Parent perceptions of the effect of ADHD child behavior on the family : the impact and coping strategies

by Julie Anne Bullard

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University

Abstract:
The purpose of this research was (1) to describe parental perceptions regarding the impact of attention deficit hyperactivity disorder (ADHD) child behavior on personal and family functioning and (2) to describe parental perceptions regarding strategies used to cope with the ADHD behavior and the stress related to it. Information was obtained from 14 parents in Southwestern Montana who had diagnosed ADHD children between the ages of 6 and 12. A qualitative methodology was used, including multiple in-depth interviews with three parents resulting in three case studies. Three focus groups involving 11 additional parents were also held in three communities. The individual case studies and three focus groups were each analyzed for overriding conceptual categories. The final step in data analysis was to examine the findings from both the focus groups and the case studies for the emergence of patterns and themes common to both. The overriding themes that were identified were: 1) The ADHD child's erratic behavior-the severity, the unpredictability, and the number of years of occurrence make this particularly stress producing for both the child and the family. 2) Altered relationships-marital, sibling, extended family, and casual relationships were all described as changing as a result of parenting an ADHD child. 3) Social isolation-parents described having fewer visitors to their home and curtailing activities away from the home due to their embarrassment regarding the child's behavior, disapproval from others, and the demands of parenting an ADHD child. 4) Difficulties with school-discussion from parents centered around two concerns, the teacher not following IEP's or Section 504 plans and the time and energy involved in supervising homework. 5) Emotional upheaval-intense feelings of frustration, embarrassment, worry, guilt, hopelessness, and exhaustion surfaced repeatedly in the interviews. 6) Medication quandary-parents described the continual struggle to find a therapeutic dose of medication and a competent doctor. They also expressed concern about the medications side effects. 7) Coping repertoire -parents described using a wide variety of both problem focused and emotion focused coping strategies. However, in spite of these they discussed parenting an ADHD child as being extremely stressful or "an unremitting struggle" which was identified as a megatheme of the study.

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APPROVAL

Of a thesis submitted by

Julie Anne Bullard

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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Date 11-25-96

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ABSTRACT

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The overriding themes that were identified were: 1) The ADHD child's erratic behavior-the severity, the unpredictability, and the number of years of occurrence make this particularly stress producing for both the child and the family. 2) Altered relationships-marital, sibling, extended family, and casual relationships were all described as changing as a result of parenting an ADHD child. 3) Social isolation-parents described having fewer visitors to their home and curtailing activities away from the home due to their embarrassment regarding the child's behavior, disapproval from others, and the demands of parenting an ADHD child. 4) Difficulties with school-discussion from parents centered around two concerns, the teacher not following IEP's or Section 504 plans and the time and energy involved in supervising homework. 5) Emotional upheaval-intense feelings of frustration, embarrassment, worry, guilt, hopelessness, and exhaustion surfaced repeatedly in the interviews. 6) Medication quandary-parents described the continual struggle to find a therapeutic dose of medication and a competent doctor. They also expressed concern about the medications side effects. 7) Coping repertoire -parents described using a wide variety of both problem focused and emotion focused coping strategies. However, in spite of these they discussed parenting an ADHD child as being extremely stressful or "an unremitting struggle" which was identified as a megatheme of the study.

CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

Introduction

Attention deficit hyperactivity disorder (ADHD), characterized by a brain difference (Amen, Paldi, & Thisted, 1993; Zametkin et al., 1990) and specific behavioral symptoms (Linden, Zalenski & Newman, 1989), is considered one of the most frequent and globally debilitating of childhood disorders (Barkley, 1981; Trites, Dugas, Lynch, & Ferguson, 1979). ADHD children, their parents, schools, and society feel severe impacts of this disability, causing parents to seek a variety of conventional and unconventional treatments. It also has led to many questions. What are the symptoms? What is the cause? How is it diagnosed? How is it treated? What are the impacts? While many of these questions have been explored, others have been the subject of few investigations. For example, several studies have examined the impact on the ADHD child (Barkley, Anastopoulos, Guevremont, & Fletcher, 1991; Weiss, 1994). However, few have examined the impact on the family. The questions this study will examine are (1) What do parents perceive as the impact of parenting an ADHD child on personal and family functioning? and (2) What strategies are

families using to cope with the ADHD behavior and the stress related to it?

Symptoms typically associated with ADHD are an inability to sustain attention, impulsivity, distractibility, difficulty concentrating, and poor monitoring skills (Linden, Zalenski & Newman, 1989). ADHD is also often associated with extreme temperamental characteristics such as negative mood, short persistence, low frustration tolerance, excitability, and a quick temper (Linden, Zalenski, & Newman, 1989). Comorbidity or coexistence with other disorders such as learning disabilities, depression, and conduct disorder is also common (Biederman, Newcorn, & Sprich, 1991).

This disorder was first described in 1902 (Still) as a cluster of behavioral symptoms which included hyperactivity, poor attention, conduct disorders, and learning problems. Still hypothesized that these symptoms were due to organic causes. As early as 1937 (Bradley) medication was used to treat this disorder, which was at the time labeled Minimal Brain Dysfunction (MBD). Other labels describing these characteristics followed, including: minimal brain damage syndrome, developmental hyperactivity, hyperkinetic impulse disorder, hyperkinetic reaction of childhood, attention deficit disorder with or without hyperactivity, and attention deficit hyperactivity disorder (ADHD) (Weiss & Hechtman, 1986).

A landmark study on the cause of ADHD using positron emission tomography (PET) brain imaging on adults revealed that the rate at which the prefrontal cortex of the brain used glucose was lower in those who had ADHD (Zametkin, et al. 1990). The prefrontal lobe is responsible for "attention span, concentration, judgement, activity level, critical thinking and impulse control" (Amen, Paldi, & Thisted, 1993, p. 1080).

