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Parental Stress and Coping with  
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Cheryl-Lynn Podolski

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of the requirements for

M.A. degree in Psychology

Joel T. Nigg, Ph.D.

Major professor

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**PARENTAL STRESS AND COPING  
WITH A CHILD'S ATTENTION-DEFICIT AND HYPERACTIVITY**

**By**

**Cheryl-Lynn Podolski**

**A THESIS**

**Submitted to  
Michigan State University  
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for the degree of**

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## **ABSTRACT**

### **PARENTAL STRESS AND COPING WITH A CHILD'S ATTENTION-DEFICIT AND HYPERACTIVITY**

**By**

**Cheryl-Lynn Podolski**

Although studies link child Attention-Deficit Hyperactivity Disorder (ADHD) with parent distress (e.g., Johnston, 1996), few controlled child aggression or examined possible independent effects of inattention and hyperactivity. Also, few studies have examined parent coping strategies in relation to distress in parents of externalizing children. Child inattention, hyperactivity, and aggression were examined in relation to parent role distress. Also, family related coping strategies were examined as possible mediators of the child aggression-parent distress relation. Mothers and fathers of elementary school children with ADHD inattentive type (ADD), children with ADHD (combined type), and non-disordered comparison children rated child behaviors and self-reported role stress, role dissatisfaction, coping style, and social support. Teachers also rated child behaviors.

Parents of children with ADHD but not ADD expressed higher levels of role dissatisfaction than parents of comparison children. Child inattention and hyperactivity were also related to parent distress when examined from a dimensional perspective. However, child ADD and ADHD diagnosis as well as dimensional inattention and hyperactivity were each not associated with parent dissatisfaction independent of child aggression. Child aggression was associated independently with parent dissatisfaction. Parent coping by positive reframing mediated the relation between child aggression and role dissatisfaction. Coping factors did not interact with child behavior problems. Social support was not a significant predictor of parental dissatisfaction.

## **DEDICATION**

To my father, George S. Podolski

## **ACKNOWLEDGMENTS**

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I would like to acknowledge each of the families who participated in the study, making this thesis possible. I hope that the information gained may serve to encourage and assist them. There are many other persons who were a part of seeing me through this endeavor. The support of many friends, colleagues, family members, and my significant other was cherished along the way and remains greatly valued.

## **TABLE OF CONTENTS**

<b>LIST OF TABLES .....</b>	<b>x</b>
<b>INTRODUCTION .....</b>	<b>1</b>
<b>Attention-Deficit Hyperactivity Disorder .....</b>	<b>1</b>
<b>ADHD and parental stress .....</b>	<b>4</b>
<b>Controlling for aggression .....</b>	<b>10</b>
<b>Summary .....</b>	<b>13</b>
<b>Parent coping .....</b>	<b>13</b>
<b>Lazarus and Folkman's model .....</b>	<b>15</b>
<b>Interpersonal and Kazak's family systems model .....</b>	<b>16</b>
<b>Ecological models of coping .....</b>	<b>16</b>
<b>McCubbin and Patterson's combined model .....</b>	<b>17</b>
<b>McCubbin and Patterson's model of family adaptation .....</b>	<b>18</b>
<b>Origins of the model .....</b>	<b>18</b>
<b>Reformulation .....</b>	<b>19</b>
<b>The five strategies in the model .....</b>	<b>19</b>
<b>Double ABC-X Model in relation to other coping theories .....</b>	<b>21</b>
<b>Application of McCubbin's model to families whose child has a</b>	
<b>chronic illness .....</b>	<b>24</b>
<b>Application of McCubbin's model to ADHD .....</b>	<b>25</b>

<b>Prior research on parent coping with child's ADHD.....</b>	<b>26</b>
Parent training programs .....	26
Social support .....	27
<b>Rationale for the current study .....</b>	<b>28</b>
<b>Overview .....</b>	<b>29</b>
<b>Hypothesis 1 .....</b>	<b>30</b>
Rationale 1 .....	30
Prediction 1 .....	31
<b>Hypothesis 2 .....</b>	<b>31</b>
<b>Rationale 2 .....</b>	<b>31</b>
Prediction 2 .....	32
<b>Hypothesis 3 .....</b>	<b>33</b>
Rationale 3 .....	32
Prediction 3 .....	32
<b>Hypothesis 4 .....</b>	<b>33</b>
Rationale 4 .....	33
Prediction 4 .....	33
<b>METHOD .....</b>	<b>34</b>
<b>Participants .....</b>	<b>34</b>
<b>Procedure .....</b>	<b>35</b>
<b>Predictors: Measures of inattention, hyperactivity, and aggression .....</b>	<b>35</b>
Child Behavior Checklist (CBCL) and Teacher Report Form (TRF) . .	36
Swanson, Nolan, and Pelham DSM-IV rating scale .....	36

Diagnostic Interview Schedule for Children - IV .....	37
<b>Mediating/Moderating variables: Coping measures .....</b>	<b>37</b>
The Family Crisis Oriented Personal Evaluation Scales (F-COPES) ..	37
Social Support Questionnaire Revised (SSQR) .....	38
<b>Outcome variables: Parent adjustment .....</b>	<b>39</b>
Parent Distress Subscale of the Parenting Stress Index .....	39
Parenting Satisfaction Survey .....	39
<b>RESULTS .....</b>	<b>40</b>
<b>Data reduction/formation of composite variables .....</b>	<b>43</b>
<b>Predictor variables: hyperactivity, attention problems, and</b>	
<b>aggressive behavior .....</b>	<b>43</b>
<b>Mediating variable: Family Crisis Oriented Evaluation Scales</b>	
<b>(F-COPES) .....</b>	<b>44</b>
<b>Outcome variable: Parenting distress .....</b>	<b>44</b>
<b>Test of hypotheses .....</b>	<b>45</b>
Hypothesis 1a mothers .....	45
Hypothesis 1a fathers .....	46
Hypothesis 1b and 1c .....	47
Hypothesis 1d .....	54
Hypothesis 2: mediation .....	57
Hypothesis 3 mothers .....	60
Hypothesis 3 fathers .....	61
Hypothesis 4 .....	61

<b>DISCUSSION .....</b>	<b>63</b>
Child ADHD behaviors in relation to parent role distress .....	64
Child inattention versus hyperactivity .....	69
Child aggression .....	71
Parent coping .....	71
Parent social support .....	72
Limitations .....	74
Conclusion .....	75
<b>REFERENCES .....</b>	<b>77</b>
<b>APPENDICES .....</b>	<b>92</b>
Appendix A: Table of Measures .....	92
Appendix B: Inter-correlations of measures of inattention by rater.....	94
Appendix C: Inter-correlations of measures of hyperactivity by rater .....	95
Appendix D: Inter-correlations of measures of aggression .....	96
Appendix E: Inter-correlations of F-COPES subscales .....	97
Appendix F: Inter-correlations between measures of parent role distress .....	98
Appendix G: Using alternative outcome measures to examine the relation between parent distress and child behaviors .....	99
Hypothesis 1a mothers .....	99
Hypothesis 1a fathers .....	99
Hypothesis 1b and 1c .....	100
Hypothesis 1d .....	103
Summary regarding alternative outcome measures .....	104

<b>Appendix H: Controlling for marital adjustment and stressful life events .....</b>	<b>105</b>
<b>Control Variables: Non-child related stressors .....</b>	<b>105</b>
<b>Dyadic Adjustment Scale .....</b>	<b>105</b>
<b>PSI Life Events .....</b>	<b>106</b>
<b>Examining the relation between parent role distress and child behaviors</b>	
<b>with marital adjustment and life stress controlled .....</b>	<b>106</b>
<b>Hypothesis 1a mothers .....</b>	<b>106</b>
<b>Hypothesis 1a fathers .....</b>	<b>107</b>
<b>Hypothesis 1b &amp; 1c .....</b>	<b>109</b>
<b>Hypothesis 1d .....</b>	<b>117</b>



## **LIST OF TABLES**

<b>Table 1 - Examples of Coping within Three Levels .....</b>	<b>15</b>
<b>Table 2 - McCubbin's strategies in relation to emotion and problem focused coping ...</b>	<b>23</b>
<b>Table 3 -McCubbin's Strategies in Relation to Individual, Familial, and Ecological levels .....</b>	<b>23</b>
<b>Table 4a - Sample characteristics by group .....</b>	<b>41</b>
<b>Table 4b - Mothers' dissatisfaction and use of coping strategies by group .....</b>	<b>42</b>
<b>Table 4c - Fathers' dissatisfaction and use of coping strategies by group .....</b>	<b>42</b>
<b>Table 5 - Correlations between predictor variables .....</b>	<b>44</b>
<b>Table 6 - Means of parental dissatisfaction with parenting performance .....</b>	<b>46</b>
<b>Table 7 - Hypothesis 1b &amp; 1c: Correlations: Dissatisfaction with Parenting Performance, child inattention, and hyperactivity .....</b>	<b>48</b>
<b>Table 8 - Hypothesis 1b: Regression models on mothers' dissatisfaction by child inattention with aggression controlled .....</b>	<b>50</b>
<b>Table 9 - Hypothesis 1b: Regression models on mothers' dissatisfaction by child hyperactivity with aggression controlled .....</b>	<b>50</b>
<b>Table 10 - Hypothesis 1b: Regression models on fathers' dissatisfaction by child inattention with aggression controlled .....</b>	<b>51</b>
<b>Table 11 - Hypothesis 1b: Regression models on fathers' dissatisfaction by child hyperactivity with aggression controlled .....</b>	<b>51</b>

<b>Table 12 - Hypothesis 1b &amp; 1c: Regression models on mothers' dissatisfaction by child inattention and hyperactivity with aggression controlled .....</b>	<b>52</b>
<b>Table 13 - Hypothesis 1b &amp; 1c: Regression models on fathers' dissatisfaction by child inattention and hyperactivity with aggression controlled .....</b>	<b>53</b>
<b>Table 14 - Hypothesis 1d: Regression models on mothers' dissatisfaction by child aggression with inattention and hyperactivity controlled .....</b>	<b>55</b>
<b>Table 15 - Hypothesis 1d: Regression models on fathers' dissatisfaction by child aggression with inattention and hyperactivity controlled .....</b>	<b>56</b>
<b>Table 16 - Hypothesis 2: Correlations between maternal Dissatisfaction with Parenting Performance and coping factors .....</b>	<b>58</b>
<b>Table 17 - Hypothesis 2: Positive reframing as a partial mediator of child behavior and maternal dissatisfaction .....</b>	<b>59</b>
<b>Table 18 - Hypothesis 2: Positive reframing as a partial mediator of child behavior and paternal dissatisfaction .....</b>	<b>60</b>
<b>Table 19 - Hypothesis 4: Correlations between parental dissatisfaction and social support .....</b>	<b>62</b>
<b>Table 20 - Alternative outcomes hypothesis 1a: Means of parent outcome measures by group .....</b>	<b>100</b>
<b>Table 21 - Alternative Outcomes hypothesis 1b &amp; 1c: Correlations: Parent PSI Distress, PSS Dissatisfaction with Parent-Child Relationship, child inattention, and hyperactivity .....</b>	<b>101</b>

<b>Table 22 - Alternative outcomes hypothesis 1b: Regression models on mothers' dissatisfaction with P-C Relationship by child inattention with aggression controlled .....</b>	<b>102</b>
<b>Table 23 - Alternative outcomes hypothesis 1d: Correlations between parent PSI Distress, PSS Dissatisfaction with Parent-Child Relationship, and child aggression/conduct problems .....</b>	<b>103</b>
<b>Table 24 - Controlling for Marital Adjustment and Life Stress Hypothesis 1b &amp; 1c: Regressions: Mother's Dissatisfaction with Parenting Performance, child inattention, and hyperactivity .....</b>	<b>109</b>
<b>Table 25 - Controlling for Marital Adjustment and Life Stress Hypothesis 1b &amp; 1c: Regressions: Father's Dissatisfaction with Parenting Performance, child inattention, and hyperactivity .....</b>	<b>110</b>
<b>Table 26 - Controlling for Marital Adjustment and Life Stress hypothesis 1b &amp; 1c: Regressions: Mother's Dissatisfaction with Parenting Performance, child inattention with aggression/conduct problems controlled .....</b>	<b>112</b>
<b>Table 27 - Controlling for Marital Adjustment and Life Stress hypothesis 1b &amp; 1c: Regressions: Mother's Dissatisfaction with Parenting Performance, child hyperactivity with aggression/conduct problems controlled .....</b>	<b>113</b>
<b>Table 28 - Controlling for Marital Adjustment and Life Stress hypothesis 1b &amp; 1c: Regressions: Father's Dissatisfaction with Parenting Performance, child inattention with aggression/conduct problems controlled .....</b>	<b>114</b>

**Table 29 - Controlling for Marital Adjustment and Life Stress hypothesis 1b & 1c:**

**Regressions: Father’s Dissatisfaction with Parenting Performance, child**

**hyperactivity with aggression/conduct problems controlled ..... 115**

**Table 30 - Controlling for Marital Adjustment and Life Stress hypothesis 1b & 1c:**

**Regressions: Mother’s Dissatisfaction with Parenting Performance by child**

**aggression/conduct problems ..... 117**

**Table 31 - Controlling for Marital Adjustment and Life Stress hypothesis 1b & 1c:**

**Regressions: Father’s Dissatisfaction with Parenting Performance by child**

**aggression/conduct problems ..... 118**

## **INTRODUCTION**

### **Attention-Deficit Hyperactivity Disorder**

Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most prevalent childhood psychiatric disorders. Estimates suggest that 3 to 5% of school aged children have the disorder (American Psychiatric Association, 1994; Szatmari, Offord, & Boyle, 1989). ADHD is a behavioral syndrome characterized by levels of activity, impulsivity, and/or inattention which are extreme for developmental level and severe enough to interfere with the child's adjustment across settings. By definition, children with ADHD experience difficulties that interfere with their relationships and/or academic functioning. For example, they often fail to pay attention to detail, often avoid organizing things, are forgetful, and are easily distracted and lose things (American Psychiatric Association, 1994).

Historically, ADHD has been defined according to different criteria at different times. The current Diagnostic and Statistical Manual of Mental Disorders, DSM-IV (American Psychiatric Association, 1994), specifies three subtypes: ADHD, Predominantly Inattentive Type (ADD herein); ADHD, Predominantly Hyperactive-Impulsive Type; and ADHD, Combined Type (ADHD herein). It is notable that much literature reviewed here used earlier definitions of ADHD.

Although early research on the inattentive and hyperactive subtypes was mixed

(e.g., King & Young, 1982; Maurer & Stewart, 1980; Rubinstein & Brown, 1984; Shywitz & Shaywitz, 1985), recent field studies have demonstrated differences. Before the publication of the DSM-IV, comprehensive field studies were conducted (e.g., Lahey, Applegate, McBurnett, et al., 1994). These field trials indicated that ADHD - Predominantly Inattentive type (ADD) and ADHD - Predominantly Hyperactive type are discrete subtypes (Lahey, et al., 1994). That is, child inattention and hyperactivity emerged as two factorially distinct dimensions. Relatedly, Lahey and colleagues (1994) found that child inattention and hyperactivity were associated with different types of impairment. Hyperactive behaviors were associated with greater global impairment. Inattention was associated with academic impairment. Other research has indicated that children who exhibit hyperactive behaviors experience greater conduct problems and peer relationship difficulties (Barkley, DuPaul, & McMurray, 1990; Lahey & Carlson, 1992). An important distinction between the subtypes may be a relation between the hyperactive symptomatology and an increased incidence of co-occurring aggression and conduct problems (Barkley, DuPaul, & McMurray, 1990).

In addition to considering the separate subtypes, developmental psychopathologists emphasize the need to examine child problems from a continuous, dimensional perspective as well as from a categorical, diagnostic perspective (Jensen, Koretz, Locke et al., 1993). In the case of ADHD, some researchers argue for a clearly defined syndrome (e.g., Searight, Nahlik, & Campbell, 1995) to assist in treatment planning and to differentiate children with ADHD from children with other disorders. Sophisticated studies offer mixed results as to whether ADHD is in fact a categorical or dimensional phenomena etiologically (see Nigg & Goldsmith, 1998). Additionally, the

diagnostic cut-off points, while backed by greater empirical support than the past clinical dimensions, neglect the significance of sub-threshold problems. Sub-threshold problems (e.g., periodic inattention or aggression) may be stressful for parents even if a diagnosis is not warranted. The dynamic interplay of child, parental, and contextual factors is not well addressed when the sub-threshold problems are ignored. It is therefore important to investigate these important behavior problems both from categorical and dimensional perspectives.

Various etiologies for ADHD have been posited. Early research posited that ADHD was due to genetic factors or brain damage (e.g., Cantwell & Hanna, 1989; Laufer & Denhoff, 1957). Psychoanalytic and family models have also been posed (e.g., Bauermeister et al., 1992; Jacobvitz & Sroufe, 1987). Adverse family circumstances are correlated with ADHD severity and poorer ADHD outcome (Biederman et al., 1995; Frick, 1994; Frick et al., 1991; Johnston, 1996; Loeber et al., 1995; etc.). Although most studies have failed to control for aggressive comorbidity or early biological factors, at least one study suggested that family interactions preceded ADHD behaviors (Bauermeister et al., 1992). The interactions of contextual factors with ADHD behaviors and parental distress thus merit further investigation.

Nevertheless, recently there has been a proliferation of positive biogenetic evidence (Biederman et al., 1990; Tannock, 1998). Genetic studies reveal a substantial heritable component to ADHD (e.g., Faraone, Biederman, Krifcher-Lechman et al., 1993; Faraone, Biederman, Chen et al., 1992). Environmentally influenced biological factors (e.g., toxins, pre and para-natal development) also may be important in the etiology of ADHD (e.g., Bennett, Wolin, & Reiss, 1988; Streissguth et al., 1984).

