

## Parenting Disruptive Preschoolers: Experiences of Mothers and Fathers

Esther J. Calzada,<sup>1</sup> Sheila M. Eyberg,<sup>2,3</sup> Brendan Rich,<sup>2</sup> and Jane G. Querido<sup>2</sup>

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This study examined parental functioning and interactions with young children with Oppositional Defiant Disorder (ODD), with emphasis on differences between mothers and fathers in their responses to their child and in their unique contributions to the prediction of child disruptive behavior. Participants were 53 3- to 6-year olds with ODD who presented for treatment with two parents. Mothers reported more severe disruptive behavior and higher parenting stress than fathers. During parent–child interactions, mothers showed more responsiveness than fathers, even though children were more compliant during interactions with fathers. Regression analyses showed that fathers' parent-related stress was predictive of both mothers' and father's reports of disruptive child behavior; mothers' marital satisfaction was predictive of behavioral observations of child compliance with both mothers and fathers. This study revealed several important differences in the experiences of mothers versus fathers of disruptive children and indicates the importance of including the father in the child's assessment and treatment.

**KEY WORDS:** preschoolers; disruptive behavior; fathers; parenting stress; marital satisfaction; parent–child interaction.

Disruptive behavior refers to a cluster of externalizing behaviors that includes noncompliance, aggression, and destructive behaviors and is the most common reason for referral of young children to mental health services (Offord, Boyle, & Racine, 1991). Without treatment, disruptive behavior shows a high degree of stability over time for some children, especially those living in more dysfunctional families (Campbell, 1995; Campbell & Ewing, 1990; DeKlyen, Biernbaum, Speltz, & Greenberg, 1998; Lahey et al., 1995), and tends to worsen with time (McMahon & Estes 1998; Olweus, 1979).

Disruptive behavior originates from multiple interacting biological, environmental, and family factors. Significant parent factors include depression (Querido, Eyberg, & Boggs, 2001; Webster-Stratton & Hammond,

1990), marital distress (Bearss & Eyberg, 1998; Webster-Stratton, 1988), and parenting stress (Eyberg, Boggs, & Rodriguez, 1992; Mouton & Tuma, 1988). These parent factors are thought to influence child behavior through their effects on parenting (Patterson, Reid, & Dishion, 1992; Tolan, Guerra, & Kendall, 1995). Parents' interactions with their young children are the most proximal influence on their children's behavioral development (Campbell, 1997), and parenting practices continue to play a critical role in the maintenance of disruptive behavior throughout children's development (McMahon & Estes, 1998).

Despite numerous studies examining factors associated with children's disruptive behavior, fathers have been largely neglected in the developmental psychopathology literature (Phares, 1992). In their extensive review, Phares and Compas (1992) found that only 26% of studies of child and adolescent psychopathology included both mothers and fathers and provided separate analyses for each parent. The data that do exist suggest that fathers make significant contributions to children's normal development in much the same way that mothers do (Lamb, Pleck, & Levine, 1985; Parke et al., 1989) and that there is a

<sup>1</sup>Department of Clinical and Health Psychology, University of Florida, Gainesville, Florida; currently at Child Study Center, New York University School of Medicine, New York.

<sup>2</sup>Department of Clinical and Health Psychology, University of Florida, Gainesville, Florida.

<sup>3</sup>Address all correspondence to Sheila M. Eyberg, Box 100165, Department of Clinical and Health Psychology, University of Florida, Gainesville, Florida 32611; e-mail: seyberg@php.ufl.edu.

substantial association between paternal factors and child and adolescent adjustment (Phares & Compas, 1992).

Few studies have examined the separate and unique influences of mothers and fathers on the adjustment of disruptive children, although there is some evidence that paternal variables of parenting significantly predict child disruptive behavior even after accounting for the same maternal variables (DeKlyen et al., 1998). Nor is it clear from past studies what the respective experiences of mothers and fathers are and the extent to which these may differ. Using a community sample of mothers and fathers of preschool children, McBride and Mills (1993) assessed determinants of paternal involvement in childrearing and found that fathers were more likely to be involved with their children in families with high marital satisfaction and with employed mothers. Fathers were significantly less involved in childrearing than mothers, particularly in non-play activities, and viewed themselves as more involved than their wives viewed them. In a clinic-referred sample of preschool boys with disruptive behavior, Stormshak, Speltz, Deklyen, and Greenberg (1997) found that children were more oriented toward and interactive with their mothers than their fathers and that compared with mother-child interactions, father-child interactions were characterized by more negative and fewer positive child behaviors.

