

Parenting Stress in Parents of Children with Attention-Deficit Hyperactivity Disorder and Parents of Children with Learning Disabilities

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Parenting a child with ADHD can challenge parenting resources and coping. Increasingly, researchers are examining the relationship between the behavior of the child with ADHD and family functioning. While studies have shown increased parenting stress in parents of children with ADHD, these studies have compared children with ADHD to non-disabled children. This study compares reports of parenting stress among mothers of children with ADHD, mothers of children with learning disabilities and mothers of non-referred children. Results showed that parenting stress was highest for mothers of children with ADHD. Increased parenting stress was associated with child characteristics and, in particular, with externalizing behavior problems.

KEY WORDS: parenting stress; Attention-Deficit Hyperactivity Disorder; learning disabilities; child behavior problems.

Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most common childhood psychiatric disorders in this country. The disorder is characterized by developmentally inappropriate levels of impulsivity, overactivity, and distractibility affecting approximately 3% of the school age population (American Psychiatric Association, 1987). The behavior of a child who is impulsive, inattentive, and overactive is often difficult to manage and has been associated with increased parent-child conflicts (Buhrmester, Camparo, Christensen, Gonzalez, & Hinshaw, 1992; Cunning-

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ham, Benness, & Siegel, 1987). The impact that children with ADHD have on parent functioning has been a source of considerable research interest. One topic that has received increased attention is parenting stress (Baker, *in press*; Fischer, 1990; Mash & Johnston, 1990).

Numerous investigators have found that parenting stress is higher among parents of children with ADHD than parents of children without a handicapping condition (Breen & Barkley, 1988; Mash & Johnston, 1983). There is widespread agreement that child characteristics account for the greatest amount of variance in parenting stress in parents of children with ADHD. In particular, parents of children with ADHD report that externalizing behavior problems such as aggression, hyperactivity, and impulsivity contribute most to parenting stress (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992; Fischer, 1990; Mash & Johnston, 1990). However, it is unclear if the stress experienced by parents of children with ADHD is unique to ADHD or whether increased parenting stress is an associated feature of caring for any child with a handicapping condition.

Studies of parenting stress in families of children with ADHD have relied on comparisons between children with ADHD and children free of any handicapping condition. One study (Breen & Barkley, 1988) included comparisons of parenting stress among parents of hyperactive boys, hyperactive girls, clinic-referred girls, and non-referred girls. The primary purpose of the study was to compare reports of parenting stress between parents of hyperactive boys and hyperactive girls. It was found that such reports did not differ. In addition, parents of hyperactive girls reported significantly more parenting stress than parents of non-referred girls. Levels of parenting stress were similar for parents of hyperactive and clinic-referred girls. However, the girls in the clinic-referred group presented with a variety of psychiatric disorders making it difficult to compare levels of parenting stress among distinct diagnostic groups. Given this situation, the purpose of the present study is to compare reports of parenting stress among different diagnostic groups. This study compares reports of parenting stress and child behavior problems among mothers of children with ADHD, mothers of children with learning disabilities, and mothers of children without any handicapping condition.

METHOD

Subjects

Subjects included 16 mothers with a school age child with a primary DSM-III-R (American Psychiatric Association, 1987) diagnosis of ADHD,

16 mothers of children with a diagnosed learning disability (LD), and 16 mothers of non-referred children who exhibited no emotional, behavioral, or learning disabilities. Subjects in the ADHD group were recruited from participants in a university based parent training program for parents of children with ADHD. Data from mothers of children in the LD group was obtained from the records of a university based child assessment clinic specializing in the assessment of learning disabilities. Mothers of non-referred children were recruited from undergraduate psychology courses.

Inclusion in the ADHD group required a primary DSM-III-R diagnosis of ADHD. Participants were parents from the local community. Announcements of the parent training program were placed in a local newspaper and mailed to ADHD parent support group leaders in the local area. Intake interviews were conducted with each family to confirm the diagnosis of ADHD. Parents were asked to provide copies of evaluation reports and these were reviewed during the intake interview to confirm that the child met the diagnostic criteria for ADHD. To control for comorbid learning disabilities, parents who indicated that their child was receiving special education services for learning problems were excluded from the study. However, they were not excluded from participating in the parent training program. As a final check, only those children who received a score equal to or greater than 1.5 standard deviations above the mean for the same age and gender on the Hyperactivity Index of the Conners Parent Rating Scale-Revised (CPRS-R; Goyette, Conners, & Ulrich, 1978) were included in the ADHD group. For the ADHD group, the mean T-score for the Hyperactivity Index was 72.75 with a standard deviation of 7.02.