Medication studies suggest that the child's attentional and hyperactivity problems precede parental adjustment difficulties rather than vice versa (Barkley & Cunningham, 1979; Whalen & Henker, 1991; Whalen, Henker, Buhrmester et al., 1989). Thus, child problems may serve as a stressor for parents. Subsequent parental distress may negatively impact parenting, which may result in an increase in problematic child behavior in a kind of "vicious cycle" (Barkley, Fischer, Edelbrock, & Smallish, 1990). Even if they do not cause the onset of ADHD, then, negative parent-child interactions may serve to maintain and exacerbate ADHD symptomatology (Hinshaw, 1994). For instance, two studies (Anderson et al., 1986; Campbell et al., 1991) found that ineffective parenting practices predicted greater noncompliance and hyperactivity in children with ADHD.

Therefore, rather than studying the effects of parent/family functioning on the child to examine etiology as many studies already do (e.g., Edwards, Schulz, & Long, 1995; Schachar & Wachsmuth, 1991), the current study assumes a model wherein child symptomatology serves as a stressor for parents. Although the bidirectional complexity of the interaction between child symptomatology and parental distress is acknowledged, the focus of the current study is the impact of the child's disorder on parents rather than parenting effects on children.

### ADHD and parental stress

Within the literature, stress and stressor are unfortunately often used interchangeably. For purposes of this discussion, stressors refer to the events that result in a disruption to an individual's life. Stress is the consequential emotional feeling state that results when there is a perceived discrepancy between the demands of a particular



situation and the resources that the individual has or believes him/herself to have. A build up of stressor events usually leads to a state of stress. Similarly, studies of parent factors have examined parent role stress, sense of competence, and psychological distress (e.g., depression, anxiety). In the current study, parent role distress is used as the most generic term, referring to role specific stress, dissatisfaction, or lack of esteem. Psychological distress refers to general anxiety and depression and is not necessarily role specific. A commonly used instrument, the Parenting Stress Index (PSI; Abidin, 1995) combines role specific distress and general psychological distress.

Several studies have examined parents' use of psychiatric services, parenting stress, and parent role dissatisfaction in relation to a child's ADHD or hyperactivity. Mothers of children with ADHD report greater psychological distress (Gillberg, Carlstrom, & Rasmussen, 1983; Sandberg, Wieselberg, & Shaffer, 1980), greater role specific stress (Mash & Johnston, 1983a), lowered sense of parenting competence (Mash & Johnston, 1983a) and more health related problems (Breen & Barkley, 1988; Cunningham, Benness, & Siegel, 1988) than mothers of children without behavioral disorders. Often these studies focused on the hyperactive component of ADHD, implying that the hyperactive rather than the inattentive behaviors are the greater stressor for parents (e.g., Befera & Barkley, 1985; Hechtman, 1996; Mash and Johnson, 1983a; 1983b). Consistently, child hyperactivity was associated with distress in parents (e.g., Anastopoulos, Gueverment, Shelton, & DuPaul, 1992; Baker, 1994; Baldwin & McCal, 1995; Breen & Barkley, 1988).

Both an early (Gillberg, Carlstrom, & Rasmussen, 1983) and a recent study (Hechtman, 1996) report that parents of children with ADHD are more likely to utilize

mental health services for their (parents') own needs to a greater degree than parents of healthy comparison children. In the early community prevalence study, Gillberg and colleagues identified 141 of 3,448 children who exhibited motor, perceptual, attentional, and behavioral problems fitting the definition of hyperkinesis, an early name for ADHD. They compared these 141 children to 59 non-disordered children and found that 56% of the mothers of the children with high levels of symptomatology sought psychiatric care in the year prior to the study, whereas only 41% of mothers of children who had low levels of symptomatology did so. In contrast, only 16% of the mothers of the healthy comparison children had sought psychiatric care. This study suggests that mothers of children with hyperactivity and attentional difficulties (combined problematic behaviors) experience greater psychological distress than mothers of children without such problems and that distress is associated with severity of symptomatology, not just with diagnosis.

In the more recent 10-year, longitudinal study, Hechtman (1996) also found that parents of hyperactive children were more likely to have mental health problems and to utilize psychiatric services for their own needs. Only 17% of the families of the comparison children sought psychiatric services, whereas 28% of the families of hyperactive children did so. Although in Hechtman's study the differences in psychiatric service seeking behaviors of families of hyperactive children and families of comparison children were not as different as that found in Gillberg and colleagues' (1983) earlier study, Hechtman also looked at psychological distress among those families not seeking services for themselves. Of the 83% of families of comparison children and the 72% of families with hyperactive children who did not seek treatment, 24% of the comparison families had symptoms of psychological distress whereas 41% of the families with a

hyperactive child experienced symptoms of psychological distress.

In addition to examining parental psychological distress, some early studies examined variables such as role specific stress and satisfaction. An early study which compared 40 families with a hyperactive child and 51 families with a non-disordered child found that not only were mothers of hyperactive children more depressed than mothers of non-disordered, comparison children, but mothers of hyperactive children also reported lower levels of parenting esteem and less satisfaction in their roles and parents (Mash & Johnston, 1983a). Both mothers and fathers of the children with hyperactivity rated themselves as less skilled and knowledgeable as parents when compared to parents of the comparison children. Also, both mothers and fathers reported finding less value in and comfort from their roles as parents than parents of the comparison children. Mash and Johnston (1983b) also examined self-ratings of parenting esteem/satisfaction and competence in relation to self and other ratings of the child's behavior. They found that mothers' parenting esteem was more highly correlated with their spouses' ratings of their child's behavior than with their own rating of their child's behavior. This suggests that the relation between self-ratings of esteem/satisfaction and child behavior is not limited to parent's own perception of the child's behavior. Additionally, severity of hyperactivity and not just ADHD diagnosis was related to parent role distress.

Notably, most researchers have not distinguished between hyperactive versus inattentive symptoms because these were placed on the same symptom list in DSM-III-R. For instance, Breen and Barkley (1988) found that the number of settings in which ADHD (inattention and hyperactivity combined) children experienced difficulties and the mean severity of the children's problems were correlated with maternal stress as measured by an

early version of the self-report Parenting Stress Index (PSI). That is, mothers of children who exhibited more behavioral problems and who exhibited these problems in multiple settings experienced more stress. Similarly, Mash and Johnston (1983a) found that greater severity of child problematic characteristics associated with combined hyperactivity and inattention (i.e., how much the child posed as a source of “bother” to the parent and “degree of distractibility”) was related to greater maternal distress.

Similarly, in a study of mothers of 104 children who met criteria for an ADHD diagnosis by DSM-III-R criteria, the overall severity of the child’s ADHD (combined) symptomatology was found to be a significant predictor of maternal stress (e.g., Anastopoulos, Guevremont, Shelton, & DuPaul, 1992). Another study of primary care providers (28 women and 2 men) of 30 children (26 males and 4 females) with ADHD (Baldwin et al., 1995) found that the frequency of hyperactivity and inattention behaviors combined accounted for up to 18% of the variance in overall stress reported by caregivers.

Of course, it is possible that such parental distress is due to the parent’s own pre-existing psychopathology. For instance, negative parenting behaviors and parenting stress decrease significantly when a child is given medication. Rather than this being due to a simple decrease in child problem behaviors, parents with pre-existing pathology and/or lower thresholds for tolerating child externalizing behaviors might be more likely to experience a decrease in parenting distress.

Additionally, some researchers have argued that depressed mothers misperceive the severity of their child’s problematic behaviors. That is, the child’s problems may actually be less severe than mothers perceive. According to this depression-distortion

hypothesis, maternal depression may lead to a misperception of elevated child behavioral problems. Maternal role specific stress and coercive parenting may thus be driven by mothers' own psychopathology rather than from child behavior. Contrary to this hypothesis, a critical review of maternal depression and perception of child behaviors concluded that rigorous studies using objective raters (as well as mothers) have failed to support the maternal bias hypothesis (Richters et al., 1992). Richters' work suggests that depressed mothers accurately perceive their child's problems. Taken together, these findings may support a parent-response model of maternal depression with child externalizing problems.

Increased stress and decreased satisfaction and parent role related self-esteem may be a result of specific increased stressors which parents of children with ADHD symptomatology face in addition to the ADHD behaviors themselves. These other stressors include increased conflict between the ADHD child and siblings (e.g., Mash & Johnston, 1983b) and peers (Campbell & Paulaskas, 1979; Cunningham & Siegel, 1987), increased problems in school and community settings (e.g., Barkley, & Edelbrock, 1987; Whalen, Henker, & Dotemoto, 1981), problems with other parents (e.g., Whalen, Henker, & Dotemoto, 1981) and strains in the parent child relationship (e.g., Barkley & Cunningham, 1979; Ross & Ross, 1982). These difficulties may contribute to the parent's stress and dissatisfaction.

Among the studies examining parent role distress, few have examined fathers (Fischer, 1990). According to a review of parenting stress in families of ADHD children, Fischer (1990) surmised that researchers have focused "almost exclusively on mothers." Of those studies which included fathers (Baker, 1994; Johnston, 1996; Lewis, 1992)

different outcomes have been reported corresponding with different measures. For instance, Baker (1994) found no significant differences between mothers and fathers. Notably, his dependent measures was comparable to an indicator of parent psychological rather than role specific distress. Johnston's (1996) study is one of the few studies to examine role distress for both mothers and fathers. Findings were similar for mothers and fathers. Although these initial studies report few differences between mothers and fathers, additional research is warranted.

Overall, evidence supports that parents of children with ADHD experience increased levels of role stress and dissatisfaction. Notably, many studies have focused on the hyperactive symptomatology, finding that hyperactivity is associated with parent role distress (e.g., Befera & Barkley, 1995; Hechtman, 1996; Mash & Johnston, 1983a, 1983b). Studies which examine the separate contribution of inattention are lacking. Further, few studies have examined parenting stress in fathers as well as mothers. Lastly, to date no studies on parent role distress have been published which use DSM-IV criteria for ADHD.

### Controlling for aggression

Child inattention and hyperactivity appear to be related to parental stress. However, a key complication is that co-occurring child behaviors also contribute significantly to parental stress. Oppositional-Defiant Disorder (ODD) and Conduct Disorder (CD) are two disruptive behavior disorders characterized by aggression that often co-occur with ADHD, with estimates of comorbidity rates of at least 30% (e.g.,

Anderson et al., 1987; Stewart et al., 1981). Many of the early studies (e.g., Befera & Barkley, 1983a; Breen & Barkley, 1988; Gillberg, Carlstrom, & Rasmussen, 1983; Mash & Johnston, 1983a) and even many recent studies (e.g., Baker, 1994; Baldwin, Brown, & Milan, 1995; Hechtman, 1996; Murphy & Brown, 1996) did not control for child comorbid aggressive behaviors. Thus, it is possible that comorbid aggressive behavior and not ADHD symptomatology accounts for parenting stress in those studies.

Consonant with this idea, Anastopoulos, Guevremont, Shelton, and DuPaul's (1992) study of 104 ADHD boys found that aggression (measured by CBCL Aggressive score) accounted for 37% of the variance in predicting parental stress. Hyperactivity and inattention combined (measured by the Dupaul, 1990, ADHD Rating Scale) only accounting for an additional 4% of the variance ( $p < .001$ ). Unfortunately, the reverse model (entering ADHD first in the model) was not tested. In order to gain an understanding of the separate influences of ADHD and comorbid ADHD/ODD, the researchers separated the boys into two groups -- 59 boys with ADHD only and a 32 boys with ADHD plus ODD. The parents of the ADHD/ODD boys reported higher levels of parenting stress than the parents of ADHD only boys. However, the parents of the ADHD-only boys still reported significantly higher although not severe levels of parenting stress versus a normative sample, with scores falling at the 80<sup>th</sup> percentile. Hence, the study supported the premise that ADHD contributes to parental stress but suggests that it does so to a limited degree independent of aggression.

Johnston (1996) compared ADHD children with high (ADHD-HOD) versus low levels (ADHD-LOD) of Oppositional Defiant Disorder (ODD) to non-disordered comparison children. She found a significant difference in parents' sense of competence

depending on the extent to which their ADHD children exhibited ODD. That is, parents of ADHD children with greater ODD behaviors (ADHD-HOD) expressed a lower sense of competence than parents ADHD children with low levels of ODD behaviors (ADHD-LOD) and than parents of control children who did not exhibit ODD nor ADHD behaviors. Using a different outcome variable, Johnston found high life stress in parents of ADHD children compared to parents of non-disordered comparison children but no significant differences between stress levels in parents of ADHD children with high versus low levels of ODD behaviors (Johnston, 1996). Unsurprisingly, parents of non-problem children experienced the lowest levels of distress as measured by the Symptom Checklist and the life stress measure. These results appear to differ from those of Anastopolous' et. al (1992). However, using a similar measure of general distress, Anastopolous' found that maternal global psychological distress was a significant predictor of parent role stress. It thus appears that results may vary depending on the outcome construct under consideration. Global psychological distress may not be as affected by child behavior as is role-specific parenting distress.

In summary, the lower levels of parenting competence found by Johnston (1996) is similar to Anastopoulos et. al's (1992) finding of greater parenting stress associated with hyperactivity, inattention, and particularly aggression. That is, both studies suggest that child ADHD behaviors (hyperactivity and inattention combined) contribute to parental role distress in a small but significant manner.

Because so few studies have controlled for aggression, these studies bear replication. Additionally, the failure to examine hyperactivity and inattention separately points to the need for additional studies to address the independent contributions of



hyperactivity, inattention, and aggression to parenting distress. The extent to which child ADHD diagnosis, inattention, and hyperactivity predict parental distress independently of child aggressive behavior and the extent to which child aggression predicts parental distress when inattention and hyperactivity are controlled were examined in the current study.

### **Summary.**

Child hyperactivity and/or oppositional/aggressive behavior increases the number of problems that parents encounter (e.g., Barkley & Edelbrock, 1987; Breen & Barkley, 1988; Cunningham & Siegel, 1987; Mash & Johnston, 1983a, 1983b) resulting in a decrease in parenting satisfaction and an increase in parenting role distress (e.g., Breen & Barkley, 1988; Mash & Johnston, 1983a, 1983b). Few studies have satisfactorily examined the independent contributions of aggression and inattention versus hyperactivity to parent role distress. The sources of distress must be clarified, and then coping might be assessed in detail.

### **Parent Coping**

Some parents may be buffered from the stress of their child's ADHD through effective coping strategies. Understanding how parents successfully cope with their child's inattention, hyperactivity, and aggression may elucidate ways in which to counsel parents. These findings may facilitate the design of appropriate interventions aimed toward interrupting the cycle between problematic parenting and child problem behaviors. By impacting parents, interventions might prevent the exacerbation of inattentive, hyperactive, and development of aggressive behaviors in children. Because few studies of

coping in response to child ADHD exist, the literature on parent coping in general is relevant.

Unsurprisingly, parents who have access to more resources and who use those resources more effectively are better able to adapt to family stressors (McCubbin, Olson, & Larsen, 1987; Monat & Lazarus, 1991; Thompson & Gustafson, 1996). For instance, social support has been correlated with parental adjustment in families whose children experience illness, disabilities or stressors (e.g., sickle cell disease, mental retardation, or immigration; Crnic, Friedrich, & Greenberg, 1983; Hurtig, 1994; Noll, Swiecki, Garstein, & Vannatta, 1994; Sharts-Hopco et al., 1996; Short, 1997). In addition, religiosity and access to community resources have been associated with adjustment in individuals and in families (e.g., Commerford, 1996; Maton & Wells, 1995). Resources and the various ways in which parents make use of them may be conceptualized as coping strategies.

By definition, coping behaviors are used by an individual when s/he is faced with stressors. The stressors require the individual to utilize her/his resources in order to protect him/herself from consequential stress or in order to reduce a stress which the stressors have already induced. Coping is usually portrayed as a transactional process, in relation to stressors, that operates in multiple domains (McCubbin, Olson, & Larsen, 1987; Thompson & Gustafson, 1996). That is, the stressor event, the individual, his/her family, specific coping strategies and the psychological and physical health outcomes of various family members affect each other in a dynamic manner. Further, these processes operate on the individual, familial, and community level. Table 1 (next page) lists examples of coping at each of these levels.

Table 1  
Examples of Coping within Three Levels

Level	Examples of behaviors
I. Individual	appraisal, seeking emotional release, problem solving or active planning
II. Family	working together as a family, use of individual strategies but together as a family
III. Ecological	use of community resources, religious and spiritual support, social support network & satisfaction

Most models emphasize one or another level of those represented in Table 1. For instance, Lazarus and Folkman (1984) proposed a coping<sup>o</sup> model that focused on individual factors. However, some models have attempted to include multiple levels. Many family and ecological models retain intra-individual coping factors but also include factors which account for the inter-relationships among multiple individuals, the stressor, and environmental factors. Models which emphasize the dynamic exchange among these factors are often used to understand how parents cope with stressors (e.g., Kazak, 1986; 1996). Ecological models used to understand coping within families include Thompson's transactional model (Thompson, Gil, Burbach, Keith, & Kinney, 1993) and Patterson and McCubbin's Family Adjustment and Adaptation Response and Double ABC-X models (McCubbin & Patterson, 1983; Patterson, 1988). These key models are reviewed next.

Lazarus and Folkman's model/intra-individual coping. Intra-individual coping strategies involve how the individual mobilizes his/her own resources to adjust to challenging circumstances. One of the primary intra-individual models of coping is Lazarus and Folkman's (1984) dynamic model of problem and emotion-focused coping. Problem-focused coping is directed at solving the situation at hand. Emotion-focused coping involves seeking emotional support or minimizing the significance of the problem.

Specific attributions about the stressor event contribute to the individual's experience of the event as stressful. The individual selects problem and/or emotional focused behaviors to ameliorate the consequential stress. Problem-focused coping has been associated with better adjustment in families. For instance, in a study of 55 families of children with spina bifida and 55 matched comparison families of healthy children (Hornbeck et al., 1997), active coping and planning and ability to adapt to situations were associated with parenting satisfaction whereas focusing on venting emotions and behavioral disengagement were associated with dissatisfaction.

Interpersonal factors and Kazak's family systems model. Coping also involves interpersonal factors (e.g., Fiese, 1997; Weiss, Marvin, & Pianta, 1997). For instance, how each individual family member adapts to the child's illness is affected by how other family members cope (e.g., Chaney et al., 1997; Fiese, 1997). According to systems theory, the change of one family member may disrupt the current homeostatic structural stability of the family (Kazak, 1986; Sheeran, Marvin, & Pianta, 1997). Kazak (1986) proposed a family systems model which focuses on the way the family adjusts to an illness as a functioning unit and how the family as a whole uses social support. Although revolving around systemic factors, Kazak's measures focus on social support and the transactional nature of adjustment rather than on the ways in which coping strategies themselves operate dynamically among members of a family. Her model does not address intra-individual factors.

