MUCH TRUE (Very Often, Very Frequent)
38. Inattentive, easily distracted .....	0	1	2	3
39. Talks excessively .....	0	1	2	3
40. Actively defies or refuses to comply with adults' requests .....	0	1	2	3
41. Fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities .....	0	1	2	3
42. Has difficulty waiting in lines or awaiting turn in games or group situations .....	0	1	2	3
43. Has a lot of fears .....	0	1	2	3
44. Has rituals that he/she must go through .....	0	1	2	3
45. Distractibility or attention span a problem .....	0	1	2	3
46. Complains about being sick even when nothing is wrong .....	0	1	2	3
47. Temper outbursts .....	0	1	2	3
48. Gets distracted when given instructions to do something .....	0	1	2	3
49. Interrupts or intrudes on others (e.g., butts into others' conversations or games) .....	0	1	2	3
50. Forgetful in daily activities .....	0	1	2	3
51. Cannot grasp arithmetic .....	0	1	2	3
52. Will run around between mouthfuls at meals .....	0	1	2	3
53. Afraid of the dark, animals, or bugs .....	0	1	2	3
54. Sets very high goals for self .....	0	1	2	3
55. Fidgets with hands or feet or squirms in seat .....	0	1	2	3
56. Short attention span .....	0	1	2	3
57. Touchy or easily annoyed by others .....	0	1	2	3
58. Has sloppy handwriting .....	0	1	2	3
59. Has difficulty playing or engaging in leisure activities quietly .....	0	1	2	3
60. Shy, withdrawn .....	0	1	2	3
61. Blames others for his/her mistakes or misbehavior .....	0	1	2	3
62. Fidgeting .....	0	1	2	3
63. Messy or disorganized at home or school .....	0	1	2	3
64. Gets upset if someone rearranges his/her things .....	0	1	2	3
65. Clings to parents or other adults .....	0	1	2	3
66. Disturbs other children .....	0	1	2	3
67. Deliberately does things that annoy other people .....	0	1	2	3
68. Demands must be met immediately — easily frustrated .....	0	1	2	3
69. Only attends if it is something he/she is very interested in .....	0	1	2	3
70. Spiteful or vindictive .....	0	1	2	3
71. Loses things necessary for tasks or activities (e.g., school assignments, pencils, books, tools or toys) .....	0	1	2	3
72. Feels inferior to others .....	0	1	2	3
73. Seems tired or slowed down all the time .....	0	1	2	3
74. Spelling is poor .....	0	1	2	3
75. Cries often and easily .....	0	1	2	3
76. Leaves seat in classroom or in other situations in which remaining seated is expected ...	0	1	2	3
77. Mood changes quickly and drastically .....	0	1	2	3
78. Easily frustrated in efforts .....	0	1	2	3
79. Easily distracted by extraneous stimuli .....	0	1	2	3
80. Blurts out answers to questions before the questions have been completed .....	0	1	2	3



## THE PARENTING SCALE

At one time or another, all children misbehave or do things that could be harmful, that are "wrong", or that parents don't like. Examples include:

<i>hitting someone</i>	<i>whining</i>	<i>throwing food</i>
<i>forgetting homework</i>	<i>not picking up toys</i>	<i>lying</i>
<i>having a tantrum</i>	<i>refusing to go to bed</i>	<i>coming home late</i>
<i>running into the street</i>	<i>arguing back</i>	<i>wanting a cookie before dinner</i>

*Parent have many different ways or styles of dealing with these types of problems. Below are items that describe some styles of parenting.*

Each item below has two descriptions of parent behaviors. For each item, put an X on the line that best describes your style of parenting during the past two months with your child who is participating in our project. Please complete all items on all pages.

### SAMPLE ITEM

At meal time . . .

I let my child decide how much to eat.	: : : : X : : : :	I decide how much my child eats.
---	-------------------	--

By marking the center line this means that approximately half of the time you decide how much your child eats, the other half of the time your child decides how much to eat.