Inclusion in the LD group was based on the identification of a significant deficit in reading or language achievement as determined by a comprehensive psychoeducational assessment and the absence of any observed or evaluated attentional problems. A significant reading or language deficit was defined as a standardized score on either the Total Reading Score of the Woodcock Reading Mastery Test-Revised (Woodcock, 1988) or the Total Language Score of the Clinical Evaluation of Language Fundamentals-Revised (CELF-R; Semel, Wiig, & Secord, 1987) that was at least one standard deviation below a corresponding Full Scale IQ score on the Wechsler Intelligence Scale for Children-Revised (WISC-R; Wechsler, 1974). Scores on the CELF-R had a mean of 80.50 ($sd = 8.63$), for the Woodcock Reading mastery Test-Revised the mean was 82.25 ($sd = 4.50$), and for the WISC-R the mean Full Scale IQ score was 107 ($sd = 11.60$). Using this method, eight children showed a significant deficit in reading, six a significant deficit in language skills, and two children demonstrated significant deficits in both areas.

In the non-referred group, subjects included mothers who indicated that they had a school age child who was free from any handicapping condition and was not receiving treatment for any type of learning, behavioral or emotional problem. As a further check, only those children who scored in the non-clinical range on both the Internalizing and Externalizing scales on the Child Behavior Checklist (CBCL; Achenbach, & Edelbrock, 1983) were included in the non-referred group.

There were 13 boys and 3 girls in the ADHD group, 12 boys and 4 girls in the LD group, and 11 boys and 5 girls in the non-referred group. Analysis of variance procedures revealed no significant gender differences on any of the dependent measures. Eighty-one percent of children with ADHD lived with their natural parents compared to 62% of the LD group and 38% of the non-referred group. In the ADHD group, 11 children (69%) were receiving stimulant medication, and two children (12%) were receiving antidepressant medication. Subjects in the ADHD, LD and non-referred groups were predominantly white (88%, 88%, and 94% respectively) and best described as middle class based on Hollingshead's Four Factor Index of Social Status (Hollingshead, 1975). Additional characteristics of the sample are included in Table 1.

Procedures

Mothers of children in the ADHD group completed all measures as part of an ongoing research program on parent training for ADHD (for a description see Baker, in press). Files were selected from a list of 26 consecutive referrals over a nine-month period. Of these, 16 met the criteria for inclusion in the study. To control for treatment effects, all measures were completed prior to participation in the parent training program. Mothers of children in the LD group completed all measures as part of an intake process prior to their children receiving a comprehensive psychoeducational evaluation. All children received a standard psychoeducational battery that included tests of intellectual, academic, and visual-motor ability. Consecutive referrals over a nine-month period were reviewed until 16 useable files were obtained. Mothers of children in the non-referred group were recruited from an undergraduate research pool. Subjects were recruited over a four-month period until 16 useable files were obtained. Mothers in this group completed the measures during one 90-minute session and received course credit for their participation.

Table 1. Demographic Characteristics

Variable	Group 1 ADHD (N = 16)		Group 2 LD (N = 16)		Group 3 Non-referred (N = 16)		F
	M	SD	M	SD	M	SD	
Child's age (years)	8.81	1.83	7.81	1.04	8.81	1.60	NS
Child's grade (year)	3.60	1.71	2.50	1.09	3.31	1.74	NS
Mother's age (years)	38.75	5.55	35.68	5.52	33.75	6.80	NS
Mother's education (years)	15.50	1.59	13.93	3.04	14.18	1.42	NS
Father's age (years)	41.12	6.18	37.80	6.73	35.41	5.41	NS
Father's education (years)	14.05	2.51	14.93	2.81	14.25	2.17	NS
SES ^a	46.50	7.95	43.68	13.94	44.37	8.22	NS
Number of children (in the home)	2.81	1.04	2.25	0.77	2.07	0.91	NS

^aCalculated using Hollingshead's Four Factor Index of Social Status (Hollingshead, 1974).

Dependent measures

Child Behavior Checklist

The CBCL (Achenbach, & Edelbrock, 1983) is a well-researched and popular parent completed behavior rating scale for parents of children 4 to 16 years of age. There are 113 items that provide standard scores on empirically derived scales that are based on the child's age and gender. In addition, second order factor analyses have yielded two broad band factors of Internalizing and Externalizing behavior problems. Since these broad band factors can be compared across age and gender groups and are more robust than the individual scales, they were retained for use in subsequent analyses.