Amen et al. (1993) found similar results in examining ADHD children. They conducted a study of 54 children and adolescents who had been diagnosed as having ADHD using single-photon-emission computed tomography (SPECT) brain imaging. Eighty seven percent of the children diagnosed with ADHD had either decreased activity in the prefrontal cortex or prefrontal deactivation with intellectual stress. Only 5% of the control group had this brain pattern. These studies plus adoption and drug response studies have convinced many researchers that ADHD is a neurobiological condition (Children and Adults with Attention Deficit Disorders [CHADD], 1993).

While researchers are using PET and SPECT imaging in experiments, it is still not a part of diagnostic procedures (CHADD, 1994). Currently, diagnosis for ADHD is a multifaceted process which generally includes: a physical exam; neurological screening; medical, educational, and behavioral history; social and medical history of parents;

parent, teacher, and child standardized questionnaires used to determine current functioning and whether indicators of ADHD are present; intelligence testing and assessment of academic, developmental, social, and emotional skills; clinical interviews; and observations of the child (Hunsucker, 1988). To be diagnosed with ADHD, a child must experience symptoms that are more extreme than what would be expected for his or her age and symptoms must be evident in a variety of settings. In addition, symptoms must have been evident before the age of seven and there must be a duration of symptoms for at least six months (Shaywitz & Shaywitz, 1984).

It is estimated that 3% to 5% of American children have ADHD (CHADD, 1993) making it one of the most common disorders. Due to the pervasiveness of the disability and the long term outcomes for ADHD children, it is also considered to be one of the most debilitating of childhood disorders (Barkley, 1981; Trites, Dugas, Lynch, & Ferguson, 1979). One longitudinal study (Barkley, Fischer, Edelbrock, & Smallish, 1990) which followed 123 ADHD children over a period of eight years into adolescence found that 80% of these children still qualified for a diagnosis of ADHD while 60% also qualified for either an oppositional defiant disorder (ODD) or conduct disorder (CD). In addition, the ADHD children in this study were three times more likely to have failed a grade in school or been suspended. The ADHD

children also dropped out of school or were expelled eight times more frequently than the control group. Children with ADHD are also reported to have a significantly higher rate of delinquency in adolescence (Barkley, Anastopoulos, Guevremont, & Fletcher, 1992).

These behaviors and consequences cause stress in the lives of children, parents, and teachers. One study conducted on 104 ADHD families using the Parent Stress Index (PSI) showed that the average stress for parents with ADHD children was above the 90th percentile (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992). Several variables influenced the degree of stress including the severity of ADHD, the child's and mother's health status, the child's oppositional-defiant behavior, and the psychopathology of the mother (Anastopoulos et al, 1992). Other indicators of stress are the higher divorce rates reported among parents who have ADHD children (Barkley, Fischer, Edelbrock, & Smallish, 1990).

ADHD behaviors also greatly impact parent-child interactions. ADHD children are reported to be more noncompliant and negative than peers (Mash & Johnston, 1982) while mothers of ADHD children are reported to be more negative, more demanding, and more controlling than mothers of children who do not have ADHD (Barkley, Anastopoulos, Guevremont, & Fletcher, 1992). Compared to control groups, mothers of ADHD children view their child's behavior as more

unstable and themselves as having less control over this behavior (Sobol, Ashbourne, Earn, & Cunningham, 1989).

As expected, studies confirm that self-esteem is lower in parents who have an ADHD child, with parents of ADHD children exhibiting more self blame than control groups (Mash & Johnston, 1983b). Parents with ADHD children also indicate they are more socially isolated and have fewer extended family contacts than families without ADHD and that the contacts that they have are less helpful (Mash & Johnston, 1983; Cunningham, Benness & Siegel, 1988).

Parents seek a variety of treatments for their children as a way of coping with this disorder. One of these treatments is the administration of stimulant medications. Medication has a positive impact upon 70% to 80% of ADHD children in the areas of attention, impulsivity, ability to stay on task, frustration level, and compliance (CHADD, 1993). These changes generally are seen with the first dose of medication and result in an immediate positive change in parent commands and negativity (Barkley, Karlsson, & Murphey, 1984; Barkley, 1989; Barkley, Karlsson, Pollard, & Murphey, 1985).

Other conventional treatments include parent education, behavior management training, therapy, self control training for the ADHD child, and communication training. In addition to these more accepted practices, a number of unconventional treatments are being utilized to treat ADHD.

Statement of Purpose

The purpose of this research was (1) to describe parental perceptions regarding the impact of ADHD child behavior on personal and family functioning and (2) to describe parental perceptions regarding strategies used to cope with the ADHD behavior and the stress related to it. This was accomplished through multiple case studies and focus groups.

ADHD affects a large number of children. In Montana alone, if we consider that 3% to 5% (CHADD, 1993) of the population of 222,104 (1990-census) children ages birth through age 18 are estimated to have ADHD, then this problem would affect between 6,663 and 11,105 children and their families. Although many studies exist that examine ADHD (1,118 in the psychological literature data base alone), few studies (9 studies in the psychological literature data base) exist that examine the impact of ADHD on families. We do know from previous studies that parents of ADHD children score in the 90th percentile on one stress inventory and that the child's characteristics can explain the greatest variance (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992). However, specifically what these stressors are is unknown. We know even less about how parents cope with an ADHD child. While there are many studies which examine various interventions such as medication and parent

training, we know little about the day-to-day modifications, adaptations, and stress relievers that parents are using. Finally, only one study (Weiss, 1990) exists that specifically examines parental perceptions of ADHD. While the other studies reviewed were based upon parental reports, it was the researcher who designed the inventories and questions and who decided the degree and level of stress. Little is known about how parents themselves perceive the stress and whether they may identify other areas of stress that were not included in the instruments. Also, in all of the studies reviewed, researchers gathered all their information at a single point in time. Thus, we do not know if daily variables in the parents' lives may cause them to perceive stress differently on different occasions. Therefore, Weiss (1990) recommends further in-depth study regarding stress and coping strategies used by ADHD parents.