Ecological models of coping. Ecological models of coping emphasize environmental factors (Moos & Tsu, 1977; Wallander, Varni, Babani, Banis, & Wilcox, 1989). These models posit that individuals and families operate within an "ecological

system” of professionals, community members, and extended family. An ecological model of coping, which was designed specifically to understand family coping with a family member’s illness, is that of Thompson and colleagues (Thompson et al., 1993). In their transactional model, biomedical, developmental, and psychosocial processes determine the physical health and psychological outcome of the patient. Thompson proposes three psychosocial factors related to family adjustment: cognitive appraisals and expectations, palliative and adaptive coping strategies, and family functioning or environment. The first two factors were borrowed from Lazarus and Folkman (1986). According to Thompson’s conceptualization, family functioning (see Kronenberger & Thompson, 1990; Moos & Moos, 1981) refers to the overall emotional climate of the family; that is, how supportive, conflicted, or controlling the family is.

Although Thompson’s model includes intra-individual and ecological coping resources, it lacks an emphasis on the familial components relevant to coping. Like Kazak’s model, Thompson’s focuses on how the well-being of one member impacts the well-being of another (e.g., maternal adjustment impacts child adjustment and vice versa) but does not address well the idea that coping may occur at the level of the family and not just the individual.

McCubbin and Patterson’s combined model. McCubbin and Patterson’s Double ABC-X and Family Adaptation and Functioning (FAAF) combined models includes all three factors: individual, familial, and ecological (McCubbin, 1981; Patterson, McCubbin, & Warwick, 1990). The Double ABC-X theory posits that the stressor(s) (A) interacts with the family’s resources (B) and with the family’s definition of the stressor (C) to produce the crisis (X). Adjustment depends on the interactions between the stressor, the

way in which the family or parent perceives the stressor, and available resources. While retaining strategies gleaned from individual coping theories, this model frames coping in terms of what the individual does within the family, how coping strategies operate within the family, and what community resource are used. In essence, it combines the intra-individual factors, the family systems factors, and the ecological factors posited in the preceding models. Further, central to McCubbin and Patterson's theory is the concept that parental roles and behaviors change as the parent adjusts to the stressful circumstances. Arguably, McCubbin's model may be viewed as too "all inclusive" and therefore not sensitive to the contribution of each factor. Also, coping within this model is framed as occurring within the family but, like Kazak's model, it does not provide an account of the transactional nature of coping processes themselves. However, as a comprehensive, family-oriented model, McCubbin's is arguably best-suited for an initial examination of how parents cope with their child's ADHD problems. It was therefore selected for use in the current study. Further description of this model is therefore provided in the following section.

#### McCubbin and Patterson's model of family adaptation

Origin's of the model. According to the ABC-X model, a stressor event and related hardships (A) interact with the family's crisis meeting resources (B), which interact with the assessment the family makes regarding the event (C), which in turn determines the experience of stress or "the crisis" (X). The "crisis" would put the family in a state of disorganization which would require adjustments within the family. Often adjustment would involve changes in individual roles within the family (see review by McCubbin et

al., 1980).

**Reformulation.** The model was reformulated for chronic situations (McCubbin & Patterson, 1983). In chronic situations, there is a built-up of stressors over time (the ‘pile-up’; “Double”). Initially during adaptation, the family might try to ignore, remove, or address the stressor with existing resources. If these first efforts failed, there would be a second adaptation phase. At this time, the family might engage in more direct coping and make further changes in family structure. Adjustments might involve changes in individual roles, the family structure as a whole, and the way community resources were used. As part of the reformulation, five coping strategies were specified commonly used by families (McCubbin, Olson, & Larsen, 1981).

**The five strategies in the model.** The first factor identified by McCubbin (1980; McCubbin et al., 1981) as important for family coping is social support. A large body of literature demonstrates that caregivers whose friends and family members provide them with resources are in better physical and psychological health (e.g., Ptacek, Pierce, Dodge, & Ptacek, 1997). The Double ABC-X model refers to social support as the family’s or parent’s ability to actively engage in acquiring support — emotional, practical, material, or other — from relatives, friends, neighbors, and extended family.

Research has found that access to social support and satisfaction with social support may be differentially related to adjustment (e.g., Sarason & Sarson, 1985). For instance, in a study of coping in 35 mothers of children with neurological and physical impairments (Hanson & Hanline, 1990), mothers reported being satisfied as parents when they used a social support network. However, Cunningham, Benness, and Siegel (1988) found that parents of ADHD children experienced contacts with extended family members

as less helpful than parents of non-disordered children. In studying parents of ADHD children, it may be important to examine satisfaction with as well as size of or access to social support network.

The second coping strategy is the ability of parents to reframe family problems in such a way that they are able to have a feeling of resiliency; that is, the sense that they, as a family, can handle the problem without feeling too discouraged. Research indicates that the interpretation one gives stressful events facilitates or impedes adjustment (Lazarus & Folkman, 1984; Seligman, 1990). For instance, research on explanatory style has demonstrated that individuals who perceive mishaps as due to internal, stable factors which are consistent across situations are more likely to be depressed (Peterson, 1988). Peterson and colleagues have termed this “learned helplessness.” In a sense, McCubbin’s reframing concept is opposite of “learned helplessness,” rather than viewing situations in such a way that the parent is immobilized, positive reframing gives hope for improvement and subsequently, facilitates healthy adjustment.

The third coping factor is religiosity and spiritual support, which parents and families glean from their faith and from members of their religious community. Literature indicates that religiosity and spiritual support are associated with better adjustment in the face of difficulties (e.g., Curbow & Somerfield, 1995; Jenkins & Pargament, 1995; Taylor, Lichtman, & Wood, 1984). Additionally, religiosity or spiritual support has been related to constructive coping in parents of a child diagnosed with cancer (Spilka, Zwartjes, & Zwartjes, 1991).

The fourth coping factor in McCubbin’s (McCubbin et al., 1981) model is the parent’s or family’s ability to acquire and utilize resources within the community.



Utilization of community resources has been found to be important for physical health (Taylor, Repetti, & Seeman, 1997) and for family adjustment (Bibou-Nako, Dikaiou, & Bairactaris, 1997; Kazak, 1989; Kazak, Reber, & Carter, 1988; Wallander, Varni, Babani, Banis, & Wilcox, 1989). Recently, community and school-based programs for children with ADHD, their families, and their teachers and other school personnel have been proposed (Cunningham, Bremner, & Secord-Gilbert, 1993; Rostain, Power, & Atkinds, 1993); however, as noted by Rostain, Power, and Atkins (1993), not all parents are equally likely to pursue treatment for their child's ADHD. Hence, it is important to assess parent's ability to utilize these resources.

The fifth coping factor is the parent's ability to accept problems, termed by McCubbin as passive appraisal. According to McCubbin, passive appraisal demonstrates a lack of reactivity to problems. Passive appraisal may also indicate, however, an avoidance or "giving into" problems. For this reason, it is difficult to speculate how this coping style may impact families with ADHD children. This lack of reactivity may help families to deal with the on-going stressor by obtaining an acceptance of the difficulties; however, it may also indicate an acquiescence.

#### Double ABC-X Model in Relation to Other Coping Theories.

McCubbin's factors appear to be supported by a recent review of the literature investigating family adaptation to a child's illness or disability. Krauss, Warfield, Hauser-Cram, and Shonkoff (1997) identified three main factors which may be used to understand how parents adapt to a child's disability: 1) social support strategies, 2) problem-focused and emotion-focused parental coping strategies, and 3) the emotional environment of the

family — specifically, factors such as cohesiveness, supportiveness, and adaptability/flexibility. These factors include the individual strategies proposed by Lazarus and Folkman (1984), family elements as suggested by Kazak (1985), and ecological elements outlined by Thompson and colleagues (1993). Although not specified by McCubbin, Patterson (1988) posited their presence. These broad factors are arguably inherent in McCubbin's Double ABC-X model. In order to better understand how McCubbin's family-oriented model relates to other models, two heuristics are used. First, McCubbin's theory is related to Lazarus and Folkman's emotion-focused and problem-focused coping. Second, McCubbin's theory is related to the three broad-based coping theories. Additionally, it is possible that there may be one global factor captured by McCubbin's model.

McCubbin's ABC-X model incorporates both emotion (i.e., passive-avoidance, seeking spiritual support) and problem focused strategies (i.e., acquiring social support, positive reframing of problems, and using community resources). Although McCubbin does not define coping strategies as emotion or problem focused, they may be grouped accordingly. Table 2 (next page) lists one way in which McCubbin's coping strategies may related to Lazarus and Folkman's (1984) problem and emotion-focused coping categories.

**Table 2**  
**McCubbin's strategies in relation to emotion and problem focused coping**

<b>McCubbin's strategies</b>	<b>Lazarus and Folkman's groupings</b>	
	<b>Emotion focused coping</b>	<b>Problem focused coping</b>
<b>Positive reframing</b>		<b>x</b>
<b>Acquiring social support</b>	<b>x</b>	
<b>Seeking spiritual support</b>	<b>x</b>	
<b>Using Community resources</b>		<b>x</b>
<b>Passive appraisal</b>	<b>x</b>	

As a comprehensive family-oriented model with individual and ecological coping strategies, McCubbin's model provides a means to understand how coping strategies occur at the individual, familial, and ecological levels. Table 3 lists McCubbin's strategies and the levels at which they are likely to operate.

**Table 3**  
**McCubbin's Strategies in Relation to Individual, Familial, and Ecological levels**

<b>McCubbin Strategy</b>	<b>Level</b>		
	<b>Individual</b>	<b>Family</b>	<b>Ecological</b>
<b>Positive reframing</b>	<b>x</b>		
<b>Acquiring social support</b>		<b>x</b>	
<b>Seeking spiritual support</b>	<b>x</b>		<b>x</b>
<b>Using community resources</b>		<b>x</b>	<b>x</b>
<b>Passive appraisal</b>	<b>x</b>		

It is likely that some strategies operate on more than one level. For instance, an individual seeking spiritual support may increase participation in religious services, taking advantage of a community resource but also focusing inward for sustaining herself. Also,

while using community resources is obviously use of coping which is available at the ecological level, McCubbin's operationalization of this strategy is that the parent would use these resources herself but also would mobilize the entire family to engage in these resources.

In summary, McCubbin's strategies might be conceptualized as emotional and problem-focused, coinciding with Lazarus and Folkman's framework. However, McCubbin's strategies also appear to measure family-oriented coping in parents who might use strategies at the individual, familial, and ecological levels. Both conceptualizations offer frameworks for providing information about how parents cope with their child's ADHD. Because models of coping with a child's illness or disability propose the importance of all of these levels, understanding McCubbin's model in relation to the three levels at which coping might occur is expected to be useful for learning about how parents cope with their child's ADHD.

#### Application of McCubbin's model to families whose child has a chronic illness

McCubbin and Patterson have used the Double ABC-X model in order to understand how parents and families adjust to a child's chronic illness (McCubbin & Patterson, 1983; Patterson & Garwick, 1994; Patterson, McCubbin, & Warwick, 1990) and how family roles impact adjustment (McCubbin, Thompson, Kretzschmar, Smith, Snow et al., 1992). For example, using the combined Double ABC-X and FAAF model, Patterson and colleagues (1990) investigated the effectiveness of parental coping in 72 mothers and fathers of children with cystic fibrosis. They found that engaging in activities as a family, reframing problems to obtain a sense of optimism, and working as a family to

handle demands were all associated with favorable child health.

### **Application of McCubbin's Model to ADHD**

Within the Double ABC-X model, the continued child ADHD behaviors may be seen as the chronic stressor (A). Although the initial ADHD diagnosis may provide a stress-relieving framework for parents, the continuance of child behaviors and associated stressors are likely to build over time, serving as a “pile-up” of stressors. The parent's perception of the problem (C) directs resource utilization (B), together comprising the parent's coping. The parent's and/or family's definition of the problem, the child's ADHD behaviors and associated stressors, and the family members immediate responses interact to determine whether the parent experiences immediate and on-going stress (X). If stress is ongoing, various coping strategies may be employed to ameliorate the negative effects of the on-going demands associated with the child's behaviors.

Given the age of the children in the current study (7-11), it is assumed that the family is in the adaptation phase of McCubbin's process; that is, the parents have been faced with their child's ADHD behaviors for a number of years but are suffering from the “pile-up” of stressors over time. Rather than seeking initial definition of the problem, these parents are presumably using on-going coping strategies. Relating McCubbin's model to literature on parenting, it is possible that ineffective coping may provide further stress to the family. For example, it is possible that the child's inattention and hyperactivity will guide the family into a set of negative dynamics, evidenced by parental criticism and coercive parenting. These patterns of relating may exacerbate child's ADHD behaviors and contribute to comorbid aggression.

Hence, McCubbin's model coincides somewhat with the existing ADHD literature and may be used to describe the processes by which parents cope with their child's ADHD.

#### Prior research on parent coping with child's ADHD

Few studies of parental coping with a child's ADHD have been conducted. Most studies relevant to ways in which parents might act to ameliorate their own stress focus on parenting training programs. Also, two studies on parents' use of social support are relevant. These literatures are briefly reviewed.

Parent training programs. Parent-training programs have been designed to assist parents with decreasing children's ADHD and associated problem behaviors (e.g., Anastopoulos, Shelton, DuPaul, & Guevremont, 1993; Blakemore, Shindler, & Conte, 1993). Although studies of program effectiveness generally focus on child outcomes (e.g., Anastopoulos, DuPaul, & Barkley, 1991; Basu & Aniruddha, 1996; Newby, Fischer, & Roman, 1991; Pisterman, Fireston, McGrath, & Goodman, 1992), some studies examined parental functioning following involvement in a training program (e.g., Anastopoulos et al., 1993; Blakemore et al., 1993; Estrada, 1995; Odom, 1996).

The latter studies have found that parent training programs contributed to an increase in parents' sense of competence (Odom, 1996) and to a reduction of parenting stress (Anastopoulos et al., 1993; Blakemore et al., 1993). In one study, 19 mothers who completed a nine-session parent training program reported more parenting esteem and less overall parenting stress compared to 15 mothers who were in a wait-list control condition (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992). Similarly, Blakemore and

colleagues (1993) found that a parenting program targeting child compliance resulted in an increase child compliance *and* in sense of parents' sense of competence. Odom's (1996) educational program also impacted parent functioning, specifically affecting sense of parenting competence and role satisfaction.

Just as parent training programs are associated with reduction in parenting stress and increase in parenting competence (Anastopoulos et al., 1993), it is likely that parents may benefit from various coping strategies which do not require involvement in a formal program. Involvement in a parent training program is one of many resources which parents may have available to them. Whereas this may be viewed as a community resource, there are also family, individual, and other community resources which families may use to cope with their child's ADHD behaviors.

Social support. Although not using a particular theoretical model of coping, social support behaviors have been studied in parents whose child has ADHD. For example, Mash and Johnston (1983a) examined child symptomatology, parent social support, and parent stress and role satisfaction in 48 parents of children with ADHD (23 ADHD-LOD and 25 ADHD-HOD) and 33 parents of non-problem children. As reported earlier, they found that the parents of ADHD children reported more role distress than the parents of non-symptomatic children. Surprisingly, social support was not significantly different across groups; however, it was a significant factor in a model differentiating the groups according to parental stress outcome.

Cunningham, Benness, and Siegel (1988) also examined social support in parents of children with ADHD. According to a study comparing 58 parents whose child had ADHD to 58 parents of children without a behavioral or other disorder, parents of

children with ADHD reported fewer extended family contacts and the contacts which they had were reportedly less helpful. Although social support is often associated with better adjustment (Crnic, Friedrich, & Greenberg, 1983; Hanson & Hanline, 1900; Hurtig, 1994; Noll, Swiecki, Garstein, & Vannatta, 1994; Sharts-Hopco et al., 1996; Short, 1997), it may be that family contacts may increase rather than decrease stress in families of ADHD children. While these two studies offer some limited information about how parents use social support to cope with their child's ADHD behavior, there is a lack of studies which examine coping as a comprehensive process.

Parenting a child with ADHD has been associated with increased parental stress and a decrease in parent role satisfaction. However, surprisingly few studies have focused on how to assist parents in coping with their child's symptomatology. It is important to understand how parents are coping with their child's ADHD in order to determine what ameliorates their stress and what does not. Further, parent distress has been found to impact parenting behaviors which contributes to the development of aggressive behavior in children. Understanding effective coping in parents may be useful in helping parents to interrupt this cycle.

#### **Rationale for the current study**

Child ADHD has been related to parenting stress and role dissatisfaction (Baldwin & McCal, 1995; Mash & Johnston, 1996). However, the few studies which controlled for comorbid child aggression yielded inconsistent results (Anastopoulos et al., 1992; Johnston, 1996). It is possible that child inattention, hyperactivity, and aggression independently contribute to parental distress.



Also, few studies have examined factors which might mediate or moderate the relation between these child behaviors and parent adjustment. Most studies which have done so have focused on secondary factors, such as parenting behaviors. The few studies which have examined social support provide mixed results, which appear to indicate that certain types of social contact may prove stressful for parents (e.g., Cunningham, Bemness, & Siegel, 1988; Johnston, 1983a). No studies have examined parent coping strategies per se; that is, how parental coping might buffer parents from the stress associated with a child's ADHD behaviors and/or aggressive behavior. Because of this gap in the literature, a study is needed which might provide a preliminary investigation of how coping mediates the relation between child behavior problems and parent distress in this child based population. While examining this relation, it is important to note that parents may use multiple strategies during the early stages of coping which may be associated positively or negatively with high levels of stress.