Parenting Stress Index-Form 6

The Parenting Stress Index (PSI; Abidin, 1986) is a 101 item parent completed measure of parenting stress yielding a measure of parenting stress due to child characteristics (Child Domain) and parent characteristics (Parent Domain). The items that make up the scales of the Child Domain were designed to assess the impact that certain child characteristics have on parents by measuring parental perceptions and appraisals of these characteristics. Child characteristics and parental appraisals of them are provided by the following scales that make up the Child Domain: Adaptability, Acceptance, Demandingness, Mood, Distractibility/Hyperactivity, and Reinforces Parent. In contrast to the Child Domain, which examines the contribution of child characteristics to parenting stress, the Parent Domain is comprised of scales that measure specific parent characteristics and family context variables which have been found to impact parenting. These parent characteristics and family context variables are represented by the following scales of the Parent Domain: Depression, Attachment, Restriction of Role, Sense of Competence, Social Isolation, Relationship with Spouse, and Health. The PSI has demonstrated adequate reliability and validity and is suited for use with a variety of populations (Abidin, 1986). It is also one of the most frequently utilized measures of parenting stress in studies of families of children with ADHD (Fischer, 1990).

RESULTS

To compare group differences on the dependent measures, a series of one-way multivariate analysis of variance (MANOVAs) were performed.

Significant effects were investigated using one-way analyses of variance (ANOVAs) with post-hoc analyses conducted using Scheffe's method (Keppel, 1982). A summary of these analyses is presented in Table 2.

Behavioral Reports

A one-way MANOVA examined group differences (ADHD, LD, non-referred) on the Internalizing and Externalizing scales of the CBCL. There were main effects for group on both scales. Mothers of children with ADHD reported significantly more internalizing child behavior problems than mothers of children in the non-referred group. Mothers of children with ADHD also reported significantly more externalizing child behavior problems than mothers of children in the LD and non-referred groups. In addition, mothers of children in the LD group reported significantly more externalizing child behavior problems than mothers in the non-referred group.

Parenting Stress

In the first analysis, the Child Domain and Parent Domain scores of the PSI served as dependent variables with group membership (ADHD, LD, non-referred) as the independent variable. There was a main group effect for the Child Domain score. ANOVA and post-hoc analysis revealed that mothers of children with ADHD reported significantly more parenting stress attributable to child characteristics than mothers of children with learning disabilities or mothers of non-referred children. Mothers of children in the LD group reported significantly more parenting stress related to child characteristics than did mothers of children in the non-referred group. There were not any significant differences among the groups on the Parent Domain. That is, parent characteristics and family context variables were not significantly different among the groups.

A second MANOVA was conducted using the subscales of the PSI Child Domain (Adaptability, Acceptability, Demandingness, Mood, Distractibility/hyperactivity, and Reinforces parent) as the dependent variables and group membership as the independent variable. Significant group effects were noted for the variables of Adaptability, Demandingness, Mood, and Distractibility/hyperactivity. Children with ADHD were described as significantly more demanding, moody, and less adaptable than children in the other groups. Mothers of children with ADHD reported significantly more parenting stress due to their child's distractibility and hyperactivity than did mothers of children in the LD and non-referred groups. However,

Table 2. MANOVA Results

Variable	Group 1 ADHD (N = 16)		Group 2 LD (N = 16)		Group 3 Non-referred (N = 16)		F	Group Comparisons
	M	SD	M	SD	M	SD		
Child Behavior Checklist								
Internalizing	62.87	8.84	57.62	6.40	53.70	7.10	6.04*	1=2; 1>3; 2=3
Externalizing	67.20	7.30	60.18	5.24	53.50	5.64	19.86*	1>2; 1>3; 2>3
Parenting Stress Index								
Parent Domain	132.37	23.64	118.62	19.52	111.81	26.90	3.17	
Child Domain	140.12	20.06	116.00	16.74	96.10	26.85	16.65*	1>2; 1>3; 2>3
Adaptability	33.60	6.20	27.31	6.61	23.62	8.00	8.30*	1>2; 1>3; 2=3
Acceptability	17.80	5.70	16.43	3.80	13.92	4.43	2.72	
Demandingness	26.70	6.30	20.50	3.01	18.81	6.20	9.48*	1>2; 1>3; 2=3
Mood	15.62	4.52	12.00	2.60	10.00	3.24	10.35*	1>2; 1>3; 2=3
Distractibility/Hyperactivity	33.50	5.30	28.10	5.54	20.06	4.77	26.88*	1>2; 1>3; 2>3
Reinforces Parent	13.43	5.07	10.43	3.63	9.90	4.01	3.20	

* $p < .001$.

mothers in the LD group reported significantly more parenting stress due to distractibility and hyperactivity than mothers in the non-referred group.