This study obtained detailed information from 14 parents who have an ADHD child. Information from three of these participants was obtained through multiple in-depth interviews. Two of these parents also participated in the focus groups. Focus groups alone were used to obtain information from the other 11 families. A general interview guide approach, as described by Patton (1990), was used to gather information during the interviews. A nondirective method with limited questions and probes was utilized in the focus groups (Morgan, 1988). The categories investigated

were: parental view of the child and ADHD, history and treatment of the disorder, influence of ADHD upon family relationships and organization, coping strategies employed by the family, and the influence of others on the parents' ability to cope with ADHD. Sample questions are included in Appendix C. However, the evolution of questions while one is doing the research is one key characteristic of naturalistic research (Ely, Anzul, Friedman, Garner, & Steinmetz, 1991). As Ely et al. (1991) state, "the questions shift, specify, and change from the very beginning in a cyclical process as the field logs grow, are thought about, analyzed, and provide further direction for the study" (p. 31). In many cases, my role was as a listener, asking clarification questions and providing reflective statements.

In conclusion, although ADHD is one of the most frequent, debilitating childhood disorders (Barkley, 1981; Trites et al., 1979), severely impacting family relations (Weiss, 1990) and parental stress (Anastopoulos, et al. 1992), we know relatively little about it. What is the impact of ADHD upon the family? What specifically are the stressors? How do parents cope with the ongoing high levels of stress when raising an ADHD child? This descriptive work will provide valuable information and strategies to parents who have ADHD children. It will also allow their voices to be heard by counselors, doctors, teachers, and others

working with families who have ADHD children. Intimately knowing about the experiences of a few ADHD families will aid these professionals in being more understanding and realistic in assisting these families to discover tools and ways of coping.

Definitions

For the purposes of this study I used the following definitions.

attention deficit hyperactivity disorder (ADHD) - a neurobiological disorder characterized by impulsiveness, hyperactivity, and inattentive behavior which is diagnosed by a physician (CHADD, 1993)

coping - "efforts to manage demands that tax or exceed the person's resources" (Lazaras, 1994, p. 327)

focus group - a group of peers brought together to share diverse viewpoints and thoughts regarding a topic which is selected by the researcher (Morgan, 1988)

individual education plan (IEP) - "Written documentation required by P.L. 94-142 for every child with a disability; includes statements of present performance, annual goals, short-term instructional objectives, specific educational services needed, relevant dates, regular education program participation, and evaluation procedures; must be signed by parents as well as

educational personnel" (Heward & Orlansky, 1992, p. GL-8).

perception - "The process by which meaning or interpretation is attached to experiences" (Eggen & Kauchak, 1992, p. G-10).

Section 504 of the Rehabilitation Act of 1973 - A law which states "no otherwise qualified individual with handicaps in the United States . . . shall, solely by reason of . . . handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance" (U. S. Department of Education, p. 1).

Section 504 plan - an individualized plan listing accommodations which assist a child who qualifies under Section 504 to be successful in school

stimulant medication - medication prescribed by a medical doctor for the purpose of controlling ADHD symptoms

stress - "A particular relationship between the person and environment that is appraised by the person as taxing his or her resources and endangering his or her well being" (Lazarus & Folkman, 1984, p. 14).

stressor - An event or situation which may lead to stress

therapeutic levels of medication - a dosage of medication which gives the optimum benefit with the least amount of side effects

triangulation - "combination of methodologies in the study of the same phenomena or programs" (Patton, 1990, p. 187)

Literature Review

Parenting Stress and ADHD

According to several studies, families with ADHD children experience significantly higher stress than control families without special need's children (Breen & Barkley, 1988; Fisher, 1990; Anastopoulos, et al. 1992). Families with ADHD children score higher on stress inventories (Anastopoulos, 1992), have higher divorce rates (Barkley, Fisher, Edelbrock, & Smallish, 1990), and parents indicate they have more depression (Brown & Pacini, 1989) and more negative parent-child interactions (Mash & Johnston, 1982) than non-ADHD families. The following section will examine the current research regarding parental stress in families with ADHD children. Family interactions, specifically parent-child interactions, will also be examined. All the studies reported in this section are quantitative, except one. I will review this study separately. See Table 1 for a summary of the studies reviewed.

A few researchers have conducted many of the studies. Russell Barkley, for example, was involved in eight of the articles reviewed for this section. Researchers who had

previously worked collaboratively with him conducted several of the other studies, resulting in very similar methodologies.

Although the studies reviewed refer to the ADHD child by different labels including hyperactive and attention deficit disorder with hyperactivity, all the studies included used similar methods to determine the label. This difference in terminology does not, therefore, refer to different populations but rather to the term that was currently being utilized at the time the study was written. For this review I will use the terms interchangeably.

Several studies compared children with ADHD to "normal" peers. By "normal" the authors were referring to children who did not exhibit ADHD or any other serious medical or behavioral problems.