### Overview

While it is recognized that the expression of ADHD behavior interacts with a range of contextual factors (Sameroff, 1995), the current popular view that ADHD is a primarily biogenetically shaped risk for behavioral disorder is taken to a logical conclusion: in the current study, ADHD is framed as a stressor for parents. Child ADHD diagnosis and symptomatology were examined along with aggression in order to understand to what extent inattention and/or hyperactivity serve as stressors to parents above and beyond child aggression. The reverse model was also tested; that is, to what extent was aggression independently related to parent role distress. Parent and teacher reports of

child behavior were collected for inattention, hyperactivity, and aggression. Because field studies for DSM-IV supported the evidence of two behavioral dimensions with ADHD-hyperactivity and inattention - these two domains were treated as distinct predictors in dimensional analyses. In categorical analyses, parents of children with the combined and inattentive types were compared to parents of non-disordered children and to each other. Parent self-reported their own parenting stress and role dissatisfaction.

Further, the effectiveness of parental coping strategies was investigated using parents' self-report of McCubbin's styles of coping (acquiring social support, reframing, seeking spiritual support, mobilizing to acquire help, and passive appraisal) and Sarason's measure of satisfaction with social support. Inter-correlations upheld four of the factors proposed by McCubbin and did not warrant conducting analyses with two or three factors as suggested by other conceptualizations of coping. Coping was then examined as a mediator of the relation between child ADHD and parental role distress.

### Hypothesis 1

Rationale 1. Prior studies did not test the independent effects of inattention and hyperactivity while controlling for aggression. In order to more fully understand the extent to which these behaviors account for parental role distress, it was important to assess the reverse model as well. That is, to what extent would child aggression predict parental role distress independent of hyperactivity and inattention. Based on current literature, it was unclear to what extent child inattention and hyperactivity would independently predict parent role distress and to what child aggression independently would predict parent role distress. Thus, these predictions (1b-c and 1d) were mutually competitive.

**Prediction 1.** ADD and ADHD diagnoses (prediction 1a), severity of inattention (prediction 1b) and severity of hyperactivity (prediction 1c) would be associated with higher levels of parent role distress, even with child aggressive and oppositional behavior controlled. For the diagnostic question, parents whose children have ADD, parents whose children have ADHD (combined type), and parents of non-problem children were compared. In competition with the preceding, it was also predicted that severity of child aggression (prediction 1d) would be associated with parental distress, even with level of child inattention and hyperactivity controlled. These predictions were tested with correlations, analysis of variance, and analysis of covariance. Power analyses for the mothers is reported herein. Power for father analyses was slightly lower in all cases. Given the current sample size, for the three group Analysis of Variance, a large effect ( $f^2 = .40$ ; Cohen, 1992) could be detected at power = .80. For regression analysis with two predictors, a medium effect ( $\beta = .15$ ; Cohen, 1992) could be detected at power = .80 (Cohen, 1988).

## **Hypothesis 2**

**Rationale 2.** The factor structure of McCubbin's F-COPES was analyzed before testing whether coping mediated the relation between child ADHD behaviors and parental distress. Inter-correlations indicated that analyses should be conducted with four of McCubbin's factors. Use of these four coping strategies has been found to be associated with better outcome in parents (McCubbin, 1979; McCubbin et al., 1980). Hence, it was predicted that parents who use these strategies to a greater extent would exhibit better adjustment. As a result, use of coping was expected to mediate the relation between child behaviors and parent role distress. Because parents may initially utilize multiple strategies

regardless of their effectiveness, it was possible that an increase in coping behaviors would be associated with poorer adjustment or with better adjustment.

**Prediction 2.** Greater usage of each of the four coping styles would mediate the relation between child behaviors and parent role dissatisfaction. Baron and Kenny's model for testing mediation effect was used to examine this hypothesis. In regression analyses with two predictors (the child behavior and the parent coping strategy for detecting whether one coping factor at a time accounted for variance previously attributed to child behavior in regression) and given the current sample size, a medium effect ( $\beta = .15$ ; Cohen, 1992) could be detected at power = .80 (Cohen, 1992).

### **Hypothesis 3.**

**Rationale 3.** Certain coping factors may prove to be more significant than other mediators of symptomatology and adjustment (e.g., McCubbin, Kapp, & Thompson, 1993). In order to best understand the role of coping in parental adjustment, specific coping strategies were investigated as related to adjustment. It was hypothesized that while certain strategies (e.g., problem-focused coping) might have been associated with better adjustment, other strategies (e.g., emotion-focused coping) might have been associated with poor adjustment.

**Prediction 3.** It was initially proposed that if more than one coping factor was significant, then the significant factors would be compared in terms of direction and magnitude. Specifically, it was hypothesized that problem-focused coping would be more strongly associated with better adjustment compared to emotion-focused coping (Aldwin & Revenson, 1987) and that individual and family coping would be more strongly related

to adjustment than ecological coping (Weiss, Marvin, & Pianta, 1997). The problem-emotion distinction did not hold up in that the styles did not cluster as two factors. Therefore, this aspect of the hypothesis as originally proposed was not tested. However, positive reframing as a measure of individual coping was compared to social support and community resources as ecological coping styles. In order to test this hypothesis, these three styles were entered into a single regression equation. Then the point values (mean score for mothers or fathers) of the ecological factors (i.e., social support and community resources) were examined in relation the 95% confidence interval for positive reframing. Significant differences would be indicated if the point values fell outside the 95% confidence interval for positive reframing. Given the current sample size, a large ( $R^2 = .34$ ; Cohen, 1992) effect could be detected at power = .80 (Cohen, 1992; Cohen, 1988).

#### Hypothesis 4.

**Rationale 4.** As explained by Sarason and Sarason (1985), satisfaction with social support rather than size of network predicts better adjustment. It was expected that this would also pertain to parental adjustment when coping with a child's ADHD (e.g., Cunningham, Benness, & Siegel, 1988).

**Prediction 4.** Greater parent satisfaction with social support would be associated with better parent adjustment. Correlation analyses were used in order to examine a possible relation between parent dissatisfaction and these two social support variables. Given the current sample size, a large effect ( $r = .50$ ; Cohen, 1992) could be detected at power = .80 (Cohen, 1992). Power was .70 (Cohen, 1992; Cohen, 1988) to detect a medium effect ( $r = .30$ , Cohen, 1992).

## **METHOD**

### **Participants**

A total of 66 mothers and 57 fathers of children with ADHD (combined or inattentive subtypes) and normal control children participated in the study. Out of 74 families contacted, 18.9 percent (N=14) of the children had ADHD inattentive subtype (ADD), 36.5 percent (N=27) of the children had ADHD combined subtype (ADHD), and 33.8 percent (N=25) served as non-ADHD comparison children. Six families were screened out based on the child's IQ not meeting the cut-off, and the data for two families were unusable due to records being incomplete. The ADD and ADHD samples came from families recruited through the East Lansing and Lansing school districts and from pediatric clinics specializing in ADHD (excluding children with uncorrected neurological or communication deficits; e.g., vision or hearing impairments). Matched comparison families were recruited from children in the East Lansing and Lansing school districts and a non-ADHD pediatric clinic. All children were screened for learning disabilities or other psychopathology. The Child Behavior Checklist (CBCL) and the SNAP-IV DSM-IV symptoms checklist were used to initially screen for psychopathology. The Wechsler Intelligence Scales for Children-III-R (WISC-III-R) short form and Wechsler Individual Achievement Test (WIAT) screener were used to identify children with learning disabilities as defined later. The sample was 76.2% Caucasian, 9.5% Hispanic, and 7.9% Asian American.

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## Procedure

Parents completed a battery of self-report, spouse-report, and child-rating questionnaires (see Appendix A, pages 92-93). In most cases, the child's teacher also completed ratings of child behavior. However, because many children were treated with stimulants during school, these ratings did not always reflect the level of behavior parents were dealing with at home. Families came to campus in order to complete the battery of questionnaires and tests. The battery of questionnaires included multiple measures of predictors, mediators, and outcomes.

### Predictors: Measures of inattention, hyperactivity, and aggression.

In order to obtain dimensional measures of problem behaviors, parents of children with ADHD completed two measures: (a) the Child Behavior Checklist (CBCL) aggression subscale (Achenbach, 1991) and (b) the Swanson, Nolan, and Pelham DSM-IV inattention and hyperactivity indices, ODD and CD rating scales (SNAP-IV; Swanson, Nolan, & Pelham, 1982). Both aggressive behaviors and conduct problems behaviors were controlled in the current study. However, due to the age of the children, endorsement of the ODD and CD subscales did not reflect serious delinquent behaviors. Teacher SNAP-IV inattention and hyperactivity indices were also used as measures of screening in and dimensionality of ADHD symptomatology. Teacher TRF aggression subscales also was used for measuring child aggression. SNAP-IV ODD and CD subscales also were used for measuring child conduct problems. Child report was not obtained due to lack of resources but also due to the young age of the children which is associated with invalid and unreliable reporting (Sattler, 1992). In order to obtain a final diagnosis, the Diagnostic Interview Schedule for Children - Revised (DISC-R) ADHD,



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ODD, and CD modules (Shaffer, Schwab-Stone, Fisher et al., 1993) were administered (by trained graduate students in clinical psychology). Each of these measures is next briefly described.

Child Behavior Checklist (CBCL) and Teacher Report Form (TRF; Achenbach, 1991). Aggression was measured by the CBCL and TRF aggression subscale. The parent (CBCL) and teacher (TRF) aggressive behavior subscales both consist of items to be rated on a 3-point scale (0=not true, 1=somewhat or sometimes true, 2=very true or often true). Parents are asked 20 items whereas teachers complete 25 items. Example items include: “argues a lot,” “cruelty, bullying, meanness to others,” and “temper tantrums or hot temper.” Both forms have good reliability (coefficient alphas .85 and .84 respectively; Achenbach, 1991).

Swanson, Nolan, and Pelham DSM-IV rating scale (SNAP-IV; Swanson et al., 1978). The SNAP-IV consists of 80 items; 69 items which provide a DSM-IV-based checklist of items for inattention, hyperactivity, CD, and ODD were retained for purposes of the current study. The teacher form has 90 items, although only the 27 items pertaining to inattention (9 items), hyperactivity (9 items), and ODD (9 items) were used. Parents and teachers rated how well each item describes the child on 4-point scale (not at all, just a little bit, quite a bit, very much). Reliability in prior studies has been high (coefficient alphas .94, .90, and .80 for ADHD, ODD, and CD subscales respectively; Nigg, Hinshaw, Carte, & Treuting, 1998). In the current study, reliabilities were good for inattention (alpha = .97), hyperactivity (alpha = .97), and ODD and CD combined<sup>1</sup> subscales (alpha =

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For the current study, the ODD and CD symptoms were combined because the two subscales were highly correlated (mothers:  $r = .74$ ,  $p < .01$ ; fathers:  $r = .83$ ,  $p < .01$ ).

.95) for combined parent reports. Teacher report reliabilities were also good (inattention,  $\alpha = .96$ ; hyperactivity,  $\alpha = .92$ ; ODD/CD combined,  $\alpha = .91$ ).

Diagnostic Interview Schedule for Children - IV (DISC-IV; Shaffer et al., 1993).

The DISC-IV is a structured interview developed by the National Institute for Mental Health that was administered to the child's mother. A series of diagnostic questions are asked in order to determine whether the child meets criteria for ADHD, CD, ODD or other disorders. It has adequate validity and reliability for the diagnoses used in this study (Shaffer et al., 1993). It is widely used and was designed for use with community samples such as the current one. The interview includes examination of age of onset and degree of impairment to assess whether DSM-IV criteria are met.

Mediating/Moderating Variables: Coping Measures

The Family Crisis Oriented Personal Evaluation Scales (F-COPES; McCubbin, Olson, & Larsen, 1987). The F-COPES was used to identify coping behaviors of parents. The F-COPES consists of 30 items which are rated on a 5-point scale (1=strongly disagree, 2=moderately disagree, 3=neither agree nor disagree, 4=moderately agree, and 5=strongly agree).

The F-COPES was designed to capture aspects of the Double ABC-X Model of family coping. The Double ABC-X Model integrates the ways in which the family utilizes individual, family, and community resources (McCubbin, Olson, & Larsen, 1987). In the current study, only four factors were retained due to the low reliability of the passive appraisal scale. These subscales and their reliabilities as found in current dataset are: (1) acquiring social support - measures the families ability to actively acquire social support from relatives, friends, neighbors, and extended family ( $\alpha = .79$ ); (2) reframing - the

family's capability to redefine stressful events in order to make them more manageable (e.g., "accepting stressful events as a fact of life" and "defining the family problem in a more positive way so that we do not become too discouraged" ( $\alpha = .78$ ); (3) seeking spiritual support – acquire support through religious organizations or personal faith ( $\alpha = .88$ ); and (4) mobilizing family resources - seeking community resources and assistance ( $\alpha = .88$ ). Reliability for the scale total score was below an acceptable level ( $\alpha = .33$ ). Therefore only the subscale scores were used. (McCubbin, Olson, & Larsen (1987) report original reliabilities for all five subscales).

Social Support Questionnaire Revised (SSQR). Because measures of social support network and satisfaction with social support are differentially related to adjustment, Sarason, Sarason, Shearin, and Pierce (1983) developed a 12-item instrument that measures both social network and satisfaction with social support. Subjects are asked to 1) list up to 9 people to whom they can turn and on whom they can rely in given sets of circumstances and 2 ) indicate how satisfied they are with this support on a 6 point scale (1=very dissatisfied to 6=very satisfied). Hence, the two subscale scores are: (1) the number score (N) which is the average number of support persons listed (range, 0-9) and (2) the satisfaction score (S) which is the average rating given for satisfaction of each support question. Sarason, Sarason, Shearin, and Peirce (1987) report alphas of .90 for size of network and .93 for satisfaction.

#### Outcome variables: Parent Adjustment

Parental Distress Subscale of the Parenting Stress Index. The Parenting Distress Subscale of the PSI (Abidin, 1983) was used as an outcome variable. Although included in the PSI, this subscale indicates depression, strain, sickness which the parent is

experiencing at time of completion or since having a child. As explicated by Abidin (1983, p.55), “the Parental Distress subscale determines the distress a parent is experiencing in his or her role as a parent as a function of personal factors that are directly related to parenting.” Parents were asked to rate the 12 subscale items on a 5-point scale (1=strongly disagree, 2= disagree, 3= not sure, 4=agree, 5=strongly agree). Example items include: “I often have the feeling that I cannot handle things well,” “I find myself giving up more of my life to meet my children’s needs than I ever expected,” and “I feel that I am not very good at being a parent.” Reliability found in current sample was satisfactory (study alpha = .82). Guidubaldi and Cleminshaw’s (1994) published alpha was slightly higher (alpha = .87).

**Parenting Satisfaction Survey.** Two of the PSS (Guidubaldi & Cleminshaw, 1994) subscales were used to measure the possible strain experienced by parents of children with ADHD: satisfaction with the parent-child relationship (alpha = .85) and satisfaction with parenting performance (alpha = .83). The Satisfaction with the Parent-child Relationship Subscale consists of 15 items which the parent rates on a 4-point scale (1=Strongly Agree, 2=Agree, 3=Disagree, 4=Strongly Disagree). Items include: “I am delighted with the relationship I have with my child” and “I think my child obeys me and this pleases me.” The Satisfaction with parenting performance subscale consists of 15 items (rated on the same 4-point scale). Items include: “I wish I did not become impatient so quickly with my child” and “I wish I were a better parent and could do a better job of parenting.” (Note: for the purposes of the current study, this measure was reverse coded so that a high score indicated lack of satisfaction).

## **RESULTS**

Demographic and child behavior ratings are summarized in Table 4a (next page). Groups did not differ by percent boys, intelligence scores, age, or ethnicity. Every effort to recruit both mothers and fathers was made. As expected, father participation was slightly less than mother participation. Analyses were conducted separately for mothers and fathers.

[continued next page]

Table 4a  
Sample characteristics by group (mean and SD)

	ADD	ADHD	Control	Sig diff
N Children	25	27	14	---
N Moms	22	22	14	---
N Dads	13	16	18	---
Percent boys	64.3	70.4	56.0	n.s. <sup>+</sup>
Full Scale IQ	110.8 (16)	103.4 (10.0)	114.6 (15.0)	n.s.
Age in years	10.6 (1.2)	9.2 (2.2)	10.2 (1.7)	n.s.
Percent White	85.7	88.0	75.0	n.s.
SNAP Attn Score - mom rating	1.38 (.68)	2.16 (.47)	.57 (.39)	.000
SNAP Attn Score - dad rating	1.11 (.73)	1.67 (.85)	.56 (.44)	.000
SNAP Attn Score - teacher rating	1.41 (.73)	2.16 (.51)	.24 (.30)	.000
SNAP Hyp Score - mom rating	.59 (.51)	1.98 (.62)	.38 (.42)	.000
SNAP Hyp Score - dad rating	.56 (.48)	1.53 (1.03)	.37 (.52)	.000
SNAP Hyp Score - teacher rating	.32 (.45)	1.05 (.47)	.33 (.68)	.000
SNAP ODD/CD Score - mom rating	.26 (.19)	1.07 (.39)	.28 (.26)	.000
SNAP ODD/CD Score - dad rating	.28 (.25)	.86 (.59)	.34 (.30)	.000
SNAP ODD/CD Score - teacher rating	.17 (.22)	.57 (.25)	.20 (.51)	.020
CBCL <sup>^</sup> Aggression - mom rating	5.63 (4.53)	20.43 (10.03)	5.50 (5.68)	.000
CBCL <sup>^</sup> Aggression - dad rating	5.88 (4.49)	14.00 (9.50)	6.17 (7.00)	.000
TRF <sup>^</sup> Aggression - teacher rating	55.88 (4.94)	59.43 (9.18)	51.92 (5.26)	.015

Notes: <sup>+</sup> Chi-square test; <sup>^</sup> T-scores; SNAP refers the Swanson, Nolan, and Pelham DSM-IV rating scale. CBCL refers to Child Behavior Checklist; TRF refers to Teacher Report Form. SNAP scores are reported as raw scores. CBCL and TRF scores are reported as T-scores. ODD refers to Oppositional Defiant Disorder. Items from the SNAP ODD subscale were averaged to obtain each respondents raw score. CD refers to Conduct Disorder. Items from the SNAP CD subscale were averaged to obtain each respondents raw score.