Baker and Heller (1996) described the experiences of mothers and fathers as a function of severity of child disruptive behavior in a community sample of preschool children. They found that parents of children with moderate and high levels of disruptive behavior experienced more child-related stress and a lower sense of parenting efficacy than parents of nondisruptive children. The parents of children with more disruptive behavior were also more authoritarian and indifferent in their parenting. Parents in their study did not differ, however, in their personal (i.e., depression) and marital adjustment as a function of child disruptive behavior severity.

Comparing mothers and fathers in their sample, Baker and Heller (1996) found self-reported differences in childrearing practices. Fathers reported their parenting practices as less indulgent, more authoritarian, and more indifferent than did mothers. Mothers and fathers both reported more concern by the mother about child problems and more perceived need by the mother to seek help in managing their children's behavior. Mothers also reported a greater negative impact of child problems on their lives, more negative feelings about parenting, and more daily hassles than did fathers. Finally, Baker and Heller found significant interactions indicating that in families of children with subclinical disruptive behavior, mothers experienced more child- and parent-related stress than fathers, but in families of children with clinically significant

disruptive behavior, fathers experienced more child- and parent-related stress.

Baker and Heller's (1996) study provides evidence of some important differences between mothers and fathers of disruptive children, particularly as related to childrearing practices and parenting stress in a nonreferred population. The experience of a nonreferred sample is important because it permits study of families whose diagnoses and need for treatment are more uncertain (Baker & Heller, 1996). The extent to which the findings can be generalized to a clinic population remains largely unexplored. From the evidence to date, it seems likely that differences in the experiences of mothers and fathers of children with clinically significant disruptive behavior exist and, once elucidated, can be addressed in treatment, thereby increasing the likelihood of providing a more comprehensive and relevant treatment for these families.

The purpose of this study was to extend Baker and Heller's work (Baker & Heller, 1996) to a clinical sample of children and their parents. First, we examined the maternal and paternal factors associated with higher levels of parent-reported disruptive behavior. On the basis of earlier studies, we expected that parent ratings of more severe disruptive behavior would be associated with more parent- and child-related stress (Eyberg et al., 1992). Second, we examined differences between the mothers and fathers in their reports of the severity of child disruptive behavior and their own psychological functioning. We hypothesized that the mothers in this clinic sample would report more severe disruptive behavior (Arnold & O'Leary, 1997; Eisenstadt, McElreath, Eyberg, & McNeil, 1994) and higher levels of parenting stress and depression (Mahoney, Jouriles, & Scavone, 1997) than fathers, but that mothers and fathers would not differ in their reports of marital satisfaction (Bearss & Eyberg, 1998; Webster-Stratton, 1988). In models examining mother and father variables simultaneously, we predicted that mothers and fathers would make unique contributions to the prediction of disruptive child behavior.

Another important aim of this study was to explore maternal and paternal differences in observed behavior during parent-child interactions. Few studies have included behavioral observations of fathers interacting with their disruptive children (but see Stormshak et al., 1997), and the inclusion of these data allowed for an examination of actual, rather than self-reported, parenting behavior in these dyads.

Finally, the high levels of comorbidity in our sample allowed us to explore differences in the experiences of parents according to a second index of severity by comparing parents of children with a single diagnosis of ODD or Conduct Disorder (CD) versus a comorbid diagnosis of

ODD or CD plus Attention Deficit Hyperactivity Disorder (ADHD). In exploring differences in the experiences of parents of children with single versus multiple diagnoses, we first checked our assumption that children with multiple diagnoses would show less compliance during interactions with their parents and would be perceived by their parents as showing more frequent disruptive behaviors. We expected that the children with multiple diagnoses would, consequently, have parents who experienced more personal and parenting distress than children with a single diagnosis.