Table 1

Summary of articles relating to parenting stress and Attention Deficit Hyperactivity Disorder

Quantitative articles

Authors	Title/Date	Subjects	Methods	Results
Anastopoulos Guevremont Shelton & DuPaul	Parenting stress among families of children with ADHD 1992	104 ADHD children & parents	Standardized interviews and questionnaires	Stress in the 90th percentile for ADHD parents

Table 1, continued

Authors	Title/Date	Subjects	Methods	Results
Baker	Parenting stress & ADHD: A comparison of mothers & fathers, 1994	20 sets parents and ADHD children	Standardized questionnaires	Parenting stress similar for mothers and fathers
Barkley	Hyperactive girls & boys Stimulant drug effects on mother-child interactions 1989	40 ADHD children	Standardized observations	Boys less compliant more negative than girls, praised more, medication improved behavior for both sexes
Barkley Fisher Edelbrock Smallish	The adolescent outcome of hyperactive children diagnosed by research criteria 1990	123 ADHD 66 normal children	Clinical assessment	60% of ADHD children were CD or ODD 8 years later, parents of ADHD children higher divorce rate
Barkley Karlsson Pollard	Effects of age on the mother-child interactions of ADD-H & normal boys 1985	60 ADD-H boys and mothers, 60 normal boys and mothers	Standardized observations	ADD-H boys more negative, less compliant, their moms gave more commands, were more controlling, more pronounced with younger children
Barkley Karlsson Strzelecki Murphey	Effect of age & Ritalin dosage on mother-child interactions of hyperactive children-1984	54 ADHD children & mothers	Standardized observations	Older children more compliant & positive their mothers less controlling, all age groups improved with medication
Befera Barkley	Hyperactive & normal girls & boys: mother-child interaction, parent psychiatric status & child psychopathology-1985	30 ADHD & 30 normal children	Standardized observations	ADHD children more non-compliant, negative, mothers of ADHD children more negative, more depressed

Table 1, continued

Authors	Title/Date	Subjects	Methods	Results
Breen Barkley	Child psychopathology & parenting stress in girls & boys having ADD-H 1987	13 ADHD boys, 13 ADHD girls, 13 clinic referred girls, 13 normal girls	Standardized questionnaire	Few differences in symptoms of ADHD in girls or boys parenting stress same for ADHD girls & boys, clinic referred girls
Brown Pacini	Perceived family functioning marital status & depression in parents of boys with ADD-H-1989	51 ADD-H boys, 34 clinic controls	Standardized questionnaire	ADD-H families felt family environments less supportive, more stressful, parents more depressed
Campbell	Mother-child interaction: A comparison of hyperactive learning disabled & normal boys 1975	13 ADHD boys, 13 LD boys, 13 normal	Standardized observations questionnaire	ADHD boys more problem behaviors mothers more controlling
Cunningham Barkley	Interactions of normal & hyperactive children with mothers in free play & structured tasks-1979	20 ADHD & 20 normal boys & mothers	Standardized observation	Mothers of ADHD boys more negative controlling, & structured
Cunningham Benness Siegal	Family functioning time allocation parental depression in the families of normal & ADHD children 1988	26 two parent ADHD families 26 two parent normal families	Standardized questionnaire	Mothers of ADHD children more depressed, fewer, less helpful extended family contacts
Lahey Russo Walker Piacentini	Personality characteristics of the mothers of children with disruptive behavior disorders-1989	13 CD children 22 ADD-H children	Diagnostic interview	CD linked to maternal personality disorder, ADD-H was not

Table 1, continued

Authors	Title/Date	Subjects	Methods	Results
Lahey et al.	Psychopathology in the parents of children with conduct disorder & hyperactivity 1987	18 ADD-H, 14 CD, 23 ADD-H & CD children	Diagnostic interview	CD linked to parental pathology, ADD-H was not
Mash Johnston	Comparison of mother-child interactions of younger & older hyper-active & normal children-1982	43 ADHD, 53 normal children & mothers	Standardized observation	ADHD children more negative, non-compliant, asked more questions. Mothers more directive, less responsive, more pronounced with younger children
Mash Johnston	Sibling interactions of hyperactive & normal children-1983	23 ADHD & 23 normal boys and siblings	Standardized observation maternal report	Dyads with ADHD children higher degree of conflict mothers more stressed, lower self esteem
Mash Johnston	Parental perceptions of child behavior problems, parenting self esteem & mothers reported stress in younger & older hyper-active & normal children-1983	40 ADHD 51 normal families	Standardized questionnaire	High stress in ADHD families, higher stress with younger children
Prinz Myers Holden Tarnowski Roberts	Marital disturbance & child problems: A cautionary note regarding hyperactive children-1983	23 ADDH boys	Standardized checklist	Marital conflict not related to ADDH, boys aggression, or conduct problems at school
Porter O'Leary	Marital discord & childhood behavior problems-1979	64 clinic referred children	Standardized questionnaire	Marital hostility was related to behavior problems in boys not girls
Sobal Ashbourne Earn Cunningham	Parents' attributions for achieving compliance from ADDH children 1989	91 parents	Standardized questionnaire	Mothers of ADDH children viewed child's behavior as being more unstable

Table 1, continued

Authors	Title/Date	Subjects	Methods	Results
Tallmadge Barkley	The interactions of hyperactive & normal boys with their fathers & mothers-1983	18 ADHD & 18 normal boys & parents	Standardized observations	ADHD boys less compliant parents more directive, no significant difference mothers and fathers
Traver-Behring	The mother-child interactions of hyperactive boys & their normal sibling-1985	16 mothers with 1 ADHD, 1 normal child	Standardized observation question-naire	ADHD boys more off task, less compliant, less responsive mothers responded to ADHD & normal child in same way
Qualitative Article				
Weiss	The impact of an attention disordered child on family life: The parent's perspective. 1990	12 married couples with an ADHD child	Open ended interviews	ADHD child has a major impact on the family.