Mothers' and fathers' self-report of Dissatisfaction with Parenting Performance and use of coping strategies are reported in Tables 4b and 4c.

**Table 4b**  
**Mothers' dissatisfaction and use of coping strategies by group (mean and SD)**

	<b>ADD</b>	<b>ADHD</b>	<b>Control</b>
Parent Dissatisfaction with parenting performance	2.41 (.30)	2.56 (.43)	2.18 (.41)
Size of Social Support Network	4.02 (1.27)	3.34 (1.20)	3.60 (1.49)
Satisfaction with Social Support	4.44 (1.73)	4.71 (.92)	4.92 (.60)
Use of Social Support (F-COPES)	3.38 (.72)	3.19 (.60)	3.36 (.60)
Use of positive reframing (F-COPES)	3.88 (.65)	3.59 (.59)	4.07 (.52)
Use of spiritual support (F-COPES)	3.23 (1.35)	3.39 (.95)	3.93 (.87)
Use of community resources (F-COPES)	3.82 (.88)	4.08 (.49)	3.70 (.62)

**Table 4c**  
**Fathers' dissatisfaction and use of coping strategies by group (mean and SD)**

	<b>ADD</b>	<b>ADHD</b>	<b>Control</b>
Parent Dissatisfaction with parenting performance	2.32 (.30)	2.50 (.42)	2.35 (.34)
Size of Social Support Network	2.54 (1.58)	2.93 (1.34)	2.27 (1.23)
Satisfaction with Social Support	4.34 (1.20)	4.57 (.55)	4.42 (.62)
Use of Social Support (F-COPES)	2.66 (.60)	2.71 (.63)	2.56 (.65)
Use of positive reframing (F-COPES)	3.70 (.38)	3.75 (.60)	3.96 (.48)
Use of spiritual support (F-COPES)	2.31 (1.12)	2.68 (1.00)	3.44 (1.07)
Use of community resources (F-COPES)	2.85 (.66)	3.25 (.95)	2.88 (.78)

### Data reduction/formation of composite variables

#### Predictor variables: hyperactivity, attention problems, and aggressive behavior.

Hyperactivity and inattention were measured through parent and teacher ratings. Inter-correlations indicated that mother and father but not teacher scores could be combined to create composite variables (see Appendices B, C, & D, pages 96 - 98). Further, inter-correlations demonstrated that CBCL and SNAP-IV scores should not be combined.

Composite measures were: (1) parent rated attention problems (mother and father SNAP-IV attention items;  $\alpha=.97$ ), (2) hyperactivity (mother and father SNAP-IV ratings;  $\alpha=.97$ ), (3) teacher rated attention problems (SNAP-IV items;  $\alpha=.96$ ), (4) teacher rated hyperactivity (SNAP-IV items,  $\alpha=.92$ ), (5) parent rated conduct problems (an average of mother and father ratings on the SNAP-IV ODD and CD subscales;  $\alpha=.95$ ), (6) teacher rated conduct problems (SNAP-IV ODD and CD subscales,  $\alpha=.91$ ). Additionally, two separate measures of aggression were obtained, using (7) a parent composite from the CBCL aggression scale ratings ( $\alpha=.81$ ) and a teacher rating from the TRF ( $\alpha=.84$ ). Correlations between predictor variables are reported in Table 5 (next page).

Table 5  
Correlations between predictor variables

	Child Attn - parent	Child Hyp - parent	Child Attn - teacher	Child Hyp - teacher	ODD/CD - parent	ODD/C D - teacher	Child Agg parent	Child Agg teacher
Child Attn - parent rating	1.0							
Child Hyp - parent rating	.80**	1.0						
Child Attn - teacher rating	.58**	.43**	1.0					
Child Hyp - teacher rating	.48**	.52**	.58*	1.0				
ODD/CD - parent rating	.71**	.77**	.26	.42**	1.0			
ODD/CD - teacher rating	.35*	.35*	.41**	.67**	.35*	1.0		
Child Agg - parent rating	.68**	.81*	.34*	.46**	.88**	.34*	1.0	
Child Agg - teacher rating	.41**	.33*	.54*	.69**	.27	.79**	.29*	1.0

Notes: \*  $p < .05$ , \*\*  $p < .01$

**Mediating variable: Family Crisis Oriented Evaluation Scales (F-COPES).** As detailed in Appendix E (see page 97), inter-correlations did not support the creation of a one, two, or three factor solution but indicated that McCubbin's five coping strategies should be maintained as discrete strategies. The largest bivariate correlation was  $r = .28$  ( $p < .05$ ). This was the only correlation which reached statistical significance ( $p < .05$ ). Further, a measure of internal consistency revealed that the Passive Appraisal subscale was unreliable (Cronbach's alpha = .18 and -.23 for mother and father data respectively). This subscale was not used in analyses. Thus, four coping variables were retained.

**Outcome variable: Parenting distress.** The correlation between the Parenting Stress Index parent distress subscale and the Parenting Satisfaction Scale's measure of

dissatisfaction with parenting performance subscale was moderate ( $r=.48$ ,  $p<.01$ ; see also Appendix F, page 98), indicating that creation of a composite variable might be justifiable. Preliminary analyses, however, revealed that a composite of PSS and PSI subscales obscured results. Hence, analyses were conducted with each of the three subscales (PSI parental distress, PSS dissatisfaction with parenting performance, and PSS dissatisfaction with parent-child relationship). Internal reliabilities for these scales were satisfactory (PSS Dissatisfaction with Parenting Performance,  $\alpha=.84$ ; PSS Dissatisfaction with parent-child relationship,  $\alpha=.88$ ; PSI Parenting Distress,  $\alpha=.83$ ).

Similar results were found for all three measures of parent role distress except where otherwise noted. The most consistent results were found with the PSS Dissatisfaction with Parenting Performance. For the sake of clarity and ease of readability, only the results for PSS Dissatisfaction with Parenting Performance are reported here. Results which differed by outcome measure are noted in footnotes in the text and are detailed in Appendix G, pages 99-104).

Results were unchanged when child learning disability (LD) was controlled.

### Test of hypotheses.

Hypothesis 1a Mothers. For between group comparisons, child diagnostic group served as the independent variable and parent Dissatisfaction with Parenting score served as the dependent variable. One-way analysis of variance was computed separately for mothers and fathers with the independent variable having three levels (ADD, ADHD, and no diagnosis). Mothers' dissatisfaction with parenting performance ( $F[2, 56]=5.07$ ,

$p < .01$ )<sup>2</sup> differed significantly across the three groups. Using Tukey's test in post hoc analyses, mothers of ADHD children were more dissatisfied with their parenting performance than mothers of non-disordered comparison children; this effect did not hold when child conduct problems were controlled. Mothers of ADD children were no more dissatisfied than mothers of non-disordered comparison children. Mothers of ADD and ADHD children did not differ in their reported levels of parenting dissatisfaction. Means are reported in Table 6.

Table 6  
Hypothesis 1a: Means of parental dissatisfaction with parenting performance

	ADD	ADHD	Control	(p)
Mom's PSS dissatisfaction w/parenting performance	2.40 (.31)	2.55 (.41)	2.41 (.30)	<.01
Dad's PSS dissatisfaction w/parenting performance	2.32 (.30)	2.50 (.42)	2.18 (.34)	<.05

Fathers. Fathers' dissatisfaction with parenting performance ( $F[2, 47]=3.33$ ,  $p < .05$ ) differed significantly across the three child diagnostic groups. Using Tukey's test in post hoc analyses, fathers of ADHD children were more dissatisfied with their parenting performance than fathers of non-disordered comparison children; this effect did not hold

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Results were non-significant for PSI Parent Distress. This measure is less specific to parent role distress and captures more general depressed affect non-specific to role as parent (see Appendix G, pages 99-104). Results for PSS Dissatisfaction with parent-child relationship were similar to those reported here pertaining to Dissatisfaction with Parenting Performance).

when child conduct problems were controlled. Fathers of ADD children were no more dissatisfied than fathers of non-disordered comparison children. Fathers of ADD and ADHD children did not differ in their reported levels of parenting dissatisfaction. Means are reported in Table 6 (page 46).<sup>3</sup>

The prediction that ADHD would be associated with increased parental distress was supported but only for the combined subtype. However, support was not found for the independent effect of ADHD (that is, separate from comorbid aggression and/or child conduct problems). Parents of children with ADHD inattentive subtype (ADD) did not experience significantly greater degrees of parenting dissatisfaction than parents of comparison children. Parents of ADD and ADHD children did not differ in their reported levels of parenting dissatisfaction.

Hypothesis 1b and 1c. Zero order correlations were used to test whether child dimensional behaviors were related to parent dissatisfaction. Child inattention and hyperactivity as dimensions were associated with maternal and paternal dissatisfaction with parenting performance<sup>4</sup>. As shown in Table 7 (next page), mothers' dissatisfaction was correlated with child inattention ( $r=.55$ ,  $p<.01$ ) and hyperactivity ( $r=.38$ ,  $p<.05$ ). Fathers' dissatisfaction was also correlated with child inattention ( $r=.34$ ,  $p<.05$ ) and

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Note: When using father's satisfaction with parent-child relationship ( $F[1,23]=9.55$ ,  $p<.01$ ) and father's parent distress ( $F[1,24]=5.96$ ,  $p<.05$ ) as outcomes, the significant differences between fathers of ADHD and fathers of comparison children remained even when child aggression was controlled. Results were non-significant for PSI Parent Distress. This measure is less specific to parent role distress and captures more general depressed affect non-specific to role as parent (see Appendix G, pages 99-104). Results for PSS Dissatisfaction with parent-child relationship were similar to those reported here pertaining to Dissatisfaction with Parenting Performance).

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Results were similar when looking at dissatisfaction with parent-child relationship but not when looking at parental distress (see Appendix G, page 99-104).

hyperactivity ( $r=.32, p<.05$ ). Notably, the significance and magnitude of these correlations held across rater within the home environment. Neither mothers' nor fathers' dissatisfaction scores were significantly correlated with teacher ratings of child behaviors.

Table 7  
Hypothesis 1b & 1c: Correlations: Dissatisfaction with Parenting Performance, child inattention, and hyperactivity

	Mom Dissatisfaction	Dad Dissatisfaction
SNAP Attn Score - mom rating	.55**	.32*
SNAP Attn Score - dad rating	.45**	.34*
SNAP Attn Score - teacher rating	.13	.26
SNAP Hyp Score - mom rating	.38*	.42**
SNAP Hyp Score - dad rating	.47**	.32*
SNAP Hyp Score - teacher rating	.29	.42*

\*  $p<.05$ ; \*\*  $p<.01$

Although inattention and hyperactivity are considered separate dimensions of ADHD (Lahey, et al., 1994), the two dimensions are highly correlated. In the current sample, mothers' ( $r=.75, p<.01$ ) and fathers' ( $r=.82, p<.01$ ) ratings of inattention and hyperactivity were highly correlated. Due to the high correlation between ratings of inattention and hyperactivity, these dimensions have shared variance. In an attempt to understand the separate effects of each dimensions, regression analyses were conducted in two ways. As reported above in Table 7, each ADHD dimension was correlated with parent outcome without controlling for the effect of the other ADHD dimension. Secondly, the two dimensions were entered simultaneously into one regression equation. This allowed examination of the relation between inattention and hyperactivity independently of each other. When controlling for the other dimension, inattention

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( $\beta=.62$ ,  $p<.01$ ) but not hyperactivity was significant for mothers. Neither were independently related to fathers' dissatisfaction.

Similarly, child aggression and/or conduct problems were controlled first by entering each ADHD factor into a regression equation without the other and secondly by entering both ADHD dimensions into the same regression equation. When using type III Sums of Squares, each variable entered in a single step is controlled so that what remains is the independent contribution of each variable. Although only one step is required for such analyses, two steps are shown so that examination of change in  $R^2$  is possible.

When child aggression and/or child conduct problems were controlled, child inattention and hyperactivity were not significant in predicting maternal (Table 8 and 9, page 50) or paternal distress (Table 10 and 11, page 51). When child learning disabilities and child aggression were controlled, child inattention became a significant predictor of maternal ( $\beta=.34$ ,  $p<.05$ ) but not paternal dissatisfaction (n.s.). Tables 8 through 11 show results when inattention and hyperactivity were entered into separate regression models.

Table 8  
Hypothesis 1b: Regression models on mothers' dissatisfaction by child inattention with aggression controlled

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
Model 1 (parent ratings)	composite aggression	.55***	.33*	.31***	
	inattention		.32+		.05+
Model 2 (teacher ratings)	aggression	.42**	.45*	.18*	
	inattention		-.06		.00
Model 3 (parent ratings)	conduct problems^	.54***	.31+	.29***	
	inattention		.31+		.04+
Model 4 (teacher ratings)	conduct problems^	.33*	.33*	.11*	
	inattention		.01		.00

+ $p < .1$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; ^ conduct problems refers to child ODD/CD combined score.

Table 9  
Hypothesis 1c: Regression models on mothers' dissatisfaction by child hyperactivity with aggression controlled

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
Model 1 (parent ratings)	composite aggression	.55***	.65**	.30***	
	hyperactivity		-.12		.00
Model 2 (teacher ratings)	composite aggression	.42**	.46*	.18**	
	hyperactivity		-.05		.00
Model 3 (parent ratings)	conduct problems^	.52***	.52**	.27***	
	hyperactivity		.01		.00
Model 4 (teacher ratings)	conduct problems^	.33*	.24	.12*	
	hyperactivity		.12		.01

+ $p < .1$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; ^ conduct problems refers to child ODD/CD combined score.

**Table 10**  
**Hypothesis 1b: Regression models on fathers' dissatisfaction by child inattention with aggression controlled**

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
<b>Model 1</b> (parent ratings)	composite aggression	.57***	.58**	.33***	
	inattention		-.02		.00
<b>Model 2</b> (teacher ratings)	composite aggression	.33+	.30	.12+	
	inattention		.06		.00
<b>Model 3</b> (parent ratings)	conduct problems <sup>^</sup>	.58***	.62**	.33***	
	inattention		-.06		.00
<b>Model 4</b> (teacher ratings)	conduct problems <sup>^</sup>	.34+	.29+	.12+	
	inattention		.14		.02

+*p*<.1, \**p*<.05, \*\**p*<.01, \*\*\**p*<.001; <sup>^</sup> conduct problems refers to child ODD/CD combined score.

**Table 11**  
**Hypothesis 1c: Regression models on fathers' dissatisfaction by child hyperactivity with aggression controlled**

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
<b>Model 1</b> (parent ratings)	composite aggression	.58***	.72**	.33***	
	hyperactivity		-.17		.01
<b>Model 2</b> (teacher ratings)	composite aggression	.33+	-.04	.11+	
	hyperactivity		.44		.06
<b>Model 3</b> (parent ratings)	conduct problems <sup>^</sup>	.58***	.70**	.33***	
	hyperactivity		-.16		.01
<b>Model 4</b> (teacher ratings)	conduct problems <sup>^</sup>	.34+	.00	.12+	
	hyperactivity		.40		.05

+*p*<.1, \**p*<.05, \*\**p*<.01, \*\*\**p*<.001; <sup>^</sup> conduct problems refers to child ODD/CD combined score.

In order to understand the independent effects of inattention and hyperactivity, these dimensions were entered into the same regression model at the same step. That is, when each was examined controlling for the effect of the other. Tables 12 (below) and 13 (next page) show that when controlling for aggression and variance shared by the ADHD dimensions, neither inattention nor hyperactivity was related to parent role distress. Sometimes relations were negative suggestions that an decrease in child behavior problems was associated with lower parent distress. These results indicate that although inattention and hyperactivity may be considered separately, their effects are highly related.

**Table 12**  
**Hypothesis 1b & 1c: Regression models on mothers' dissatisfaction by child inattention and hyperactivity with aggression controlled**

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
<b>Model 1</b> <b>(parent ratings)</b>	composite aggression	.55***	.57**	.30***	
	inattention		.55**		.12**
	hyperactivity		-.49*		
<b>Model 2</b> <b>(teacher ratings)</b>	composite aggression	.36*	.16	.13*	
	inattention		.76***		.32***
	hyperactivity		-.24		
<b>Model 3</b> <b>(parent ratings)</b>	conduct problems <sup>^</sup>	.51***	.40*	.26***	
	inattention		.53**		.11**
	hyperactivity		-.32		
<b>Model 4</b> <b>(teacher ratings)</b>	conduct problems <sup>^</sup>	.51***	.40*	.11*	
	inattention		.53**		.01
	hyperactivity		-.32		

+p<.1, \*p<.05, \*\*p<.01, \*\*\*p<.001; ^ conduct problems refers to child ODD/CD combined score.

Table 13

**Hypothesis 1b & 1c: Regression models on fathers' dissatisfaction by child inattention and hyperactivity with aggression controlled**

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
Model 1 (parent ratings)	composite aggression	.59***	.88***	.35***	
	inattention		.33		.06
	hyperactivity		-.62+		
Model 2 (teacher ratings)	aggression	.35+	.30	.13+	
	inattention		-.18		.03
	hyperactivity		.32		
Model 3 (parent ratings)	conduct problems^	.59***	.76***	.35***	
	inattention		.13		.03
	hyperactivity		-.35		
Model 4 (teacher ratings)	conduct problems^	.34+	-.01	.12+	
	inattention		.09		.06
	hyperactivity		.38		

+ $p < .1$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; ^ conduct problems refers to child ODD/CD combined score.

**Hypothesis 1d. Child aggression was related to maternal and paternal dissatisfaction with parenting performance in all models (see Tables 8 and 9, page 50). These relations remained significant when child inattention and hyperactivity were controlled. As shown in Table 14 (next page), maternal dissatisfaction was consistently related to child aggression when child inattention and hyperactivity were both controlled even when teacher ratings were used. Maternal dissatisfaction was also related to child conduct problems when child inattention and hyperactivity were both controlled but only when parent ratings were used.**

Table 14  
Hypothesis 1d: Regression models on mothers' dissatisfaction by child aggression with inattention and hyperactivity controlled.