## METHOD

### Participants

Fifty-three children and families participated in the study. Participants were drawn from a sample of 97 clinic-referred families enrolled in a larger treatment study of 3- through 6-year-old children with ODD (Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998). Children from the larger sample were included in the present study if they lived with two parents ( $n = 64$ ; 68% of sample) who both participated in the pretreatment assessment ( $n = 53$ ; 51% of sample). There were no differences in child behavior problems between families who were included in this study and those who were not as measured by symptoms of ODD,  $F(1, 92) = 2.01, p = .16$ ; ADHD,  $F(1, 92) = .47, p = .50$ ; and CD,  $F(1, 92) = 1.16, p = .29$ . It is not known whether fathers in two-parent families who participate or do not participate in their children's treatment differ in other important ways (Bagner & Eyberg, 2003), but caution should be used in generalizing results to families with uninvolved fathers.

All children in this study met diagnostic criteria for ODD according to the DSM-III-R Structured Interview for Disruptive Behavior Disorders module for ODD (McNeil, Eyberg, Eisenstadt, Newcomb, & Funderburk, 1991), although 11 of these children met diagnostic criteria for CD (21%). Because the children's ODD diagnoses were based on the DSM-III-R rather than the current DSM-IV, the children were required to have 5 rather than 4 of the criterion symptoms of ODD for inclusion and may thus have been somewhat more severely oppositional than a sample of currently diagnosed children. In addition, a majority ( $n = 41$ ; 77%) of the children also met criteria for comorbid ADHD.

Children with a history of severe sensory or neurological impairments (e.g., deafness, blindness, autism), or those with standard score equivalents below 70 on the Peabody Picture Vocabulary Test—Revised (Dunn &

Dunn, 1981), were not included in the study. The inclusion criteria also required parents to have an IQ equivalent score on the Wonderlic Personnel Test (Dodrill, 1981) of 70 or higher.

Among the 53 families, the maternal primary caregivers included 49 biological mothers, one adoptive mother, one grandmother, one aunt, and one foster mother with whom the child had lived for 6 months. There were 40 biological fathers, 10 stepfathers, one adoptive father, one grandfather, and one foster father. Analyses of parents' ratings of behavior problem severity showed no differences between biological and other mothers using the Welch statistic,  $t(4.3) = .19, p = .86$ , or between biological and other fathers,  $t(17) = -.16, p = .87$ . The mean age of the children in the sample was 4.49 ( $SD = 1.09$ ), and 83% were boys. The racial/ethnic distribution was 77% Caucasian, 17% African American, and 6% other. The mean score on the Hollingshead Index of Social Position (Hollingshead, 1975) was 36.1 ( $SD = 13.4$ ).

### Measures

#### *DSM-III-R Structured Interview for Disruptive Behavior Disorders*

The DSM-III-R Structured Interview (McNeil et al., 1991) was designed to determine whether a child meets DSM-III-R criteria for ODD, ADHD, and/or CD. Parents were asked to describe the duration and frequency of each of the symptoms categorized under these disorders and then to report if, compared to other children the same age, their child currently displays the symptom rarely, occasionally, pretty often, or very often (Campbell, Ewing, Breaux, & Szumowski, 1986). A symptom was rated as present if the parent reported it occurred pretty often or very often. In this study, diagnoses of ODD and CD were defined as in the DSM-III-R. In the larger sample, prevalence of specific CD symptoms were: destroying others' property (80%), physical cruelty to people (54%), using weapons such as rocks, baseball bats, and knives to harm others (54%), stealing without confronting a victim (46%), starting serious fights in which someone was or could have been hurt (43%), persistent lying (41%), and cruelty to animals (38%; Brinkmeyer, McDiarmid, & Eyberg, 2004). CD symptoms that occur only with the child's siblings do not count.

For ADHD, Barkley's suggested criteria (Barkley, 1990) for diagnosing ADHD in preschoolers was used. That is, the children were required to have manifested 10 (instead of 8) of the 14 DSM-III-R ADHD symptoms for at least 12 (instead of 6) months. Interrater reliability for the DSM-III-R Structured Interview was assessed

by comparing the interview data collected by the assessor with the data collected by a trained undergraduate research assistant who independently observed videotapes of the diagnostic interviews. In the larger study from which participants for this study were drawn, percent agreement reliability was .99 for specific symptoms, .99 for duration of symptoms, and 1.0 for the presence versus absence of each of the disorders.