Impact of ADHD on Parenting Stress

Anastopoulos, et al. (1992) provide the most comprehensive examination of parental stress in relation to ADHD. Their study examined 104 ADHD children under the age of 12 (87 boys and 17 girls) and their mothers. Parent interviews; child behavior rating scales; assessment of the child in relationship to ADHD severity, aggressive behavior, internalizing problems such as depression, peer relations, health status, medication status, and special education status; child demographics; assessment of the mother's health, depression, overall psychopathology, and

psychological stress; assessment of family demographics and socioeconomic status; and assessments of problems exhibited by other family members were all examined using a variety of instruments. The Parent Stress Index (PSI) which was used to assess overall stress levels indicated that parenting stress scores averaged above the 90th percentile. The severity of the child's behavior, primarily the amount of aggression and oppositional behavior accounted for 37% of the variance. Other major predictors of variance were parent pathology, child health, and the mother not working out of the home. Mothers who did not work outside the home reported greater parental stress. Although some studies have shown that external stressors may be influencing both the family stress and the hyperactivity (Gillberg, Carlstrom, & Rasmussen, 1983), environmental stress accounted for only 4% of the overall variance in this study. Environmental or external stress included marital status, the number of children in the family, maternal relationship to the biological father, maternal stress unrelated to the parent-child relationship, and psychiatric and medical problems in other family members. There was, however, a trend toward more stress in single parent families which accounted for 4% of the variance.

While Anastopoulos et al. (1992) examined only maternal stress; Baker (1994) examined both maternal and paternal stress. In studying 20 married couples with an ADHD child,

he found no difference between the mother and father in their rating of child behavior with both viewing the child's behavior as a severe problem. However, when compared to the father, the mother stated that the child's behavior caused more parental stress. As in Anastopoulos's et al. study Baker conducted a regression analysis to determine the contributions to parenting stress. Similar to their findings, the total problem behavior of the child was the strongest indicator of stress, accounting for 28% of the variance. The number of years married accounted for 9% of the variance, with being married fewer years being associated with elevated stress. Eight percent of the variance was due to socioeconomic status (SES), with those parents who had higher SES indicating more stress. Stress based on gender had a limited influence, accounting for only 6% of the variance.

This research confirmed the earlier findings of Mash and Johnston (1983b) who studied 40 families with a hyperactive child and 51 families with "normal" children. They found that child characteristics accounted for 74% of the variance between groups. They found no significant difference in external stressors between the two groups in their study. This again showed that situational factors such as low paying jobs, living in poor neighborhoods etc. were not the predominant problems causing high stress ratings in parents with hyperactive children. Both ADHD

mothers and fathers in the study viewed themselves as less skilled and knowledgeable than the parents with normal children with this feeling escalating as children got older. ADHD parents also showed that they derived less comfort and value from parenting than parents of normal children. The mothers in the study indicated they had significantly more parenting stress than the mothers of normal children, with younger ADHD children being considered more stressful and their mothers more depressed and more self-blaming.

Parenting stress also appears to be impacted by sibling interactions. Mash and Johnston (1983a) examined sibling interactions between 46 sibling dyads, 23 without disabilities and 23 where one sibling had ADHD. They found that sibling interactions when one child had ADHD was characterized by four times more negative behavior when there was no adult supervision and twice as much when supervised by mothers. This amounted to 10% of all interactions between ADHD children and their siblings being negative. Neither the sex nor the age of the sibling influenced the amount of negative interactions. However, young hyperactives were more negative than older hyperactives during supervised play. There was also a correlation between the mother's report of self-esteem and stress and the degree of negative behavior and amount of independent play exhibited by the child, with a positive correlation between negative behavior and stress, and an

inverse relation between independent play and stress (Mash & Johnston, 1983a).

These studies indicate that parents experience increased stress when parenting an ADHD child and that child variables can explain the largest amount of variance. Stress is increased with a greater degree of hyperactivity, a younger ADHD child, increased display of aggression and oppositional behavior by the child, and sibling rivalry. External issues unrelated to the child's hyperactivity, such as SES, number of children in the family, and psychiatric and medical conditions in fathers and siblings do not seem to have a great impact on the parental stress level in the studies examined. However, single parents and those mothers not working outside the home indicated higher stress than their counterparts with ADHD children.

Marital Relations and ADHD

Other indicators of stress are the higher divorce rates among parents who have ADHD children. One 8 year longitudinal study found that compared to the control group more than three times as many mothers of ADHD children were separated or divorced from the child's biological fathers (Barkley, Fischer, Edelbrock, & Smallish, 1990). Brown & Pacini (1989) compared ADHD families to not only a control group of nondisabled children but also other clinic-referred children who were experiencing learning disabilities or developmental disorders. They also found an increased

incidence of separation and divorce in the families with ADHD children.

Studies conflict on whether ADHD impacts marriages or whether marital problems impact ADHD, with one study finding that the amount of aggression observed by teachers at school and by parents at home was not correlated to marital adjustment or discord (Prinz, Myers, Holden, Tarnowski, & Roberts, 1983). However, other studies have suggested a positive relationship between marital conflict and the amount of aggression displayed by ADHD boys (Porter & O'Leary, 1980; Hetherington, 1979).

Maternal and Paternal Pathology in Relation to ADHD

Several studies have also linked ADHD to maternal depression (Sobol, et al. 1989; Cunningham, et al. 1988). While generally researchers have studied only mothers, Brown and Pacini (1989) examined both maternal and paternal depression in 85 ADHD and ADD children, 34 nondisabled children, and 34 other children referred to the clinic. They used depression inventories that are highly correlated with clinical depression. Both mothers and fathers of ADHD and ADD children rated themselves as significantly more depressed than the clinic controls or the controls without children with disabilities. The parents who stated that there were disturbed interpersonal relationships in the family rated themselves higher in depression. These parents

indicated that their family environments were unsupportive, stressed, high in conflict, low in autonomy and expressiveness, and lacked cohesiveness. The depression appeared to impact mothers and fathers differently. When fathers stated they were depressed they also indicated an increased frequency of family activities and greater parental control over children. However, depression in mothers was related to a decrease in family activities. Parental depression also had an impact on the way that parents perceived their children. Those who were depressed experienced greater parenting stress, less acceptance of their child's behavior, and viewed their child as more demanding (Breen & Barkley, 1988).