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
Model 1 (parent ratings)	inattention	.65**	.59**	.30***	
	hyperactivity	-.12	-.56*		
	composite aggression		.59**		.11**
Model 2 (teacher ratings)	inattention	.07	-.05	.07	
	hyperactivity	.21	-.04		
	composite aggression		.47*		.11*
Model 3 (parent ratings)	inattention	.65**	.55**	.30***	
	hyperactivity	-.13	-.36		
	conduct problems <sup>^</sup>		.40*		.06*
Model 4 (teacher ratings)	inattention	-.04	-.05	.09	
	hyperactivity	.31	.16		
	conduct problems <sup>^</sup>		.25		.04

+p<.1, \*p<.05, \*\*p<.01, \*\*\*p<.001; ^ conduct problems refers to child ODD/CD combined score.

Fathers' dissatisfaction was consistently related to child aggression and conduct problems (see Tables 10 and 11, page 51). When controlling for child inattention and hyperactivity, these relations remained significant but only when using parent ratings of child behaviors (see Table 15, next page).

Table 15

**Hypothesis 1d: Regression models on fathers' dissatisfaction by child aggression with inattention and hyperactivity controlled.**

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
<b>Model 1</b> (parent ratings)	inattention	.04	.15	.19*	
	hyperactivity	.40	-.32		
	composite aggression		.74**		.16**
<b>Model 2</b> (teacher ratings)	inattention	.04	.05	.17	
	hyperactivity	.39+	.44		
	composite aggression		-.06		.00
<b>Model 3</b> (parent ratings)	inattention	.12	.03	.17*	
	hyperactivity	.32	-.18		
	conduct problems^		.70**		.17**
<b>Model 4</b> (teacher ratings)	inattention	.09	.09	.18+	
	hyperactivity	.37+	.38		
	conduct problems^		-.01		.00

+p<.1, \*p<.05, \*\*p<.01, \*\*\*p<.001; ^ conduct problems refers to child ODD/CD combined score.



In summary, although child inattention and hyperactivity were associated with mothers' and fathers' role dissatisfaction, these relations did not remain significant when child conduct problems were statistically controlled. (Note: in one model, the p-value for the relation between child inattention and mothers' dissatisfaction was .50 when using parent ratings of aggression and inattention). Overall, the results do not offer support to the hypothesis of independent contribution of ADHD behaviors to parent role dissatisfaction (Hypotheses 1a, b, c). Child aggression and conduct problems (Hypothesis 1d), however, were consistently associated with both mothers' and fathers' dissatisfaction.

Hypothesis 2: mediation. The mediation model was tested in relation to child aggression (teacher rating) and parental distress. According to Baron and Kenny (1986), the first step is examining the extent to which child aggression accounts for the variance in parent dissatisfaction. As tested and reported for Hypothesis 1d, aggression was consistently related to parent role dissatisfaction. The second step is to test whether the coping factors predict parent dissatisfaction. Univariate correlations revealed significant relations between two coping factors (positive reframing and community resources) and parent outcome (see Table 16, next page).

Table 16  
**Hypothesis 2: Correlations between maternal Dissatisfaction with Parenting Performance  
and coping factors**

	Parent Dissatisfaction	Social Support	Positive Reframing	Spiritual Support	Community Resources
Parent Dissatisfaction	1.0				
Social Support	.09	1.0			
Positive Reframing	-.52**	.22	1.0		
Spiritual Support	-.19	.23	.30*	1.0	
Community Resources	.34*	.13	-.14	.15	1.0

\* $p < .05$ , \*\* $p < .01$

Therefore, only these two coping factors were examined in the last step of testing for mediation. The final step in testing a mediation model is to examine whether the variable hypothesized to be the mediator (in this case, coping factor) explains the relation between the other variables (i.e., child aggression and parent role dissatisfaction). When the coping factor is entered into the model (and controlled for), the relation between the first two variables (child aggression and parent role dissatisfaction) is expected to become non-significant. This would demonstrate that the relation between child aggression and parent role distress is due to parent coping. A “partial mediation” is sometimes referred to if the relation decreases in magnitude. When Positive reframing and child aggression were entered into the model simultaneously, the relation between child aggression and parent role distress became non-significant (Table 17, next page). Positive reframing, thus, mediated the relation between child aggression and maternal role dissatisfaction. Notably, the mediation effect was only found when teacher ratings were used, providing

very limited support for this effect.

Table 17  
Hypothesis 2: Positive reframing as a partial mediator of child behavior and maternal dissatisfaction

	Predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
Model 1	child aggression (teacher rating)	.42**	.24	.18**	
	positive reframing		-.43**		.15**
Model 2	child aggression (parent rating)	.59***	.47***	.35***	
	positive reframing		-.31*		.08*

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; Type III sums of squares were used, meaning that variables were controlled within a step.

For fathers, positive reframing also appeared to serve as a possible mediator of the relation between child aggression (as rated by teacher but not parents) and dissatisfaction with parenting performance (see Table 18, next page).

Table 18  
**Hypothesis 2: Positive reframing as a partial mediator of child behavior and paternal dissatisfaction**

	Predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
<b>Model 1</b>	child aggression (teacher rating)	.34+	.25	.12+	
	positive reframing		-.58**		.33**
<b>Model 2</b>	child aggression (parent)	.60***	.48**	.36***	
	positive reframing		-.34*		.10*

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ , + $p < .1$

However, Community resources did not mediate the child aggression-parent distress relation for mothers or fathers.

**Hypothesis 3.** Because inter-correlations among McCubbin's four factors did not support the problem versus emotion-focused distinction, it was not possible to compare the coping styles along these lines. In order to examine whether individual factors were more strongly associated with better adjustment compared to ecological factors, positive reframing was compared to social support and community resources. None of McCubbin's factors could be conceptualized as occurring at the level of the family distinct from the ecological/community level (e.g., spiritual support might have been conceptualized as family or ecological style).

**Mothers.** Regression analyses revealed that only positive reframing (beta = -.52,  $p < .001$ ) and community resources (beta = .24,  $p < .05$ ) were significantly associated with mother's role dissatisfaction. The relations between community resources and social

support ( $\beta = .17$ , n.s.) were both positive, indicating that these strategies were associated with higher rather than lower levels of parent dissatisfaction. The direction of these relations indicated that individual coping buffered mothers whereas the community coping styles were associated with an increase in parent role distress. The magnitude of the betas for community resources and social support were both outside the 95% confidence intervals around the magnitude of the beta for positive reframing. Thus, not only were individual and community factors differentially related to parent outcome but that the beta magnitude between individual coping (i.e., positive reframing) and community coping (i.e., social support and community resources) was statistically significant. In summary, these findings indicate that, as predicted, individual styles were more helpful than community styles.

**Fathers.** For fathers, only positive reframing ( $\beta = -.46$ ,  $p < .01$ ) was significantly associated with better adjustment. The direction of the non-significant relations between paternal dissatisfaction and community resources ( $\beta = -.02$ , n.s.) and social support ( $\beta = -.87$ , n.s.) were negative, indicating that for fathers these styles were associated with better rather than worse adjustment. Once again the beta magnitude for community resources and social support fell outside the 95% confidence interval of positive reframing, suggesting that the strength of association of each of these factors with parent outcome differed significantly.

**Hypothesis 4.** Correlation analyses revealed that neither satisfaction with social support or size of social support network were significant in predicting parental dissatisfaction with parenting performance (see Table 19, next page).

Table 19

**Hypothesis 4: Correlations between parental dissatisfaction and social support**

	Size of social support network	Satisfaction with social support network
Maternal dissatisfaction	-.19	-.08
Paternal dissatisfaction	-.16	-.32

**Additional post-hoc hypothesis.** In addition to testing the mediation hypothesis, reviewers suggested the testing of the moderator hypothesis of coping. That is, is there a significant interaction between level of coping and child aggression? Regression analyses were conducted by entering the product (child aggression\*coping factor) into a regression equation at step 2 after controlling for main effects at step 1. The interaction term was non-significant for mothers and fathers. The interaction between child aggression and community resources was also non-significant for mothers and fathers. Therefore, no support was found for the moderator hypothesis.

However, the interactions of Sarason's social support variable and child aggression was on the margin of significance for size of network for fathers (beta=.67, p=.05). All other interaction terms were non-significant for mothers and fathers. No support was found for the moderating effect of coping or social support.

## **DISCUSSION**

The current study attempted to clarify four issues: (1) whether child inattention and hyperactivity are related to parent role dissatisfaction independent of aggression or conduct problems, (2) whether child aggression is associated with parent dissatisfaction, (3) whether child hyperactivity rather than inattention drives the relation between ADHD and parent role dissatisfaction, and (4) whether parent coping and satisfaction with social support mediate the relation between child behaviors and parent role dissatisfaction. Few studies have examined the effects of child inattention and hyperactivity on parent role stress or dissatisfaction independently of child aggression. The current study aimed to replicate the findings that child ADHD behaviors independently contribute to parental role distress in a small but significant way (Anastopoulos et al., 1992). No previous study investigated the effects of inattention and hyperactivity separately on parent adjustment. However, the DSM-IV field trials indicated that ADD (ADHD- Predominately Inattentive type) and ADHD (ADHD - Predominately Hyperactive type) are discrete subtypes (Lahey, et al., 1994). Because these are two factorially distinct dimensions, examining inattention and hyperactivity separately in both dimensional and categorical analyses aimed to clarify the different effects of inattention and hyperactivity. In order to best design interventions for parents and families with ADHD children, the most distressing factors need to be identified. Further, due to the dynamic interplay of child behavioral problems

and parent distress, understanding the specific factors which contribute to each is vital for interrupting the “vicious cycle” of problem exacerbation and development. That is, if parents experience increased distress due to specific child behaviors, knowing that allows for targeted interventions. The findings are discussed in relation to the two major foci of the study: parent role distress and coping in relation to child behaviors.

#### Child ADHD behaviors in relation to parent role distress

Child ADHD behaviors were associated with parent role dissatisfaction. However, these relations were largely explained by child aggression and conduct problems (ODD or CD). Prior to covarying aggression and conduct problems, dimensional ratings indicated that both inattention and hyperactivity were related to parental role dissatisfaction. When child aggression and/or conduct problems were controlled, the relations between dimensional ADHD behaviors and parent role dissatisfaction did not remain significant. When looking at diagnosis, ADHD combined (ADHD) but not inattentive type (ADD) was associated with greater parental role dissatisfaction for both mothers and fathers compared to parents of non-ADHD children. This relation did not remain significant when child aggression/conduct problems were controlled. When parents of ADHD children were compared to parents of ADD children, groups of parents did not differ in reported parenting dissatisfaction.

The results regarding the respective contributions to parental outcome of child aggression, oppositional/conduct problems, and ADHD (combined inattention and hyperactivity) coincide with Johnston (1996). Johnston (1996) found that parent sense of



competence was differentially associated with varying levels of comorbid oppositional-defiant (ODD) behavior in ADHD children. Parents of ADHD children with low levels of ODD reported higher levels of parenting competence compared to parents of ADHD children with high levels of ODD. It is important to note that all of the ADHD children in Johnston's study exhibited co-occurring ODD behaviors. The parents of these children were compared to each other and to parents of non-disordered children. Parents of ADHD children regardless of level of ODD (that is, both parents of children with ADHD-low ODD and ADHD-high ODD) reported lower levels of parenting competence compared to the parents of non-disordered children. The current study also found that child ODD/CD was related to parent role distress. Specifically, in the current study dimensional analyses revealed that as child aggression and conduct problems increased, parent role dissatisfaction increased. Although Johnston (1996) found that parents of non-disordered control children reported higher levels of parenting competence than parents of ADHD children, she did not examine parents of ADHD children without co-occurring oppositional or conduct problems. The children in both Johnston's ADHD groups exhibited ODD behaviors sufficient to warrant a second diagnosis. Hence, Johnston's study did not address whether child ADHD was associated with parent role distress *independent* of child oppositional defiant behaviors.

In the current study, child ADHD combined subtype was associated with greater parental role dissatisfaction when parents of ADHD children were compared to parents of non-disordered children. Child diagnosis of ADD was not associated with greater parental distress. When child aggression/conduct problems were controlled, neither diagnosis was

associated with parent role dissatisfaction. Dimensional inattention and hyperactivity were also not associated with parent role dissatisfaction independent of child aggression.

In summary, the current study differed from Johnston's (1996) in four key ways. First, Johnston did not include an ADHD without ODD behaviors group so did not look at the effect of ADHD independent of ODD. In the current study, group data showed no significant differences when child ODD was controlled in ANCOVA. Additionally, Johnston did not conduct dimensional analyses nor examine child inattention and hyperactivity separately. The current study found that neither dimensional child inattention nor hyperactivity were associated with parent distress when child aggression/conduct problems were controlled. Lastly, Johnston did not examine the subtypes of ADHD. These were examined in the current study. However, group differences were not found when comparing parents of ADHD versus ADD children (whether or not ODD/CD were controlled). Thus, putting the present study together with Johnston's, it can be concluded that child ADHD behaviors are related to parent role distress; however, this relation may be accounted for by co-occurring child aggression and/or conduct problems such as Oppositional Defiant behaviors.

Unlike Anastopoulos and colleagues (1992) but using a different outcome measure, the current findings did not support a significant independent contribution of ADHD to parent role dissatisfaction. Anastopoulos et al. (1992) found that ADHD (using DSM-III-R criteria, which combined inattention and hyperactivity) explained an additional four percent of variance ( $p < .001$ ) in Parenting Stress Index Total Score after child aggression was accounted for in the model. Inattention and hyperactivity were not

examined separately by Anastopoulos et al. In the present study, when inattention and hyperactivity were entered into the same regression model to enable comparison to Anastopoulos et al.'s findings, the overall change in  $R^2$  was significant even with child aggression/conduct problems controlled. This result replicated that of Anastopoulos et al. (1992). However, when examining inattention and hyperactivity separately, these ADHD behaviors were not significantly associated with parent distress when child aggression/conduct problems were controlled. Specifically, with child aggression/conduct problems controlled, the relation between child inattention and parent role distress approached significance ( $p=.05$ ) whereas hyperactivity was clearly not independently associated with parent role distress. Hence, Anastopoulos et al.'s finding that combined inattention and hyperactivity predict parent role distress even with child aggression controlled was replicated but taken a step further. That is, child inattention may account for the independent relation between child dimensional ADHD behaviors and parent role distress. However, this finding requires replication as in the current study this relation did not reach significance. If a larger sample size were obtained, this relation may have been significant. However, the current findings are inconclusive.

Notably, a different outcome measure was used in the current study. The current study used the Parenting Satisfaction Survey (Guidubaldi & Cleminshaw, 1994) score measuring dissatisfaction with parenting performance. Anastopoulos et al. (1992) used the Parenting Stress Index<sup>5</sup>. Therefore, no straight-forward comparison between my and

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Note: the current study used the Parenting Stress Index as an alternative outcome measure (See Appendix G, pages 99-104). However, the short form was used in the current study, preventing direct comparison.

Anastopolous' study could be made.

Anastopoulos et al. (1992) also conducted categorical analyses. At the diagnostic level, Anastopoulos et al. (1992) found that parents of children with the dual ADHD/ODD diagnoses reported significantly higher levels of parent stress (PSI Total Score) than parents of ADHD children without the comorbid diagnosis. Additionally, although a statistical comparison was not made, Anastopoulos et al. (1992) found that parents in both groups experienced elevated stress scores. In their study, the total stress scores for parents of ADHD children fell at the 80<sup>th</sup> percentile compared to normative sample. Stress scores for parents of ADHD/ODD children fell at the 90<sup>th</sup> percentile<sup>6</sup>.

Unlike Anastopoulos and colleagues, the current study did not separate groups based on a comorbid ODD diagnosis. Rather child aggression/conduct problems were controlled dimensionally. In contrast to Anastopoulos et al. (1992), the current study did not find child ADHD or ADD *diagnosis* to be associated with parent role distress when child conduct problems were controlled. The contrasting results on this particular point may be due to different methodologies. It is possible that comorbid dimensional aggression or conduct problems impact children and parents differently than such behaviors which meet diagnostic, clinical levels of severity.

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Normative data is not available for the PSI-SF that was used in the current study. Because comparative percentiles are not available, such data could not be calculated so that percentiles might be calculated and compared to Anastopoulos et al.'s report. Nevertheless, when comparing parents of ADHD to parents of non-disordered comparison children, no significant differences were found when using the PSI-SF parent distress score. It is important to note, however, that Anastopoulos et al. (1992) used a study specific score to control for overlap between stressors as a predictor variable and parent stress as an outcome measure. Therefore, the PSI-SF parent distress score remains non-equivalent to Anastopoulos et al.'s outcome measure.

In addition to employing a different study design, Anastopoulos et al. used a different outcome measure. As discussed in Appendix G (pages 99-104), the PSI Parent Distress subscale as an alternative outcome in the current study. When using the PSI-SF, no significant differences were found between parents of ADHD to parents of non-disordered comparison children. However, even this comparison is incomplete. Anastopoulos et al. (1992) adjusted the PSI score in order to control for overlap with predictor variables. It was not possible to replicate this score adjustment. In investigating the relation between child behaviors and parent distress, it is important to consider the outcome constructs used. Results vary depending on the outcome construct under consideration.

In summary, based on the current study, it appears that child ADD or ADHD diagnosis is not associated with parent role distress when child conduct problems were controlled. However, as suggested by Anastopoulos et al. (1992), once child behaviors reach a critical level of severity warranting a comorbid diagnosis of ODD, parent role distress may increase significantly. These complicated findings underscore the importance of investigating child problems from both a dimensional and categorical perspective.

#### Child inattention versus hyperactivity

As implied in the preceding, a key way in which the present study departed from prior studies pertains to the separate analyses of inattention and hyperactivity. Most studies of parent distress have failed to examine these child behavioral domains separately. When examined in the current study, slightly different results were found for categorical

and dimensional analyses. When looking at child problems dimensionally in the current study, both child hyperactive and inattentive symptoms were associated with parental role dissatisfaction. When child aggression/conduct problems were controlled in dimensional regression or Analyses of Covariance, neither child inattention or child hyperactivity contributed significantly to maternal role dissatisfaction. When controlling for child aggression, the relation between child inattention and maternal role dissatisfaction approached significance ( $p=.05$ ). Power was limited due to a small sample size. It is possible that with a larger sample size, this relation would be significant. Similarly, categorical analyses revealed that ADHD combined type but not inattentive type was associated with greater parent role distress. Once again, the small sample size resulted in low power, especially for ADHD inattentive type ( $n=14$ ).