#### *Eyberg Child Behavior Inventory (ECBI)*

The ECBI (Eyberg & Pincus, 1999) is a 36-item parent-report measure of disruptive behavior that assesses behavior on two scales. The Intensity Scale of the ECBI measures the frequency with which the behaviors occur, similar to most child behavior rating scales. The Problem Scale measures the number of behaviors that parents report to be problems for them, which correlates highly with independent measures of parent tolerance (Brestan, Eyberg, Algina, Johnson, & Boggs, 2003). Both the Intensity and Problem Scales have demonstrated internal consistency, interparent agreement, and discriminative validity. Clinical cutoff scores of 132 and 15, respectively, have been developed (Colvin, Eyberg, & Adams, 1999).

#### *Parenting Stress Index (PSI)*

The PSI (Abidin, 1995) is a 101-item measure consisting of 13 subscales grouped into a Child Domain and a Parent Domain. The Child Domain assesses behavior problems that lead to frustration in trying to develop a relationship with a child and includes six subscales labeled Child Adaptability, Acceptability of Child, Child Demandingness, Child Mood, Child Distractibility, and Reinforces Parent. The Parent Domain reflects sources of stress in the parenting role that emanate from the parent and includes seven subscales labeled Depression, Parental Attachment, Restriction of Role, Social Isolation, Health, Relationship with Spouse, and Sense of Competence. Abidin (1995) has documented the reliability and validity of the domain scores and has established cut-off scores for clinical significance (Parent Domain: 151; Child Domain: 122).

#### *Beck Depression Inventory (BDI)*

The BDI (Beck, 1972) is a 21-item self-report measure of adult depressive symptomatology. Severity of depression can be determined based on BDI scores and categorized into not depressed (<10), mildly depressed (10–18), moderately depressed (19–29), and severely de-

pressed (>30). Adequate reliability and validity of the BDI have been shown in previous studies (Beck, Steer, & Garbin 1988).

#### *Dyadic Adjustment Scale (DAS)*

The DAS (Spanier, 1976) is a 32-item rating scale designed to measure the quality of adjustment between marital or other partners in a dyadic relationship. Respondents indicate the extent to which they agree or disagree with their partners on some items, and they rate how often they engage in various activities with their partners on other items. The DAS yields a total adjustment score. Research generally supports the reliability and discriminative validity of the DAS (Budd & Heilman, 1992). A score below 107 is used to classify couples as maritally dissatisfied.

#### *Dyadic Parent–Child Interaction Coding System-II (DPICS-II)*

The DPICS-II (Eyberg, Bessmer, Newcomb, Edwards, & Robinson, 1994) is a behavioral observation coding system designed to assess the quality of parent–child social interactions. It includes 26 parent and 25 child behavior categories from which researchers can select the relevant categories for their study question. The selected categories are coded during three standard 5-min situations that are ordered from least to most parent control required. Observation coding is continuous and results in a record of the frequency of occurrence of each selected category during each situation. Graduate student coders were trained to 80% agreement with a criterion tape prior to coding tapes of the family interactions used in this study. Coder training followed procedures outlined in the coder training manual (Eyberg, Edwards, Bessmer, & Litwins, 1994) and involved weekly meetings and 3 hrs of weekly homework/practice for approximately 12 weeks. Discriminative validity and adequate interrater reliabilities have been reported for the categories of the DPICS-II (Bessmer, Brestan, & Eyberg, 2003; Brestan, Foote, & Eyberg, 2003). Kappas for child categories used in the present study ranged from .56 (no opportunity to comply) to .70 (comply). For parent behavior categories, kappas ranged from .53 (behavior description) to .76 (positive touch). The DPICS coders were uninformed as to the hypotheses of this study.

#### **Procedure**

As part of the larger treatment study, families were screened for inclusion during the first of two clinic

intake assessment visits. In the first visit, families completed a demographic questionnaire and were administered the DSM-III-R Structured Interview and the cognitive screening measures. Families who did not meet study criteria were given feedback on their child's behavior, and appropriate recommendations or referrals were made. Families that met inclusion criteria completed additional study measures. During both intake assessment visits, each parent participated in parent-child interaction observations and completed questionnaires of child behavior and parent functioning. All families gave informed consent for participation in the research and were paid \$50 for the two-visit assessment.