Although many studies have found a correlation between pathology in parents and ADHD in their children, two studies which separated those children who had ADHD from those displaying both ADHD and conduct disorder (CD) have found that maternal pathology as defined by the Diagnostic and Statistical Manual (DSM III) is no greater in mothers who have ADHD children than in control groups (Lahey, Russo, Walker, & Piacentini, 1989; Lahey, et al. 1988).

In summary, several studies indicate that mothers and fathers who have ADHD children report that they have more symptoms of depression than controls. This is particularly true for those families who are engaged in more disturbed familial interpersonal relationships and exhibit a higher

degree of conflict. However, two studies made a distinction between those children that have only ADHD and those who have ADHD in combination with conduct disorder. It was only the ADHD with conduct disorder that was linked to higher maternal pathology.

Interactions of the ADHD Child in Comparison to Peers and Siblings

When hyperactive children were compared to nondisabled and learning disabled peers, they were found to be significantly different in the number of requests for feedback and in the number of comments regarding the tasks they were completing (Campbell, 1975). In fact, in her study, Campbell describes the typical ADHD child as conducting a running monologue while working on tasks.

Mash and Johnston (1982) concurred with Campbell's (1975) findings of high verbal activity, concluding that the hyperactive child asked significantly more questions than his or her peers. They also found that the ADHD child was more negative and noncompliant than peers at all age levels studied, but particularly at younger ages. They noted that the younger hyperactive children (ages two years 11 months [2.11] through six years 11 months [6.11]) showed negative and noncompliant behavior twice as often as older hyperactive children (ages 7.3 through 9.10) (1982). In addition, regardless of age the ADHD child had less social

involvement than would be expected for his or her age (Mash & Johnston, 1983a).

A study by Barkley, Karlsson, Strzelecki, and Murphey (1984) also found that with age, children became more compliant and exhibited less negative behavior. Mothers of older children exhibited less controlling behavior and gave fewer commands. This type of improvement is seen in normal mother-child dyads as well. With an increase in age, there also was a decrease in the mother giving positive feedback when the child complied. However, even with improvement in age, children with ADHD were distinguishable from peers, exhibiting less compliance with rules.

Researchers have also conducted studies to determine if there are sex differences in relation to parent-ADHD child interactions. In a study conducted by Befera and Barkley (1985), few significant differences in behavior were found between sexes (mean age 103.4 months) with behaviors of both ADHD boys and girls being more noncompliant, off task, and negative than their counterparts. However, in a later study by Barkley (1988) comparing younger children (mean age 71.8 months), boys were found to be less compliant and more negative than girls.

While the other studies reviewed compared the ADHD child to peers, Tarver-Behring, Barkley, and Karlsson (1985) compared the hyperactive child to his sibling. In examining 16 pairs of brothers who were within two years of age, they

found that the hyperactive child was less responsive to requests and questions, less compliant, more off task, and posed more severe behavior problems than his sibling.

It appears that regardless of family constellation, age, sex, or whether compared to peers or siblings, the ADHD child demonstrates more problems than non-ADHD children. They request more feedback, ask more questions, are less compliant, are more negative, and less involved socially. This behavior is most severe in younger children. These difficulties also seem to be most pronounced in situations that are more rule governed, demanding more restraint or compliance, such as being in public places or having visitors to the home (Tarver-Behring, Barkley, & Karlsson, 1985).

Parent-Child Interactions: Children with ADHD Compared to Non-ADHD

Campbell (1975) found that the mothers of the hyperactive boys attempted to control their children by giving significantly more suggestions about impulse control, more nonspecific suggestions, more disapproval, and more praise and urging to complete a task than the mothers with learning disabled or normal children. The hyperactive child was more impulsive, more disorganized, and more dependent on parental interaction to complete tasks than either the learning disabled child or the normal controls.

Further studies by Cunningham and Barkley (1979) supported these results indicating that mothers of hyperactive boys were more controlling than mothers of nondisabled children, giving their children twice as many commands. This was especially evident in task situations where ADHD children were found to be more active, less compliant, and less frequently on task. Mothers of ADHD children were also less responsive to the child's initiations and were less involved in social interactions with their child than the controls. The mothers of normal children interacted more positively with their child, visiting with them, asking questions, and praising them. This led Cunningham and Barkley to conclude that "mothers of overactive boys appear more critical and disapproving and seem to have acquired a generalized negative set of expectations which adversely influence their perception of and response to the child" (1979, p. 223).

Studies with younger ADHD children supported these findings (Barkley, Karlsson, & Pollard, 1985; Mash & Johnston, 1982). These studies indicate that mothers of younger hyperactive children show significantly more negative behavior than mothers of older hyperactive children or mothers of normal children. However, it must be noted that the younger hyperactive children portray the most negative behaviors.

Although most other studies have reviewed interactions between the mother-child dyad, Tallmadge and Barkley (1983) examined interactions between the father-child dyad as well. They discovered that both parents of ADHD children were more controlling and negative than the control group and that the boys were less compliant with commands and complied for shorter periods. Noncompliant behaviors were especially evident when the child was interacting with the mother.

When looking at differences in the way mothers interact with their ADHD child based upon the sex of the child, Befera and Barkley (1985) found that there were few differences. However, hyperactive boys did receive more praise from their mothers even though there were no significant differences in behavior between the ADHD boys and girls. Barkley (1989), in a later study found that mothers were more controlling, as well as encouraging to boys. However, his study also found that the boys were more negative and less compliant than the girls in the study.