DISCUSSION

This study compared reports of parenting stress and child behavior problems among mothers of children with ADHD, mothers of children with learning disabilities, and mothers of non-referred children. Mothers of children with ADHD rated their children as displaying significantly more internalizing and externalizing behavior problems than mothers of non-referred children. In addition, mothers of children in the ADHD group indicated that their children had significantly more externalizing behavior problems than the LD group. However, mothers of children in the LD group reported significantly more externalizing behavior problems than the non-referred group.

Reports of parenting stress showed that mothers of children with ADHD experience significantly higher parenting stress due to child characteristics than mothers of children with learning disabilities and mothers of non-referred children. Mothers of children in the LD group reported significantly more parenting stress attributable to child characteristics than mothers of non-referred children.

Parenting stress attributable to parent characteristics and family context variables were not significantly different among the groups, a finding that is in contrast to earlier studies. Mash and Johnson (1983) found that parental characteristics such as depression, attachment to child, role restriction, sense of parenting competence, social isolation and self-blame were significantly higher in mothers of children with ADHD as compared to mothers of non-disabled children. Similar findings were reported by Breen and Barkley (1988) in their study of parenting stress in parents of girls with ADHD. The finding in our study that there were no differences among groups on parent characteristics may be a reflection of measurement differences or subject selection.

In terms of measurement issues, it is important to point out that in the Mash and Johnson (1983) study an earlier version of the PSI was utilized. Breen and Barkley (1988) reported using Form 6 of the PSI, however, they provide data on a scale in the Parent Domain which is not contained in Form 6. In addition, it does not appear that raw scores were used in the analysis of the PSI domains and subscales and the authors do not describe what type of scaling was used for the analysis of the PSI data. Thus, results of their analysis of the Parent Domain subscales are difficult to interpret.

It may also be the case that the mothers in our study were not as distressed as mothers who participated in the previous studies. In the Breen and Barkley study (1988), the sample of children with ADHD was obtained from a clinic population and, in the Mash and Johnston study (1983), children with ADHD were referred by physicians and mental health professionals. The mothers of these children may have experienced more severe problems with their children with ADHD resulting in greater need of professional services. The mothers of children with ADHD in the present study were essentially self-referred and not recruited from a clinic setting or from other health care professionals.

In terms of specific child characteristics, mothers of children with ADHD reported their children to be significantly more demanding, moody, and less adaptable than mothers of children in the LD and non-referred groups. Parenting stress associated with hyperactivity and distractibility was highest among the mothers of children with ADHD. It was also significantly higher in mothers of children with LD as compared to mothers of non-referred children. As has been reported previously (Anastopoulos et al., 1992; Fischer, 1990; Mash & Johnston, 1990) externalizing behavior problems including hyperactivity and distractibility are chief sources of increased parenting stress for parents of children with ADHD.

Few studies have examined levels of parenting stress in parents of children with ADHD as compared to other clinic populations. The results of this study suggest that parenting stress is significantly higher in parents of children with ADHD as compared to parents of children with LD. These results are in contrast to the findings in the Breen and Barkley (1988) study which compared reports of parenting stress between girls with ADHD and a mixed clinic-referred group of girls. They found no differences in parenting stress between the two groups on any of the scales of the PSI. The girls that were included in the clinic-referred group presented with a variety of psychiatric disorders with a high incidence of externalizing behavior problems. The clinical sample in our study was comprised of children with language based learning disabilities who did not present with significant externalizing behavior problems.

It seems fair to conclude that externalizing child problem behaviors, particularly those related to hyperactivity and aggression, are a major contributor to parenting stress. Thus, it is not surprising that parenting stress would be higher in an ADHD sample because these behaviors are common to ADHD. However, it would be prudent to consider the potential for increased parenting stress in any family where a child presents with symptoms of externalizing behavior problems.