During administration of the DPICS-II, both parents were observed interacting with their child in the three 5-min dyadic situations—child-directed play, parent-directed play, and clean up. The order in which the mother versus father was observed on each assessment visit was randomly determined during the first visit and was reversed for the family during the second visit. Each parent's observation data were combined across the three situations and the two assessment visits. Each parent contributed a total of 30 min of observation data with their child.

Four DPICS-II composite variables, comprised of 13 parent and child behavior categories, were used in this study. The parent variables included (a) *Demandingness*, defined as the total number of parent commands, and (b) *Responsiveness*, defined as the total number of positive parent behaviors used to follow the child's lead, which included positive verbalizations (Acknowledgment, Answer, Behavioral Description, Praise, and Reflection) and Positive Touch.

Two child composite variables were used to measure child compliance as an index of disruptive behavior severity with each parent. *Compliance* is defined as the initiation of the requested behavior within 5 sec of command completion (Wruble, Sheeber, Sorensen, Boggs, & Eyberg, 1991). Within DPICS-II, a child's response to a command is coded as comply, noncomply, or no opportunity to comply (NOC). *NOCs* occur in several ways, such as when parents issue vague commands that request non-specific behavior (e.g., "Behave yourself.") or when they do not allow the child time to respond to the command before issuing another command ("Put it here. Come here."). The NOC category allows for calculation of two types of compliance.

*Alpha compliance* is defined as the ratio of child complies to only those parent commands that provide the opportunity for compliance. Thus, alpha compliance reflects a child's decision to obey and does not penalize the child's compliance rate when there is no opportunity to obey. In contrast, *beta compliance* is defined as the ratio of child complies to total parent commands. Beta compliance captures the interactional nature of compliance and reflects not only the child's decision to obey but also the parent's ability to provide clear direction.

RESULTS

Descriptive Statistics

Table I shows the means and standard deviations for all measures. Ratings of the frequency of disruptive behavior on the ECBI Intensity Scale were above normal limits for both mothers and fathers. Similarly, mothers and

Table I. Means and Standard Deviations of Parent and Child Measures

Measure	Cut-off scores <sup>a</sup>	n	Mother		Father		t
			M	SD	M	SD	
ECBI intensity scale	132	53	176.98	23.43	166.06	31.23	-3.28**
ECBI problem scale	15	52	23.19	5.31	21.52	7.11	1.73
BDI	10	44	10.27	7.99	8.18	6.26	1.42
PSI parent domain	151	45	141.08	26.94	132.27	19.04	-2.27*
PSI child domain	122	45	145.47	17.48	134.67	16.67	4.37***
DAS	107	44	105.55	21.24	106.75	20.00	0.42
DPICS-II							
Parental responsiveness	121/175	42	80.74	33.91	67.86	31.19	2.37*
Parental demandingness	40/105	42	111.55	48.81	118.50	50.06	0.64
Alpha child compliance rate	—	42	0.55	0.20	0.61	0.23	1.28
Beta child compliance rate	—	42	0.24	0.10	0.28	0.13	-2.23*

Note. ECBI = Eyberg Child Behavior Inventory; BDI = Beck Depression Inventory; PSI = Parenting Stress Inventory; DAS = Dyadic Adjustment Scale; DPICS-II = Dyadic Parent-Child Interaction Coding System-II.

<sup>a</sup>Cut-off scores for DPICS categories are by parent gender.

\* p < .05. \*\* p < .01. \*\*\* p < .001.