Although previous studies (Barkley, Karlsson, & Pollard, 1985; Cunningham & Barkley, 1979) found that parents of ADHD children treated their ADHD child differently from their non-ADHD child, a study by Tarver-Behring, Barkley, and Karlsson (1985) did not confirm this. They examined sibling brothers, one with ADHD and one without and found that mothers did not treat their ADHD child differently from the sibling, even though the ADHD

child was less responsive to their mothers and portrayed more noncompliance. Mothers tended to treat both the ADHD child and sibling in ways that other studies had described in relationship to normal children. In explaining this discrepancy between previous studies, two of which the authors conducted, they stated that they observed the mothers twice on the same day, once with one child and once with the other. They felt that mothers may have consciously tried to treat the boys in an equal way. Also the boys may have tried to compete with each other in being well-behaved which was portrayed by greater compliance in the ADHD child than in previous studies.

In summary, ADHD children are found to be more active, impulsive, disorganized, and dependent than their peers. They are also more noncompliant and comply with requests for shorter periods of times. Both fathers and mothers of ADHD children are found to be more controlling, to give more commands, and to be more negative than parents who do not have ADHD children. This is especially evident in younger child-parent dyads. When the number of commands increases, ADHD children display even less compliance, leading some researchers (Cunningham & Barkley, 1979) to ponder the cyclical nature of the negative parent-ADHD child interactions.

Qualitative Research on the Impact of ADHD

The previously reviewed studies were all quantitative. The only qualitative study I found regarding the impact of ADHD was an exploratory study which examined the ADHD child's impact on the family (Weiss, 1990). Weiss gathered data through 1 hour interviews with 12 married couples. She found that having an ADHD child did have a significant impact on the family. Major themes which the author identified were "the struggle" and "expectations". The struggle involved difficulties with the child's behavior, with a proper diagnosis, and with the schools. Parents reported struggles in school due to lack of accommodations, lack of teacher education about ADHD, and difficulties at home in getting children to complete school requirements such as homework. In regard to expectations, parents had problems deciding what to expect, felt a need to lower expectations, revealed disappointments over having a child different from what they had expected, and described difficulty with feelings of being judged and in dealing with the unrealistic expectations by others.

Weiss also described four major findings. First, parents had fewer social relationships as a result of having an ADHD child. This was due to several variables including the child's behavior, others disagreeing about how the child should be handled, parental exhaustion, and lack of child

care. Families reported that both neighborhood and family relations often were strained due to the child's behavior. In many cases relatives were disapproving of the use of medication and critical of the parents and child. The child's behavior also made it difficult to find and retain babysitters. In addition, parents reported that the feeling of exhaustion from raising an ADHD child caused them to seek fewer social outlets. However, while previous sources of support were sometimes terminated, some of the families made new social connections with other families who had ADHD children.

Second, parents altered their parenting to meet the needs of the ADHD child, leading to changed expectations. This sometimes led to disagreements between parents regarding what changes should occur and what form of discipline should be used.

Third, the parents' reported there was a greater need for parental supervision of the ADHD child than other children. This was due to the child being frequently bored, having difficulty in initiating activities, being unable to follow through with activities including homework and chores, and being more demanding of the parent's attention. Weiss (1990) found that the parents needed to provide an extreme amount of attention to organize and supervise the child's activities.

Fourth, the decision to medicate created an ongoing dilemma for parents. Parents experienced guilt, difficulty in achieving a therapeutic dose of medication, practical problems in working with others who must provide medication for the child, and the feelings of being judged negatively by others for giving their child medication.

Weiss's (1990) study produced valuable results. However, it could have been strengthened in several ways. Participants were interviewed in a single sitting for one hour. More time with parents would have been useful. Second, the only methodology used was individual interviewing. Using only one method causes a study to be more susceptible to errors (Patton, 1990) thus, some researchers (Denzin, 1978) advise that multiple methods be used in every study. Third, the insights and patterns discovered were not checked with the participants. Participant checks are helpful in determining the validity of data through allowing the participants to correct errors, add information, summarize, and assess the overall adequacy of what the researcher has stated (Lincoln and Guba, 1985).

Coping With ADHD

A variety of treatments have been investigated as ways of alleviating the symptoms of ADHD and to help parents and children cope with this disorder. One of the most common conventional approaches is the administration of psycho

stimulant medication (Horn, Ialongo, Greenberg, Packard, & Smith-Winberry, 1990) which researchers believe increases the concentration of chemicals to the neurotransmitters in the frontal lobe of the brain (CHADD, 1993). Two other frequently reported conventional treatments are parent training and self-control training for the ADHD child.

In addition, parents are utilizing a variety of experimental treatments for which there is little scientific support. These include: dietary interventions such as the Feingold diet which is designed to reduce allergens; megavitamins and minerals therapy; anti-motion medication to treat problems of the inner-ear; treatment to decrease the amount of candida yeast; EEG biofeedback to increase brain wave activity; applied kinesiology; and optometric vision training (Goldstein & Ingersoll, 1993).

The following sections will examine the impact of medication, self control training for the ADHD child, and family therapy as means of alleviating ADHD symptoms. All but one of the studies are quantitative. While the qualitative study does not specifically address parents' strategies in coping with ADHD, it does examine attributes of parents who successfully cope with other disabilities. For a summary of articles reviewed in this section see Table 2.