Categorical analyses partially support the specificity of child hyperactivity as a stressor for parents at the diagnostic level. That is, once child behaviors meet a critical cut-off in terms of severity, hyperactivity rather than inattentive behaviors appears to account for parental role dissatisfaction. However, child hyperactivity did not remain significantly associated with parent role dissatisfaction when aggression/conduct problems were controlled (in categorical or dimensional analyses). Hyperactivity may serve as a stressor only in as far as it is linked with child aggression and/or conduct problems. Both dimensional and categorical analyses supported this premise.

As noted earlier, different results for the two subtypes and the two dimensions would be consistent with other findings in the literature. However, in the present study, parent dissatisfaction due to child inattention and hyperactivity both appeared to be driven

by comorbid child aggression. Correlations revealed that aggression and conduct problems are more closely related to child hyperactivity than inattention, suggesting that children who exhibit hyperactivity may be more at risk for exhibiting co-occurring aggressive behaviors. The aggression that co-occurs with inattention and hyperactivity appears to serve as the most compelling stressor for these parents.

### **Child aggression**

The relation between child aggression and parent role dissatisfaction is consistent with studies of children with aggressive behavioral disorders (e.g., Frick, 1994). Unsurprisingly, comorbid aggressive behavior (including CD/ODD) is most distressing to parents. While child ADHD behaviors contribute to parent role distress even when controlling for child's age and co-occurring learning disabilities, this contribution appears small or non-existent in comparison to the impact of child aggression and conduct problems.

### **Parent coping**

Regarding coping factors, positive reframing appeared to serve as a partial mediator of the relation between child aggression and both maternal and paternal maternal role dissatisfaction. However, this relation was found only when using teacher but not parent ratings of child behavior, offering only weak support for this hypothesis. This finding suggests that parents were helped by adjusting the perspective which they took in coping with their child's behavioral problems and that this strategy may be important as a

buffer from stressful child behaviors.

Although positive reframing was associated with better parent role adjustment, for mothers, the relation between community resources and parent dissatisfaction was positive. This could indicate that this coping style is ineffective in protecting parent role satisfaction. Alternatively, mothers who are more distressed may turn to ecological coping strategies such as using community resources rather than utilizing individual coping strategies. Either interpretation would fit the observed pattern of scores. For fathers, community resources was negatively related to role dissatisfaction, indicating that this was an effective strategy for fathers. In the present study, social support and spiritual support were not significantly related to parent role dissatisfaction. The interactions between coping factors and child aggression were also examined in relation to parent role dissatisfaction; however, no interactions emerged as significant, suggesting that coping does not act as a moderator of parent role dissatisfaction.

### **Parent social support**

Similarly, using Sarason's measure, satisfaction with social support was not found to be significant in predicting parental dissatisfaction with parenting performance. This finding indicates that Sarason and Sarason's (1985) model may not hold for parents of ADHD children. The interaction between child aggression and parent satisfaction with social support was not found to be significant, indicating that satisfaction with social support did not serve as a buffer for parents in the current study. However, given the small sample size in the current study, non-significant findings may be due to low power.



The pattern of results are to be interpreted with caution given the lack of power in the current study.

In the current study, satisfaction with social support did not emerge as a factor which buffered parents from ill-effects of stress. Prior research with parents of ADHD children has been mixed. Mash and Johnston (1983a) found social support to be a significant factor in a model differentiating the groups according to parental stress outcome. However, in a separate study, parents of children with ADHD reported fewer extended family contacts and the contacts which they had were reported as less helpful (Cunningham, Benness, & Siegel, 1988). Although social support has been associated with better adjustment in parents and families (Crnic, Friedrich, & Greenberg, 1983; Hanson & Hanline, 1900; Hurtig, 1994; Noll, Swiecki, Garstein, & Vannatta, 1994; Sharts-Hopco et al., 1996; Short, 1997), it may be that family contacts may increase rather than decrease stress in families of ADHD children. This would be consistent with clinical impression, in which many parents report reducing social contacts due to the criticism they receive about their children from other adults.

In the current study, findings suggest that rather than finding social support as helpful, parents were best served by focusing on the understanding how they might meet challenges rather than be discouraged by difficulties. Parents appeared to benefit most from attending to the ways in which they define problems associated with their child's behavioral problems.

## **Limitations**

The current study was cross-sectional in nature. To parse directional effects, a longitudinal or an experimental intervention design would be useful. Another limitation associated with the cross-sectional nature of the current study is that the developmental aspect of the McCubbin model could not be tested. McCubbin's Double ABC-X model of family coping states that it is important to examine stress and coping over time. Over time stressors may "pile-up" resulting in an increase in stress and an increased need for adjustment. While it was assumed that parents would have been at a stage where the stressors had already accumulated, it was not possible to verify this in the current study. Many parents coming to the study already knew that their child had ADHD. Other parents were seeking diagnostic information for the first time although even they were dealing with the problems for a period of time. Assessing parents at different times, may obscure the effects associated with the varying durations of stressors. Additionally, there are likely different coping strategies which might be employed at different stages of facing a stressor. In the current study, it was assumed that parents were in the second adjustment phase and that they would have given up the most ineffective coping strategies or discontinued indiscriminate use of coping strategies. It was impossible to validate this assumption. In the current study, community resources was positively correlated with maternal distress, indicating that parents may have continued using this strategy despite possible ineffectiveness or been in the first phase of adjustment. However, other strategies were not significantly associated with parent role distress. Further, the only strategy which significantly mediated relation between child behavior and parent role distress was

significant as a buffer.

Marital adjustment and life stress may also have served as confounds in the current study. That is, parent role distress might be driven by factors other than child behaviors. Analyses were run controlling for these factors and are included in Appendix H (pages 105 - 118). Results are interpreted with caution due to since a small sample size may have limited power to detect significant difference. For instance, failure to find significant differences between parents of ADD versus ADHD children in categorical analyses may be due to reduced power for the smaller ADD group.

### Conclusion.

The current study adds to existing literature on parent stress and child ADHD. First, when controlling for comorbid aggressive symptomatology, neither ADHD nor ADD as categorical diagnoses independently contributed to parent role dissatisfaction. Neither dimensional inattention nor hyperactivity remained significantly related to parent dissatisfaction with child aggression/conduct problems controlled. Child aggression/conduct problems were related to poorer parent and child outcomes. As described by Patterson (1996), a dynamic cycle develops between parental distress and child aggression with each problem exacerbating the other. That is, greater child aggression is associated with greater parental distress. Further, parental distress is associated with coercive parenting which leads to an increase in child aggression. Interrupting this cycle at all junctures is likely to be beneficial to both parent and child.

In the current study, size of social support network and satisfaction with social

support did not predict parent role dissatisfaction. However, parent coping - specifically, positive reframing - partially mediated the relation between child aggression and maternal and paternal role dissatisfaction. Surprisingly, the interaction between coping strategy and child aggression was not significant. Cognitive/behavioral interventions with parents with an emphasis on framing problems in such a way that promotes mastery may prove important. For instance, if parents are able to obtain a sense of control even in the face of their child's disruptive behavior, they may experience greater parenting satisfaction. A new framework may promote productive parenting behaviors. Parent individual coping strategies rather than community or ecological coping resources appeared to be most important in mediating parent adjustment. Further research is needed to investigate specific parent attitudes which may foster parent satisfaction and promote effective parenting.

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## APPENDIX A

### Tables of Measures

#### Predictor Variables

##### Measures of Attention-Deficit Hyperactivity Disorder

Variable	Measure	Mother	Father	Teacher
	SNAP-IV ADHD subscale	x	x	x
	DISC-IV ADHD module	x		

##### Measures of Parent-Child Conflict

Variable	Measure	Mother	Father
Parent-Child Conflict	Parenting Stress Index Parent-Child Dysfunction Subscale	x	x

##### Aggressive Behavior

Variable	Measure	Mother	Father	Teacher
Child dimensional aggression	CBCL/TRF Aggression subscales	x	x	x
Child dimensional OD/CD	SNAP-IV Oppositional Defiant and Conduct Disorder subscales	x	x	x
Categorical OD/CD	DISC-IV Oppositional-Defiant and Conduct Disorder modules	x		

## **Mediating Variables**

### **Measures of Coping**

Variable	Measure	Mother	Father
Family Oriented Coping Strategies	F-COPES	x	x
Social Support - network and satisfaction	SSQR	x	x

## **Outcome Variables**

### **Parental Distress**

Variable	Measure	Mother	Father
Distress in role as parent	Parenting Stress Index Parent Distress Subscale	x	x
Satisfaction in role as parent	Parenting Satisfaction Survey	x	x

## **Control Variables**

Variable	Measure	Mother	Father	Child
Marital Distress	Dyadic Adjustment Scale	x	x	
Stressful life events	Parenting Stress Index Life Events Subscale	x	x	
Child Intelligence /Learning Disability	Weschler Intelligence Scale for Children - Short form			x

## APPENDIX B

Inter-correlations of measures of inattention by rater

	MCBCL inattention	DCBCL inattention	Teach TRF inattention	M SNAP inattention	D SNAP inattention	Teach SNAP inattention
MCBCL inattention	1.0					
DCBCL inattention	.77**	1.0				
Teach TRF inattention	.57**	.53**	1.0			
M SNAP inattention	.78**	.70**	.60**	1.0		
D SNAP inattention	.53**	.77**	.36*	.68**	1.0	
Teach SNAP inattention	.55**	.63**	.85**	.56**	.52**	1.0

\*\* p<.01

## APPENDIX C

Inter-correlations of measures of hyperactivity by rater

	Mom SNAP child hyperactivity	Dad SNAP child hyperactivity	Teacher SNAP child hyperactivity
Mom SNAP child hyperactivity	1.0		
Dad SNAP child hyperactivity	.77**	1.0	
Teacher SNAP child hyperactivity	.49**	.60**	1.0

\*\*  $p < .01$



## APPENDIX D

### Inter-correlations of measures of aggression

	Mcbcl delinq	Dcbcl delinq	TRF delinq	Mcbcl agg	Dcbcl agg	TRF agg	Msnp ODD	Dsnp ODD	Tsnp ODD	Msnp CD	Dsnp CD	Tsnp CD
Mcbcl delinq	1.0											
Dcbcl delinq	.74**	1.0										
TRF delinq	.26	.32	1.0									
Mcbcl agg	.83**	.23**	.26	1.0								
Dcbcl agg	.65**	.79**	.19	.67**	1.0							
TRF agg	.17	.45**	.59**	.14	.40*	1.0						
Msnp ODD	.77**	.61**	.15	.88**	.68**	.17	1.0					
Dsnp ODD	.65**	.76**	.12	.60**	.85**	.36**	.68**	1.0				
Tsnp ODD	.30*	.55**	.53**	.24	.39*	.74*	.34*	.46**	1.0			
Msnp CD	.80**	.60**	.28	.76**	.51**	.17	.76**	.50**	.34*	1.0		
Dsnp CD	.69**	.78**	.20	.51**	.76**	.33	.55**	.83**	.43**	.57**	1.0	
Tsnp CD	.40**	.50**	.77**	.26	.45**	.73**	.20	.37*	.75**	.35*	.53**	1.0

\* p<.05, \*\*p<.01

## APPENDIX E

### Inter-correlations of F-COPES subscales

	Social support	Positive Reframing	Spiritual Support	Passive Appraisal	Community Resources
Social Support	1.0				
Positive Reframing	.22	1.0			
Spiritual Support	.23	.28*	1.0		
Passive Appraisal	-.08	.03	-.08	1.0	
Community Resources	.13	-.14	.15	-.15	1.0

\*p<.01

## APPENDIX F

### Inter-correlations between measures of parent role distress

	PSI parenting distress	PSS dissatisfaction w/parenting performance	PSS dissatisfaction with parent-child relationship
PSI parenting distress	1.0		
PSS dissatisfaction w/parenting performance	.48**	1.0	
PSS dissatisfaction w/p-c relationship	.48**	.73**	1.0

\*\*p<.01

## APPENDIX G

Using alternative outcome measures (PSI parent distress and PSS dissatisfaction with parent child relationship) to examine the relation of parent distress and child behaviors  
(Hypotheses 1a-1d)

### Hypothesis 1a Mothers - categorical analyses: changed w/PSI, similar for PSS.

In contrast to findings when using parenting role dissatisfaction, no significant group differences were found when examining mother's general distress as measured by the PSI Parent Distress score ( $F[2,58] = .80$ , n.s.). Means are reported in Table 20 (next page). This measure is less specific to parent role distress and captures more general depressed affect non-specific to role as parent. Results for PSS Dissatisfaction with parent-child relationship were similar to those pertaining to Dissatisfaction with Parenting Performance.

Hypothesis 1a Fathers - categorical analyses: similar results. Results were similar to earlier findings. When using father's PSI Parent Distress score ( $F[2, 45] = 4.63$ ,  $p < .05$ ) and when using the PSS Satisfaction with Parent-child Relationship score ( $F[2, 47] = 9.77$ ,  $p < .001$ ), significant group differences were found. As found earlier, a significant difference was found between fathers of ADHD and fathers of non-disordered children but not when comparing fathers of ADD children to fathers of non-disordered children. Means are reported in Table 20 (next page). Contrary to earlier findings, the significant differences between fathers of ADHD and fathers of comparison children remained even

when child aggression was controlled. This was when using father's satisfaction with parent-child relationship ( $F[1,23]=9.55$ ,  $p<.01$ ) and father's parent distress ( $F[1,24]=5.96$ ,  $p<.05$ ) as outcomes.

Table 20  
Alternative outcomes hypothesis 1a: Means of parent outcome measures by group

	ADD	ADHD	Control	(p)
Mom's PSI Parent Distress Score	2.08 (.46)	2.30 (.65)	2.11 (.62)	n.s.
Dad's PSI Parent Distress Score	1.99 (.56)	2.47 (.55)	1.90 (.54)	$p<.05$
Mom's PSS Dissatisfaction with P-C relationship	1.71 (.24)	1.84 (.37)	1.54 (.39)	n.s.
Dad's PSS Dissatisfaction with P-C relationship	1.59 (.28)	2.10 (.27)	1.57 (.36)	$p<.001$

Hypothesis 1b and 1c - child ADHD behaviors: results somewhat similar.

Consistent with earlier findings, child inattention and hyperactivity as dimensions were associated with maternal and paternal dissatisfaction with parent-child relationship.

However, when using the PSI Parent Distress score, significant relations were found for fathers but not mothers. Correlations are shown in Table 21 (next page).

Table 21

Alternative Outcomes hypothesis 1b & 1c: Correlations: Parent PSI Distress, PSS Dissatisfaction with Parent-Child Relationship, child inattention, and hyperactivity

	Mom PSI Distress	Dad PSI Distress	Mom PSS P-C Rel	Dad PSS P-C Rel
SNAP Attn Score - mom rating	.21	.29	.52**	.49**
SNAP Attn Score - dad rating	.19	.18	.44**	.28*
SNAP Attn Score - teacher rating	-.11	.28	.13	.27
SNAP Hyp Score - mom rating	.18	.43**	.41**	.55**
SNAP Hyp Score - dad rating	.25	.37*	.43**	.46**
SNAP Hyp Score - teacher rating	-.09	.46**	.23	.48**

\* $p < .05$ , \*\* $p < .01$

When child aggression/conduct problems controlled. Unlike earlier findings, child inattention was not significantly associated with mother's distress when child aggression/conduct problems were controlled (see Table 22, next page). All other findings were similar (Tables 21-24 may be compared to Tables 8-11).

Table 22

**Alternative outcomes hypothesis 1b: Regression models on mothers' dissatisfaction with P-C Relationship by child inattention with aggression controlled**

	Child predictor	beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
<b>Model 1</b> (parent ratings)	composite aggression	.37**	.42*	.14**	
	inattention		-.07		.00
<b>Model 2</b> (teacher ratings)	aggression	.02	.08	.00	
	inattention		-.10		.01
<b>Model 3</b> (parent ratings)	conduct problems^	.34**	.37*	.12**	
	inattention		-.04		.00
<b>Model 4</b> (teacher ratings)	conduct problems^	.09	.23	.01	
	inattention		.11		.02

\* $p < .05$ , \*\* $p < .01$

**Hypothesis 1d - child aggression - similar for mothers and fathers.** Consistent with earlier findings, child aggression was consistently related to both mother and father's PSI Distress and PSS Dissatisfaction with Parent-Child Relationship. Correlations are shown in Table 23 (next page). As detailed in the following paragraphs results varied when child inattention and hyperactivity were controlled.

Table 23

**Alternative outcomes hypothesis 1d: Correlations between parent PSI Distress, PSS Dissatisfaction with Parent-Child Relationship, and child aggression/conduct problems**

	Mom PSI Distress	Dad PSI Distress	Mom PSS P-C Rel	Dad PSS P-C Rel
CBCL Aggression - parent rating	.38**	.53**	.56**	.58**
TRF Aggression - teacher rating	.06	.30	.36*	.36*
SNAP ODD/CD Score - parent rating	.34**	.50**	.52**	.58**
SNAP ODD/CD Score - teacher rating	.09	.28	.33*	.34

\* $p < .05$ , \*\* $p < .01$

**Hypothesis 1d - child aggression with ADHD behaviors controlled: mother results - similar for both PSI and PSS.** Results using the PSI Parent Distress score and the PSS Dissatisfaction with Parent-child Relationship score were similar for mothers as those reported earlier as found with the PSS Dissatisfaction with Parenting Performance. For example, using the PSI Parent Distress measure, child aggression (beta = .62,  $p < .01$ ) and conduct problems (beta = .45,  $p < .05$ ) were significantly related to mothers distress even when child inattention and hyperactivity were controlled. Using the PSS Dissatisfaction with Parent-child Relationship, child aggression (beta = .64,  $p < .01$ ) and conduct problems (beta = .44,  $p < .05$ ) were also significantly related to mothers distress even when child inattention and hyperactivity were controlled (parent ratings; results with teacher ratings were similar to those reported earlier with PSS Dissatisfaction with Parenting Performance).