1. When my child misbehaves . . .

I do something right away.	: : : : : : : :	I do something about it later.
-------------------------------	-----------------	-----------------------------------

2. Before I do something about a problem . . .

I give my child several reminders or warnings.	: : : : : : : :	I use only one reminder or warning.
---	-----------------	--

3. When I'm upset or under stress . . .

I am picky and on my child's back.	: : : : : : : :	I am no more picky than usual.
---------------------------------------	-----------------	-----------------------------------

4. When I tell my child not to do something . . .

I say very little.	: : : : : : : :	I say a lot
--------------------	-----------------	-------------

5. When my child pesters me . . .

I can ignore the the pestering.	: : : : : : : :	I can't ignore the pestering.
------------------------------------	-----------------	----------------------------------

6. When my child misbehaves ...  
 I usually get into a long argument with my child. : : : : : : : : I don't get into an argument.
7. I threaten to do things that ...  
 I am sure I can carry out. : : : : : : : : I know I won't actually do.
8. I am the kind of parent that ...  
 Sets limits on what my child is allowed to do. : : : : : : : : Lets my child do whatever he/she wants.
9. When my child misbehaves ...  
 I give my child a long lecture. : : : : : : : : I keep my talks short and to the point
10. When my child misbehaves ...  
 I raise my voice or yell. : : : : : : : : I speak to my child calmly.
11. If saying no does not work right away ...  
 I take some other kind of action. : : : : : : : : I keep talking and trying to get through to my child.
12. When I want my child to stop doing something ...  
 I firmly tell my child to stop. : : : : : : : : I coax or beg my child to stop.
13. When my child is out of my sight ...  
 I often don't know what my child is doing. : : : : : : : : I always have a good idea of what my child is doing.
14. After there's been a problem with my child ...  
 I often hold a grudge. : : : : : : : : Things get back to normal quickly.
15. When we're not at home ...  
 I handle my child the way I do at home. : : : : : : : : I let my child get away with a lot more.
16. When my child does something I don't like ...  
 I do something about it every time it happens. : : : : : : : : I often let it go.

17. When there's a problem with my child ...  
 Things build up and I do things I don't mean to do. : : : : : : : : Things don't get out of hand.
18. When my child misbehaves, I spank, slap grab, or hit my child ...  
 Never or rarely : : : : : : : : Most of the time.
19. When my child doesn't do what I ask ...  
 I often let it go or end up doing it myself. : : : : : : : : I take some other action.
20. When I give a fair threat or warning ...  
 I often don't carry it out. : : : : : : : : I always do what I said.
21. If saying no doesn't work ...  
 I take some other kind of action. : : : : : : : : I offer my child something nice so he/she will behave.
22. When my child misbehaves ...  
 I handle it without getting upset. : : : : : : : : I get so frustrated or angry that my child can see I'm upset.
23. When my child misbehaves ...  
 I make my child tell me why he/she did it. : : : : : : : : I say "No" or take some other action.
24. If my child misbehaves and then acts sorry ...  
 I handle the problem like I usually would. : : : : : : : : I let it go that time.
25. When my child misbehaves ...  
 I rarely use bad language or curse. : : : : : : : : I almost always use bad language.
26. When I say my child can't do something ...  
 I let my child do it anyway. : : : : : : : : I stick to what I said.

27. When I have to handle a problem ...

I tell my child I'm sorry about it. : : : : : : : : I don't say I'm sorry.

28. When my child does something I don't like, I insult my child, say mean things, or call my child names ...

Never or Rarely. : : : : : : : : Most of the time.

29. If my child talks back or complains when I handle a problem ...

I ignore the complaining. and stick to what I said. : : : : : : : : I give my child a talk about not complaining.

30. If my child gets upset when I say "No" ...

I back down and give in to my child. : : : : : : : : I stick to what I said.

Thinking About Child Behavior

Person Completing This Form \_\_\_\_\_

Date \_\_\_\_\_

We would like you to read some situations describing child behaviors and answer questions about each of them. Please read each situation as if it were a new behavior on a new day and try to vividly imagine *you and your child* in the scenario.

There are no right or wrong answers, and if you have difficulty judging, just go with your first impression. Circle the number that best describes your response to the situation & please be sure to complete all items on both sides.