Table 2

Summary of articles relating to parental coping with Attention Deficit Hyperactivity Disordered children

Quantitative articles

Authors	Title/Date	Subjects	Methods	Results
Anastopoulos Shelton DuPaul Guevremont	Parent training for ADHD: Its impact on parent functioning 1993	36 ADHD children & mothers	50% of group received behavior management training	Reduced stress & increased self esteem in treatment group
Barkley	The effects of Methylphenidate on the interactions of preschool ADHD children with their mothers 1988	27 ADHD children & mothers	Blind placebo controlled crossover design	ADHD children on high levels of medicine increased on task behavior
Barkley	Hyperactive girls & boys: Stimulant drug effects on mother-child interactions 1989	40 ADHD children	Blind placebo controlled crossover design	Boys less compliant more negative, mothers praise boys more, both sexes improve on medication
Barley Guevremont Anastopoulos Fletcher	A comparison of three family therapy programs for treating family conflicts in adolescents with ADHD 1992	61 ADHD children & mothers	3 treatments groups	All treatments resulted in significant improvements in communication, conflict and anger. Only 5-30% showed clinically significant change
Barkley Karlsson Pollard Murphey	Developmental changes in the mother-child interactions of hyperactive boys: Effects of two dose levels of Ritalin-1985	60 ADHD boys & mothers	Blind placebo controlled crossover design	Compliance & attention increase with age, mothers less directive & controlling with older children, high dose produced improvements in child compliance

Table 2, continued

Authors	Title/Date	Subjects	Methods	Results
Barkley Karlsson Strzelecki Murphey	Effects of age & Ritalin dosage on the mother-child interactions of hyperactive children-1984	54 ADHD children & mothers	Standardized observations	Mothers less controlling, children more compliant & positive when older, all age groups improve behavior on medication
Blakemore Shindler Conte	A problem solving training program for parents with ADHD-1994	24 ADHD children & parents	3 treatments individual, group, control	Stronger treatment effects for individual therapy & for mothers
Horn Ialongo Greenberg Smith-Winberry	Additive effects of behavioral parent training & self control therapy with ADHD children 1990	42 ADHD children 18 control	3 treatments behavior management, self control, combination	No support for additive effect of treatment
Horn Ialongo Popvich Peradotto	Behavioral parent training & cognitive-behavioral self-control therapy with ADHD children: Comparitive & combined effects-1987	19 ADD-H children	3 treatments behavior management, self control, combination	Significant improvement in behavior at home, no change at school, no additive effect
Pisterman McGrath Goodman Webster	Outcome of parent mediated treatment of preschoolers with ADD-H 1989	46 ADD-H children & parents	One half received parent training	Compliance from child, parental interaction & management improved with treatment
Schachar Taylor Wieselberg Thorley Rutter	Changes in family function & relationships in children who respond to Methylphenidate 1987	38 boys & mothers	Double blind crossover design	Maternal warmth & contact increased, criticism decreased, fewer negative sibling interaction

Table 2, continued
Qualitative article

Authors	Title/Date	Subjects	Methods	Results
Naseef	How families cope successfully with a handicapped child: A qualitative study-1989	7 families	Structured interviews	Families use a variety of strategies to cope, parents use convergent methods to cope, siblings allowed to ask questions & discuss issues about handicap

Impact of Stimulant Medication upon Parent-Child Interactions

Cunningham and Barkley state that ADHD mothers have "acquired a generalized negative set of expectations which adversely influence their perception of and response to the child" (1979, p. 223). But, are negative expectations and parenting the cause of ADHD or the result of it? One way of determining this is to examine changes in parenting behavior after the child has been administered stimulant medication. Stimulant medication has been found to have a positive impact upon 70-80% of ADHD children in the areas of attention, impulsiveness, ability to stay on task, frustration level, and compliance (CHADD, 1993). A study conducted by Barkley, Karlsson, Strzelecki, and Murphey (1984) examined 54 children, ages four through ten using a double-blind, drug-placebo crossover design. The study examined mother-child interactions during both free play and in completing a task when the child had no medication and

when they had different levels of medication. Within 30 minutes after the administration of medication interactions during task situations significantly improved with the child becoming more compliant and exhibiting more on-task behavior. Parental behavior also underwent an immediate change with the mother becoming less controlling, more positive, and engaging in more nondirective dialogue. These results were not found when children were on the placebo. Using similar methodology, later studies have confirmed these results in similar age groups (Barkley, Karlsson, Pollard, & Murphey, 1985), in preschoolers ages 2 through 4 (Barkley, 1988), and in both boys and girls (Barkley, 1989).

Schachar, Taylor, Wieselberg, Thorley, and Rutter (1987) using parent and teacher interviews and rating scales, but no observation, found that maternal warmth and contact were increased and parental criticism decreased when children were on medication. There were also fewer negative encounters between the ADHD child and his siblings. However, as might be expected, the actions that parents stated they would take in regard to problem behaviors and the consistency between how mothers and fathers stated they would handle situations did not change as a result of the child receiving medication.

All of the above studies reveal more compliant behavior by the child and a corresponding change in parental behavior

when the child is on stimulant medication. This was found in spite of the fact that the studies that have been conducted all use small doses of stimulant medication with the same dosage given to all children. Since there is no consistent therapeutic dose in relationship to size or age of the child, a proper medication dosage must generally be determined through medication trials (CHADD, 1993). These studies, examined the interaction between parent and child after the child had been on medication for only one week. Observations of these interactions were conducted in a lab setting rather than a natural environment. In most cases the researchers conducted observations once and generally for 15 minutes. Researchers examined mother-child dyads in isolation from other family members in a bare room with five toys and minimal furniture present. Due to these common elements in the research design many questions regarding interactions remain unanswered, including the impact of therapeutic levels of medication on parent-child interactions in a naturalistic setting.

Other Methods of Therapy

Parent training and self-control training have been the other treatments most studied. With the exception of one study by Blakemore, Shindler, and Conte (1994) parent training has been based on learning to use contingency systems. This includes the use of behavioral observation and charting, reinforcement of positive behavior,