A number of limitations in the present study are important to recognize. For the purpose of the study, parenting stress was defined in terms

of parent and child characteristics as they related to the parenting process. Consideration of other factors that could be contributors to parenting stress, such as life events and environmental stressors, would have made the study more robust. In addition, the fact that the measure of parenting stress and child behavior problems tap similar dimensions and were both parent completed limits the generalizability of the findings. An independent appraisal of child behavior and parent-child interaction would add to the validity of the findings of a strong relationship between externalizing child behavior problems and parenting stress.

Subjects in the ADHD group were recruited from parents waiting to participate in a parent training program. This group may have been more aware of the problems associated with ADHD and more willing to seek treatment. In any case, this may have increased the risk of sampling bias. Children in the LD group were identified using a discrepancy formula which some have criticized as not being an accurate means of identifying children with true learning disabilities (Fletcher, 1992). In addition, within the group of children with LD there were those who exhibited significant reading deficits and others whose primary deficits were in language skills. Given these considerations, it would not be appropriate to generalize these findings to all groups of children with LD and their parents.

Mothers were used as the primary informants because they most often brought their children in for services. More efforts to recruit and include fathers in the research design would have added important information on family functioning and should be addressed in future research. Finally, sample sizes were relatively small. Future research that utilizes larger sample sizes and examines other groups of clinic referred children can provide more information on the relationship between child behavior problems and parenting stress.

REFERENCES

- Achenbach, T. M., & Edelbrock, C. (1983). *Manual for the child behavior checklist and revised child behavior profile*. Burlington, VT: Thomas Achenbach.
- Abidin, R. R. (1986). *Parenting stress index*. Charlottesville, VA: Pediatric Psychology Press.
- American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders* (3rd Ed.). Washington, DC: Author.
- Anastopoulas, A. D., Guevremont, D. C., Shelton, T. L., & DuPaul, G. J. (1992). Parenting stress among families of children with Attention Deficit Hyperactivity Disorder. *Journal of Abnormal Child Psychology*, 20, 503-520.
- Baker, D. B. (in press). *Parent training for ADHD*. Monographs of the Attention Deficit Disorder Association.
- Breen, M. J., & Barkley, R. A. (1988). Child psychopathology and parenting stress in girls and boys having attention deficit disorder with hyperactivity. *Journal of Pediatric Psychology*, 13, 265-280.

- Buhrmester, D., Camparo, L., Christensen, A., Gonzales, L. S., & Hinshaw, S. P. (1992). Mothers and fathers interacting in dyads and triads with normal and hyperactive sons. *Developmental Psychology, 28*, 500-509.
- Cunningham, C. E., Bennes, B. B., & Seigel, L. S. (1988). Family functioning, time allocation, and parental depression in the families of normal and ADHD children. *Journal of Clinical Child Psychology, 17*, 169-177.
- Fischer, M. (1990). Parenting Stress and the ADHD child. *Journal of Clinical Child Psychology, 19*, 337-346.
- Fletcher, J. M. (1992). The validity of distinguishing children with language and learning disabilities according to discrepancies with IQ: Introduction to the special series. *Journal of Learning Disabilities, 25*, 546-548.
- Goyette, C. H., Conners, C. K., & Ulrich, R. F. (1978). Normative data on the Revised Conners Parent and Teacher Rating Scales. *Journal of Abnormal Child Psychology, 6*, 221-236.
- Hollingshead, A. B. (1975). *Four factor index of social status*. New Haven, CT: Yale University.
- Keppel, G. (1982). *Design and analysis*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Mash, E. J., & Johnston, C. (1983). Parental perceptions of child behavior problems, parenting self-esteem, and mothers' reported stress in younger and older hyperactive and normal children. *Journal of Consulting and Clinical Psychology, 51*, 86-99.
- Mash, E. J., & Johnston, C. (1990). Determinants of parenting stress: Illustrations from families of hyperactive children and families of physically abused children. *Journal of Clinical Child Psychology, 19*, 313-328.
- Semel, E. M., Wiig, E. H., & Secord, W. (1987). *Clinical evaluation of language fundamentals—revised: Examiner's manual*. San Antonio, TX: Psychological Corporation.
- Wechsler, D. (1974). *Wechsler Intelligence Scale for Children—Revised*. San Antonio, TX: Psychological Corporation.
- Woodcock, R. W. (1988). *Woodcock Reading Mastery Tests—Revised: Manual*. Circle Pines, MN: American Guidance Service.