A. Your child enters the kitchen just as you have finished sweeping the floor and getting the dust in a pile to pick up. The child doesn't wait for you to finish and heads straight to the fridge. As she rushes through the kitchen, the pile of dirt scatters across the floor.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future

- B. You and your child decide to play a board game after school one day. You get the game down from the shelf and you and your child set up the pieces on the game board and decide which color each of you would like to be. Then he offers to let you roll the dice first.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future

C. Your child and the family are sitting at the kitchen table. There is an outdoor field trip scheduled that day and you are listening for the weather forecast on the radio. Just as the weather comes on, your child begins to talk loudly about a song she heard on the radio.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future



- D. Your child and the family are having breakfast. He wants some ketchup on his hashbrowns but the ketchup is very slow coming out of the bottle. Your child doesn't wait for it to run slowly, and as he carelessly shakes the bottle, the ketchup spurts out onto the toast on your plate.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future

- E. Your child and you are bringing some firewood into the house. Ignoring your warning, the child insists on picking up several pieces of wood by himself. Even though the logs are too heavy, he won't let you stop and help him and instead, drops some of the logs as he walks through the living room.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future

- F. Your child is playing with the video games on the computer in the family room. When you call her for dinner, she does not answer. You go into the room and tell her to come to the table. Your child shakes her head, saying that she won't stop playing and doesn't want to eat dinner.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future



H. Your child and the family are getting ready to sit down for dinner one evening. You are bringing the food out to the dining room table. Your child comes in through the kitchen, and without being asked, he picks up the salt and pepper and brings them to the table.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future

1. Your child is going through the hall closet looking for his baseball mitt and ball. When he can't find them, he runs to where you are busy talking on the telephone. He keeps tapping you on the back and interrupting to ask you to help him find the mitt.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
a one time thing will happen again in the future

- J. You and your child are watching television one evening. The TV listings fall off the arm of the sofa to the floor between the sofa and the wall. She gets down on the floor and reaches to retrieve the listings for you without being asked.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future

- K. Your child is in his bedroom getting ready for school. As you walk past his room, you look in and see that he has not brushed his hair. You remind him to brush his hair and wash his face. The child refuses, telling you that his hair doesn't need to be brushed.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future



- L. Your child is watching a show on TV. It is the child's bedtime, and there is another program you want to watch. Although the show is a repeat episode that your child has already seen, she tells you that she has to see the ending and insists on watching the entire program.

1. To what extent do you think your child's behavior was caused by something about him or her versus something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 something about the child something about other people/the situation

2. To what extent was your child's behavior something within his or her control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 completely within his/her control not at all within his/her control

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 happens in many situations specific to this situation

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 a one time thing will happen again in the future

## KASTAN-R - Children's Attributional Style Questionnaire

## Instructions

Here are some situations. I want you to try really hard to imagine that these situations just happened to you. After each situation is presented, two possible reasons for why the situation might have happened are given. I want you to choose the most likely reason to explain why the situation happened to you.

Sometimes both of the reasons may sound true, and sometimes both may sound false, and, you may never have been in some of these situations. But even so, I want you to pick the reason that seems to explain why the situation happened to you.

There are no right answers and no wrong answers, so always pick the reason that seems the most likely to you.

Circle either "A" or "B" for each question. I can read along with you, if that helps.

Do you have any questions before we begin?

## CASQ

1. You get an "A" on a test.
  - A. I am smart.
  - B. I am good at the subject that the test was in.
2. Some kids that you know say that they do not like you.
  - A. Once in a while people are mean to me.
  - B. Once in a while I am mean to other people.
3. A good friend tells you that he hates you.
  - A. My friend was in a bad mood that day.
  - B. I wasn't nice to my friend that day.
4. A person steals money from you.
  - A. That person is not honest.
  - B. Most people are not honest.
5. Your parents tell you that something you make is very good.
  - A. I am good at making some things.
  - B. My parents like some things I make.
6. You break a glass.
  - A. I am not careful enough.
  - B. Sometimes I am not careful enough.
7. You do a project with a group of kids and it turns out badly.
  - A. I don't work well with the people in that particular group.
  - B. I never work well with groups.
8. You make a new friend.
  - A. I am a nice person.
  - B. The people that I meet are nice.

9. You have been getting along well with your family.
- A. I am usually easy to get along with when I am with my family.
  - B. Once in a while I am easy to get along with when I am with my family.
10. You get a bad grade in school.
- A. I am not a good student.
  - B. Teachers give hard tests.
11. You walk into a door and get a bloody nose.
- A. I wasn't looking where I was going.
  - B. I have been careless lately.
12. You have a messy room.
- A. I did not clean my room that day.
  - B. I usually do not clean my room.
13. Your mother makes you your favorite dinner.
- A. There are a few things that my mother will do to please me.
  - B. My mother usually likes to please me.
14. A team that you are on loses a game.
- A. The team members don't help each other when they play together.
  - B. That day the team members didn't help each other.
15. You do not get your chores done at home.
- A. I was lazy that day.
  - B. Many days I am lazy.
16. You go to an amusement park and you have a good time.
- A. I usually enjoy myself at amusement parks.
  - B. I usually enjoy myself in many activities.
17. You go to a friend's party and you have fun.
- A. Your friend usually gives good parties.
  - B. Your friend gave a good party that day.