**Table II.** Pearson Correlations Between Maternal and Paternal Variables

Measures	M1	M2	M3	M4	M5	M6	M7	M8	M9	F1	F2	F3	F4	F5	F6	F7	F8
<i>Mothers</i>																	
M1. BDI	—																
M2. DAS	-.30	—															
M3. PSI-C	.43*	.19	—														
M4. PSI-P	.64*	-.26	.59*	—													
M5. ECBI-I	.19	.28	.58*	.18	—												
M6. ECBI-P	.24	.14	.48*	.31	.59*	—											
M7. Resp	-.32	.12	.04	-.24	.11	-.13	—										
M8. Comp	-.18	-.26	-.14	.05	-.08	.03	.04	—									
M9. Dem	.37	.04	.30	.36	.16	.03	-.08	-.32	—								
<i>Fathers</i>																	
F1. BDI	.08	-.20	-.13	-.04	.01	-.02	-.25	-.10	-.12	—							
F2. DAS	-.10	.58*	.15	-.06	-.05	-.09	.21	-.14	.16	-.57*	—						
F3. PSI-C	.20	.14	.53*	.25	.24	.30	-.20	-.02	.24	-.20	.18	—					
F4. PSI-P	.37	-.07	.45*	.40	.40	.41	-.18	.09	.21	.30	-.19	.43*	—				
F5. ECBI-I	.14	.21	.57*	.26	.64*	.54*	.00	.05	.03	.01	-.19	.47*	.39	—			
F6. ECBI-P	.08	.06	.39	.34	.35	.40	.04	.16	.10	-.16	.06	.50*	.41	.54*	—		
F7. Resp	.01	.02	.10	.00	.02	.00	.42	-.19	.19	-.23	.05	.18	-.11	.01	.05	—	
F8. Comp	.12	-.37	-.40	.09	-.40	-.13	-.18	.55*	-.15	.21	-.15	-.12	.05	-.25	-.01	-.05	—
F9. Dem	.25	.09	.29	.16	.06	-.07	-.24	-.43	.40	-.04	.15	.30	.14	.20	-.06	.15	-.32

Note. M = Mothers' Scores; F = Fathers' Scores; BDI = Beck Depression Inventory; DAS = Dyadic Adjustment Scale; PSI-C = Parenting Stress Inventory, Child Domain; PSI-P = Parenting Stress Inventory, Parent Domain; ECBI = Eyberg Child Behavior Inventory; Resp = DPICS-II Parental Responsiveness; Comp = DPICS-II Child Beta Compliance Rate; Dem = DPICS-II Parental Demandingness.

\*The Bonferonni adjustment for multiple comparisons set  $p < .003$ .

fathers reported on the ECBI Problem Scale that many of their child's behaviors were problematic for them, suggesting a level of annoyance in the clinically significant range. On average, the mothers reported a mild level of clinical depression on the BDI, although fathers as a group were within normal limits on this self-report measure of depressive symptomatology. Both mothers and fathers reported clinically elevated levels of child-related stress (PSI Child Domain), but not parent-related stress (PSI Parent Domain). Finally, mothers and fathers rated their marital satisfaction (DAS) at slightly below the clinical cutoff, suggesting a mild level of marital dissatisfaction in these two-parent families.

**Relations Among Mother, Father, and Child Variables**

Pearson product moment correlations were calculated among all measures and are reported in Table II. After adjusting for multiple comparisons ( $p < .003$ ), there were moderately strong associations between mothers' stress and depression, and between fathers' depression and marital dissatisfaction. Mothers' depression was also related to fathers' marital dissatisfaction. Child compliance with mothers and with fathers was related. No other relations were significant.

**Mother–Father Differences**

Mothers' and fathers' reports of child disruptiveness, parenting stress, depression, and marital adjustment were compared using paired samples *t* tests (see Table I). Results revealed significant differences between mothers and fathers on the ECBI Intensity Scale, with mothers reporting a higher frequency of disruptive behavior than fathers. There were also significant differences between mothers and fathers on the PSI Parent Domain and Child Domain, with mothers reporting higher levels of both parent-related and child-related stress. Mothers and fathers also differed in the number of responsive behaviors they showed towards their child during structured parent–child interactions, with mothers showing significantly more responsive behaviors than fathers. Finally, across the 30 min father–child interaction, child compliance was higher than during the 30 min of similar mother–child interactions.