**Hypothesis 1d - child aggression with ADHD behaviors controlled: father results - changed for PSI; similar for PSS.** Using the PSI Parent Distress score, parent rating of child aggression was only marginally significant (beta = .47,  $p < .1$ ) when child inattention



and hyperactivity were controlled. Parent rating of child conduct problems was not related to father's PSI Parent Distress when child ADHD behaviors were controlled. Using the PSS Dissatisfaction with Parent-Child Relationship score, parent ratings of child aggression ( $\beta = .66, p < .01$ ) and conduct problems ( $\beta = .59, p < .01$ ) were significantly related to fathers role distress even with child inattention and hyperactivity controlled. As with earlier findings, no significant relations were found when using teacher ratings of child behaviors.

#### Summary regarding alternative outcome measures.

Results were consistent when using the PSS Dissatisfaction with Parent-Child Relationship scale as an alternative outcome measure. Results varied somewhat when using the PSI Parent Distress measure. However, because this measure is less specific to parent role distress and captures more general depressed affect non-specific to role as parent, different results are not inconsistent with findings in the current study or in the literature.

## APPENDIX H

### Controlling marital adjustment and stressful life events

It is possible that parents may experience stress and distress from other areas of their lives. For instance, marital difficulties may be associated with parenting stress in ADHD children (e.g., Befera & Barkley, 1985; Cunningham et al., 1988). Likewise, other stressful life events may increase parents' overall stress, inflating parenting stress and increasing their dissatisfaction in their role as parents. Additionally, age of child has been found to be related to parent stress (e.g., Mash & Johnston, 1983) with a decrease in stress as the child grows older. In order to determine whether parenting distress is due to the child's ADHD symptomatology, it is important to control for such possible alternative stressors. Analyses were run controlling for marital adjustment and recent stressful life events. Results were largely similar when controlling for marital adjustment and life stress.

#### Control Variables: Non-child related stressors

Dyadic Adjustment Scale (DAS). The DAS (Spanier, 1976) is a 32-item measure for married or unmarried cohabitating couples. Items are rated on one of two six point scales, indicating amount of time or frequency of occurrence (e.g., 0=always disagree, 1=almost always disagree, 2=frequently disagree, 3=occasionally disagree, 4=almost always agree, 5=always agree; 0=never, 1=rarely, 2=occasionally, 3=more often than not, 4=most of the time, 5=all the time). Example items include: "How often do you discuss

or have you considered divorce, separation, or terminating your relationship?" "Do you kiss your mate?" and "Have a stimulating exchange of ideas?" A total measure of Marital Adjustment was obtained through a weighted sum. A high score indicates good marital or dyadic adjustment. Reliability found in the current sample was good ( $\alpha = .91$ ). Published reliability is also good (Cronbach's coefficient  $\alpha = .96$ ; Spanier, 1976).

**PSI Life Events.** The Life Events Scale of the PSI consists of a checklist of 19 life events (e.g., marriage, pregnancy, promotion at work); parents simply answer "yes" or "no" depending on whether the event has occurred in their immediate family in the past 12 months. Events are weighted by severity and summed to yield a weighted total score.

### **Examining the relation between parent role distress and child behaviors with marital adjustment and life stress controlled**

#### **Hypothesis 1a.**

**Mothers by diagnostic group - results similar.** Results comparing mothers of ADHD (combined type) to mothers of non-disordered comparison children were unchanged when marital adjustment and life events were controlled. Mothers of ADHD (combined) children were still significantly more dissatisfied with parenting performance than mothers of non-disordered comparison children. Contrary to earlier analyses, this difference remained significant when child aggression or conduct problems were controlled ( $F(4, 24)=1.92, p<.05$ ). Contrary to earlier results, when controlling for marital distress and life events, mothers of ADD children were also significantly more

dissatisfied than mothers of controls ( $F(4,21)=7.29, p<.05$ ). Findings were consistently significant when using teacher ratings of child behavior. The change in results appeared to be driven by marital adjustment. Although neither marital adjustment nor life stress was significantly correlated with parenting dissatisfaction, when both factors were entered simultaneously into a regression equation, marital adjustment but not life stress predicted dissatisfaction with parenting performance. On the other hand, marital adjustment and life stress were not significantly different across the three groups ( $F[2, 41] = 2.29, n.s.$ ). Findings were similar when using Dissatisfaction with Parent-Child Relationship as outcome measure.

Fathers by diagnostic group - results differed. Contrary to earlier analyses, when controlling for marital adjustment and life stress, father's dissatisfaction with parenting performance did not differ significantly across the three groups ( $F(4,34)=2.12, n.s.$ ). When examining father's dissatisfaction with parent-child relationship as an outcome, the three groups differed even when controlling for marital adjustment and life stress. Fathers of ADHD but not ADD children were found to be significantly more dissatisfied than fathers of comparison children when marital adjustment, life stress, and teacher rating of child conduct problems were controlled ( $F(4,18)=7.01, p<.05$ ). However, this relation held only when teacher ratings were used.

#### Hypothesis 1b and 1c.

Results for dimensional analyses were basically unchanged when controlling for marital adjustment and life stress. Child inattention and hyperactivity remained significantly associated with mother's and father's parent role dissatisfaction when marital

adjustment and life stress were controlled. When also controlling for child aggression/conduct problems, neither child inattention nor hyperactivity remained significant. This was similar to earlier results (when marital adjustment and life stress were not controlled) except that child inattention had remained marginally significant (mothers only). Findings are detailed in the following paragraphs.

Mothers by inattention and hyperactivity - results unchanged. When controlling for marital adjustment and life stress, child inattention and hyperactivity were significantly associated with mother's dissatisfaction with parenting performance. Using teacher ratings of child behaviors, inattention was marginally significant ( $\beta = .30, p < .1$ ). Using parent ratings, inattention was highly significant ( $\beta = .50, p < .01$ ). Child hyperactivity was significantly related to mother's dissatisfaction when teacher ( $\beta = .41, p < .05$ ) and parent ( $\beta = .38, p < .05$ ) ratings of child behaviors were used. Table 23 (next page) summarizes these findings and may be used for comparison to Table 7 (page 48). (Table 7 provides results without marital adjustment and life stress controlled).

Table 24  
Controlling for Marital Adjustment and Life Stress  
**Hypothesis 1b & 1c: Regressions: Mother's Dissatisfaction with Parenting Performance,  
child inattention, and hyperactivity**

		beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
Model 1	Mom Marital adjust	-.21	-.12	.13+	
	Mom Life stress	.25	.20		
	inattention (parent)		.50**		.24**
Model 2	Mom Marital adjust	-.11	-.08	.11	
	Mom Life stress	.29	.27		
	inattn (teacher)		.30+		.09+
Model 3	Mom Marital adjust	-.21	-.20	.13+	
	Mom Life stress	.25	.18		
	hyp (parent)		.41*		.13*
Model 4	Mom Marital adjust	-.11	-.10	.11	
	Mom Life stress	.29	.26		
	hyp (teacher)		.41*		.17*

\*\*\*p<.001, \*\*p<.01, \*p<.05, +p<.1

**Fathers by child inattention and hyperactivity - results unchanged.** When controlling for marital adjustment and life stress, child inattention was marginally related to father's dissatisfaction with parenting performance when using parent ratings (beta = .30, p<.1) but not teacher ratings (beta = .08, n.s.). Child hyperactivity was significantly related to father's dissatisfaction when using parent ratings (beta = .41, p<.01) and marginally significant when using teacher ratings (beta = .31, p<.1). Table 25 (next page) summarizes these findings and may be used for comparison to Table 7 (page 48), which

provides results without marital adjustment and life stress controlled.

Table 25  
Controlling for Marital Adjustment and Life Stress  
Hypothesis 1b & 1c: Regressions: Father's Dissatisfaction with Parenting Performance,  
child inattention, and hyperactivity

		beta step 1	beta step 2	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2
Model 1	Dad Marital adjust	-.51**	-.51**	.29**	
	Dad Life stress	.17	.09		
	inattention (parent)		.30+		.08+
Model 2	Dad Marital adjust	-.54*	-.40**	.27*	
	Dad Life stress	.18	.03		
	inattn (teacher)		.08		.01
Model 3	Dad Marital adjust	-.51**	-.49**	.29**	
	Dad Life stress	.17	.07		
	hyp (parent)		.41**		.15**
Model 4	Dad Marital adjust	-.43*	-.40*	.27*	
	Dad Life stress	.18	.15		
	hyp (teacher)		.31+		.10+

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ , + $p < .1$

Controlling for child aggression and/or conduct problems. Results were similar when child aggression and/or child conduct problems were also controlled. As noted above, neither child inattention nor hyperactivity remained significant when marital adjustment, life stress, and child aggression/conduct problems were controlled. This result was the same for mothers and fathers.

Mothers when controlling for child agg/CD/ODD- results slightly different. When controlling for child aggression and/or conduct problems as well as marital adjustment and life stress, neither child inattention (Table 26, page 110) nor hyperactivity (Table 27, page

115) remained significantly related to mother's parent role dissatisfaction. These results differed slightly from those found when marital adjustment and life stress were not controlled. In those earlier analyses, child inattention had remained marginally significant even when controlling for child aggression (see Table 8, page 50).

[continued next page]



**Table 26**  
**Controlling for Marital Adjustment and Life Stress**  
**Hypothesis 1b & 1c: Regressions: Mother's Dissatisfaction with Parenting Performance,**  
**child inattention with aggression/conduct problems controlled**

		beta step 1	beta step 2	beta step 3	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2	R <sup>2</sup> Change step 3
Model 1	Mom Marital adjust	-.21	-.03	-.06	.13+		
	Mom Life stress	.25	.08	.12			
	agg (parent rating)		.55**	.31		.23**	
	inattention (parent)			.30			.04
Model 2	Mom Marital adjust	-.05	-.06	-.05	.07		
	Mom Life stress	.25	.33+	.30			
	agg (teacher rating)		.43*	.34		.18*	
	inattn (teacher)			.15			.53
Model 3	Mom Marital adjust	-.21	.01	-.02	.13+		
	Mom Life stress	.25	.14	.15			
	conduct prb (parent)		.57***	.36		.25***	
	inattention (parent)			.27			.03
Model 4	Mom Marital adjust	-.11	-.08	-.07	.11		
	Mom Life stress	.29	.30+	.28			
	conduct prb (teacher)		.30+	.21		.09+	
	child inattn (teacher)			.20			.03

\*\*\*p<.001, \*\*p<.01, \*p<.05, +p<.1

**Table 27**  
**Controlling for Marital Adjustment and Life Stress**  
**Hypothesis 1b & 1c: Regressions: Mother's Dissatisfaction with Parenting Performance,**  
**child hyperactivity with aggression/conduct problems controlled**

		beta step 1	beta step 2	beta step 3	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2	R <sup>2</sup> Change step 3
Model 1	Mom Marital adjust	-.21	-.03	-.03	.13+		
	Mom Life stress	.25	.08	.08			
	agg (parent rating)		.55**	.62*		.23**	
	child hyp (parent)			-.07			.00
Model 2	Mom Marital adjust	-.05	-.06	-.07	.07		
	Mom Life stress	.25	.33+	.32+		.18*	
	agg (teacher rating)		.43*	.38			
	child hyp (teacher)			.08			.00
Model 3	Mom Marital adjust	-.21	.01	.01	.13+		
	Mom Life stress	.25	.14	.15			
	conduct prb (parent)		.57***	.62*		.25***	
	child hyp (parent)			-.06			.00
Model 4	Mom Marital adjust	-.11	-.08	-.10	.11		
	Mom Life stress	.29	.30+	.27			
	conduct prb (teacher)		.30+	.09		.09+	
	child hyp (teacher)			.35+			.08+

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ , + $p < .1$

Fathers when controlling for child agg/CD/ODD- results unchanged. As shown in Table 28 (child inattention) and Table 29 (child hyperactivity; next page), results were similar for fathers.

**Table 28**  
**Controlling for Marital Adjustment and Life Stress**  
**Hypothesis 1b & 1c: Regressions: Father's Dissatisfaction with Parenting Performance,**  
**child inattention with aggression/conduct problems controlled**

		beta step 1	beta step 2	beta step 3	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2	R <sup>2</sup> Change step 3
Model 1	Dad Marital adjust	-.50**	-.36*	-.35*	.28**		
	Dad Life stress	.18	.05	.05			
	agg (parent rating)		.45**	.46*		.17**	
	inattention (parent)			-.01			.00
Model 2	Dad Marital adjust	-.36	-.30	-.28	.20		
	Dad Life stress	.19	.24	.37			
	agg (teacher rating)		.27	.40		.07	
	inattn (teacher)			-.24			.03
Model 3	Dad Marital adjust	-.51**	-.38*	-.36*	.29**		
	Dad Life stress	.17	.03	.03			
	conduct prb (parent)		.49**	.54*		.20**	
	inattention (parent)			-.07			.71
Model 4	Dad Marital adjust	-.43+	-.40+	-.40+	.27*		
	Dad Life stress	.18	.16	.16			
	conduct prb (teacher)		.23	.23		.05	
	child inattn (teacher)			.04			.00

\*\*\*p<.001, \*\*p<.01, \*p<.05, +p<.1

Table 29  
Controlling for Marital Adjustment and Life Stress  
Hypothesis 1b & 1c: Regressions: Father's Dissatisfaction with Parenting Performance,  
child hyperactivity with aggression/conduct problems controlled

		beta step 1	beta step 2	beta step 3	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2	R <sup>2</sup> Change step 3
Model 1	Dad Marital adjust	-.50**	-.36*	-.39*	.28**		
	Dad Life stress	.18	.05	.04			
	agg (parent rating)		.45**	.33		.17**	
	child hyp (parent)			.14			.00
Model 2	Dad Marital adjust	-.36	-.30	-.38	.20		
	Dad Life stress	.19	.24	.16			
	agg (teacher rating)		.27	-.12		.07	
	child hyp (teacher)			.46			.07
Model 3	Dad Marital adjust	-.51**	-.38*	-.39*	.29**		
	Dad Life stress	.17	.03	.03			
	conduct prb (parent)		.49	.41		.20**	
	child hyp (parent)			.09			.00
Model 4	Dad Marital adjust	-.43	-.40*	-.41*	.27*		
	Dad Life stress	.18	.16	.16			
	conduct prb (teacher)		.23	-.07		.05	
	child hyp (teacher)			.37			.05

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ , + $p < .1$

#### Hypothesis 1d - child aggression

Mothers by aggression- results unchanged. Results were unchanged when marital adjustment and life stress were controlled. That is, mother's dissatisfaction with parenting performance was related to child aggression ( $\beta = .55, p < .05$ ) and child conduct problems ( $\beta = .50, p < .05$ ) even when child inattention and hyperactivity were controlled. As found earlier, these results were found only when using parent ratings of child behaviors. Details are shown in Table 30 (next page).

Fathers by aggression- results differed. Unlike earlier findings, when marital adjustment and life stress were controlled, child aggression ( $\beta = .29, n.s.$ ) was not independently related to fathers' dissatisfaction with parenting performance. Child conduct problems was marginally related to fathers' dissatisfaction ( $\beta = .43, p < .1$ ) but only when parent ratings were used. Details are shown in Table 31 (page 118).

[continued next page]

Table 30  
Controlling for Marital Adjustment and Life Stress  
Hypothesis 1b & 1c: Regressions: Mother's Dissatisfaction with Parenting Performance by  
child aggression/conduct problems

		beta step 1	beta step 2	beta step 3	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2	R <sup>2</sup> Change step 3
Model 1	Mom Marital adjust	-.21	-.17	-.10	.13+		
	Mom Life stress	.25	.23	.15			
	child inattn (parent)		.77*	.71*		.26**	
	child hyp (parent)		-.32	-.68*			
	agg (parent rating)			.55*			.08*
Model 2	Mom Marital adjust	-.05	-.04	-.05	.07		
	Mom Life stress	.25	.23	.30			
	child inattn (teacher)		.24	.14		.14	
	child hyp (teacher)		.17	.02			
	agg (teacher rating)			.33			.05
Model 3	Mom Marital adjust	-.21	-.17	-.07	.13+		
	Mom Life stress	.25	.23	.19			
	child inattn (parent)		.77**	.62*		.26**	
	child hyp (parent)		-.32	-.55+			
	conduct prb (parent)			.50*			.08*
Model 4	Mom Marital adjust	-.11	-.10	-.09	.11		
	Mom Life stress	.29	.26	.26			
	child inattn (teacher)		.20	.08		.17+	
	child hyp (teacher)		.36	.32			
	conduct prb (teacher)			.07			.00

\*\*\*p<.001, \*\*p<.01, \*p<.05, +p<.1

**Table 31**  
**Controlling for Marital Adjustment and Life Stress**  
**Hypothesis 1b & 1c: Regressions: Father's Dissatisfaction with Parenting Performance by**  
**child aggression/conduct problems**

		beta step 1	beta step 2	beta step 3	R <sup>2</sup> Change step 1	R <sup>2</sup> Change step 2	R <sup>2</sup> Change step 3
Model 1	Dad Marital adjust	-.50**	-.49**	-.40*	.28**		
	Dad Life stress	.18	.06	.05			
	child inattn (parent)		-.17	-.12		.16*	
	child hyp (parent)		.55+	.27			
	agg (parent rating)			.29			.01
Model 2	Dad Marital adjust	-.36	-.36+	-.36	.20		
	Dad Life stress	.19	.27	.27			
	child inattn (teacher)		-.19	-.25		.16	
	child hyp (teacher)		.43+	.37			
	agg (teacher rating)			.10			.00
Model 3	Dad Marital adjust	-.51**	-.48**	-.38*	.29**		
	Dad Life stress	.17	.07	.04			
	child inattn (parent)		-.14	-.20		.16*	
	child hyp (parent)		.52+	.24			
	conduct prb (parent)			.43+			.05+
Model 4	Dad Marital adjust	-.43*	-.40*	-.40*	.27*		
	Dad Life stress	.18	.17	.17			
	child inattn (teacher)		-.04	-.04		.10	
	child hyp (teacher)		.33+	.38			
	conduct prb (teacher)			-.06			.00

\*\*\*p<.001, \*\*p<.01, \*p<.05, +p<.1

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