18. You have a substitute teacher and she likes you.
- A. I was well behaved during class that day.
  - B. I am almost always well behaved during class.
19. You make your friends happy.
- A. I am usually a fun person to be with.
  - B. Sometimes I am a fun person to be with.
20. You put a hard puzzle together.
- A. I am good at putting puzzles together.
  - B. I am good at doing many things.
21. You try out for a sports team and do not make it.
- A. I am not good at sports.
  - B. The other kids who tried out are very good at sports.
22. You fail a test.
- A. All tests are hard.
  - B. Only some tests are hard.
23. You hit a home run in a ball game.
- A. I swung the bat just right.
  - B. The pitcher threw an easy pitch.
24. You do the best in your class on a paper.
- A. The other kids in my class did not work hard on their papers.
  - B. I worked hard on the paper.

Appendix B: Sample Parent Consent Form

**Utah State**  
UNIVERSITY

117

DEPARTMENT OF PSYCHOLOGY  
Logan, Utah 84322-2810  
Telephone: (801) 797-1460  
FAX: (801) 797-1448

Dear C.H. Taylor Elementary School parents,

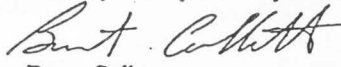
I am planning to conduct a study in your child's school to look at the explanations children and their mothers provide for a variety of events. In addition, I will be looking at the behaviors of mothers and their children.

If you would like to participate, you will need to complete the following steps:

- (1) Read and sign the enclosed informed consent form.
- (2) Read the child assent form to your child and have him/her sign it.
- (3) Complete the enclosed rating forms.
- (4) Return these forms to your child's school by November 16, 1998. Your child will receive a small gift (e.g., special pencils, stickers, etc.) for returning the enclosed forms by this date, even if you do not choose to participate.
- (5) Your child and his/her classmates will complete a 15-minute survey in their class.

As an additional "thank you" for your time, participating mothers will be entered into a drawing for a \$50.00 gift certificate for Target. Please be sure to complete the information below to assure that your name will be entered.

Thank you for your cooperation!!

  
Brent Collett

\_\_\_\_\_ I do not wish to participate (I am returning the uncompleted forms).

---

**\$50.00 Gift Certificate Drawing Entry**  
(Return to your child's school by November 16, 1998)

\_\_\_\_\_ I would like to participate & have my child participate (I am returning the enclosed completed forms).

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Phone #: \_\_\_\_\_

# Utah State UNIVERSITY

DEPARTMENT OF PSYCHOLOGY  
Logan, Utah 84322-2810  
Telephone: (801) 797-1460  
FAX: (801) 797-1448

## INFORMED CONSENT FORM

### The Influence of Parental Attributions and Parenting Behaviors on the Attributions Utilized by Children with and without Attention Deficit-Hyperactivity Disorder

#### I. Introductory Statement

As a participant in this study, you have the right to know about the purpose of the study, methods that will be used, and potential risks involved. Additionally, you can ask for more information at any time during research procedures. Your participation is voluntary and you are free to withdraw from this study at any time without consequence. Your signature at the end of this form indicates that you are aware of these rights and that you voluntarily choose to participate.

#### II. Purpose of the Study

The purpose of this study is to look at the explanations mothers and children provide for a variety of events. Additionally, the relationship between mothers' causal explanations and parenting behaviors will be examined. This study will include children with and without attention deficit-hyperactivity disorder (ADHD) and their mothers.

#### III. Procedures to be Followed

Parents who choose to take part in the study will be asked to complete the enclosed questionnaires. These measures should take about 30 minutes to complete. Children will also be asked to complete a measure of their explanation for several events. This measure will be given in your child's school and will take about 15 minutes to complete.

#### IV. Discomforts/Risks

There are no known discomforts or risks associated with participating in this study.

#### V. Benefits of the Study

While there are no direct benefits to participants in this study, this information will tell us about mothers' perspectives and behaviors as well as the perspectives of children. Further, the findings may tell us more about the nature of ADHD which may be utilized to more effectively provide services for children with the disorder and their parents.



# Utah State UNIVERSITY

DEPARTMENT OF PSYCHOLOGY  
Logan, Utah 84322-2810  
Telephone: (801) 797-1460  
FAX: (801) 797-1448

## INFORMED CONSENT FORM

### The Influence of Parental Attributions and Parenting Behaviors on the Attributions Utilized by Children with and without Attention Deficit-Hyperactivity Disorder

#### VI. Confidentiality

All of the information you provide will be treated in strict confidence. All questionnaires will be stored in a locked file cabinet and only researchers directly involved with the project will have access to that information. You and your child will be assigned a code number and this number will be used to store the information you provide in the computer. After this information is entered, all original data will be destroyed. Public presentations of the results of this study will in no way identify you or your child.

#### VII. New Findings

You will be told of any significant new findings developed during the course of this study.

#### VIII. Other information

A copy of the measure completed by children involved in the study has been left with the principal at your child's school and is available for you to look at. If you have any additional questions or concerns about this study or your rights, or if any problems arise, you may contact one of the following investigators:

Brent R. Collett (435) 750-6904  
Gretchen A. Gimpel (435) 797-0721

I have read and understand this consent form and I (check one of the following):

am willing to participate & allow my child to participate  
 am not willing to participate nor allow my child to participate.

Name of parent/guardian \_\_\_\_\_

Signature of parent/guardian \_\_\_\_\_ Date \_\_\_\_\_

Name of Child \_\_\_\_\_

Signature of Principal investigator Brent R. Collett Date 11-4-98

Signature of Student investigator Brent Collett Date 11/06/98

Appendix C: Sample Child Assent Form

# Utah State UNIVERSITY

DEPARTMENT OF PSYCHOLOGY  
Logan, Utah 84322-2810  
Telephone: (801) 797-1460  
FAX: (801) 797-1448

## CHILD ASSENT FORM

### The Influence of Parental Attributions and Parenting Behaviors on the Attributions Utilized by Children with and without Attention Deficit-Hyperactivity Disorder

#### I. Purpose of the Study

We are being asked to take part in this study so that the researchers can learn more about the way mothers and children explain the causes of events.

#### II. Procedures to be Followed

You will be asked to read several pretend events and then chose a reason for why the event happened.

#### III. Discomforts/Risks

Nothing bad will happen to you as a result of being in this study.

#### IV. Benefits of the Study

The information you give will help the researchers to understand how children explain the causes for events.

#### V. Confidentiality

All of the information we give the researchers will be kept private. Only the people working on this project will be able to see the information we give.

#### VI. Other information

You don't have to take part in this study. I have given my permission for you to participate; however, if you do not want to be in the study or if you have any questions, you can ask one of the researchers or ask me to contact one of the researchers.

I have read and understand this assent form. I am willing to be in this study.

Name of participant \_\_\_\_\_

Signature of participant \_\_\_\_\_ Date \_\_\_\_\_

Signature of Principal investigator Andra A. Gifford Date 11/4/98

Signature of Student Investigator Grant Collett Date 11/05/98

THE UNIVERSITY OF  
VICTORIA LIBRARY  
JUL 8 1980  
PO BOX 1800 STN CSC  
VICTORIA BC V8W 2Y2

Appendix D: Table

Table D1.

Pearson's Correlations Between Child Attributions, Maternal Attributions,  
and Maternal Discipline Practices for the Combined Sample  
(i.e., ADHD and Non-ADHD Samples Combined)

	Combined Sample (n = 50)						
	CA (+)	CA (-)	WAQ (I-E)	WAQ (U-C)	WAQ (G-S)	WAQ (U-S)	PS (T)
CA (+)	1.00	-.33*	-.06	.01	.11	-.15	-.11
CA (-)		1.00	.08	.13	-.13	.11	-.01
WAQ (I-E)			1.00	.47*	.34*	-.41*	-.11
WAQ (U-C)				1.00	-.12	.04	-.05
WAQ (G-S)					1.00	-.84*	-.20
WAQ (U-S)						1.00	.18
PS (T)							1.00

Note. CA(+) = children's attributions for positive events; CA(-) = children's attributions for negative events; CA(C) = children's attributional style composite score; WAQ(I-E) = maternal internal/external attributions; WAQ(U-C) = maternal uncontrollable/controllable attributions; WAQ(G-S) = maternal global/stable attributions; WAQ(U-S) = maternal unstable/stable attributions; PS(T) = Parenting Scale, Total.

\*Indicates a statistically significant correlation (i.e.,  $p < .05$ ) between variables.