**Regression Analyses of Child Disruptive Behavior**

Hierarchical regression analyses were run separately for mothers' and fathers' reports of disruptive behavior severity. For these analyses, disruptive behavior severity was measured using the ECBI Intensity Scale and the PSI Child Domain; scores from these two scales were

**Table III.** Summary of Hierarchical Regression Analysis for Variables Predicting Mothers' Report of Child Disruptive Behavior

Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Step 1: Mother variables				.19
BDI	.00	.02	-.04	
PSI-parent domain	.00	.01	.30	
Step 2: Father variables				.12
PSI-parent domain	.00	.01	.39*	

Note. BDI = Beck Depression Inventory; PSI = Parenting Stress Index. Final model:  $F(3, 41) = 6.18, p < .001, R^2 = .31.$   
\*  $p < .01.$

combined into a *z* score, which served as the dependent variable in the regression models. Parenting stress (Parent Domain), behavior (DPICS-II measures of responsiveness and demandingness), and adjustment (depression and marital adjustment) of mothers and fathers served as the predictor variables. To increase power, only variables with significant correlations to the dependent variable were included in the model. Thus, only the BDI (maternal) and PSI Parent Domain (maternal and paternal) were included in the prediction of maternal ratings of child behavior problem severity. In the prediction of paternal ratings of child disruptive behavior severity, only the PSI Parent Domain (maternal and paternal) and DPICS-II demandingness (paternal) were included in the analysis.

Variable sets were entered into the regression equation in two steps to examine the relative contribution of maternal and paternal variables on mothers' versus fathers' ratings of child disruptive behavior. To predict mothers' ratings of disruptive behavior, maternal variables were entered first and paternal variables second. The order was reversed for fathers' ratings.

In the prediction of mothers' ratings of child disruptive behavior, the maternal variables accounted for 19% of the variance, and paternal variables accounted for an additional 12% of the variance (see Table III). In the final model, which accounted for 31% of the variance, only fathers' parent-related stress predicted mothers' report of disruptive child behavior,  $t(43) = 2.72, p = .01.$  In the prediction of fathers' ratings of child disruptive behavior, paternal variables accounted for 34% of the variance and maternal variables did not account for any additional variance (see Table IV). Again, only fathers' parent-related stress was significant in the final model predicting fathers' report of child disruptive behavior,  $t(39) = 3.04, p = .004.$

Although our primary interest in this study was the difference in parents' experiences of child behavior, we repeated hierarchical regression analyses using behavioral observations of child compliance to parental commands (beta compliance rate) as the dependent variable, which

**Table IV.** Summary of Hierarchical Regression Analysis for Variables Predicting Father Report of Child Disruptive Behavior

Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Step 1: Father variables				.34
PSI-parent domain	.02	.01	.45*	
DPICS-II demandingness	.00	.00	.23	
Step 2: Mother variables				.01
PSI-parent domain	.00	.00	.12	

Note. PSI = Parenting Stress Index; DPICS-II = Dyadic Parent-Child Interaction Coding System-II. Final model:  $F(3, 37) = 6.54, p < .001, R^2 = .35.$   
\*  $p < .01.$

allowed us to predict to the compliance interaction of each parent. In the prediction of child compliance with mothers, the DAS (maternal) and DPICS-II demandingness (maternal and paternal) variables were included as predictor variables; results are presented in Table V. Maternal variables accounted for 23% of the variance, and paternal variables accounted for an additional 9% of the variance. The final model accounted for 32% of the variance in child compliance with mothers, with lower maternal marital satisfaction,  $t(40) = -2.45, p = .02,$  and higher paternal demandingness,  $t(40) = -2.23, p = .03,$  predicting lower child compliance.

In predicting child compliance with fathers, the DAS (maternal) and DPICS-II demandingness (paternal) were included as predictors (see Table VI). Paternal variables accounted for 10% of the variance, and maternal variables accounted for an additional 12% of the variance. Higher paternal demandingness,  $t(40) = -2.05, p = .05,$  and lower maternal marital satisfaction,  $t(40) = -2.46, p = .02,$  were significant predictors of lower rates of child compliance with fathers.

**Table V.** Summary of Hierarchical Regression Analysis for Variables Predicting DPICS-II Compliance Rate With Mothers

Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Step 1: Mother variables				.23
DAS	.00	.00	-.33*	
DPICS-II demandingness	.00	.00	-.19	
Step 2: Father variables				.09
DPICS-II demandingness	.00	.00	-.33*	

Note. DAS = Dyadic Adjustment Scale; DPICS-II = Dyadic Parent-Child Interaction Coding System-II. Final model:  $F(3, 38) = 5.94, p < .01, R^2 = .32.$   
\*\*  $p < .05.$

**Table VI.** Summary of Hierarchical Regression Analysis for Variables Predicting DPICS-II Compliance Rate with Fathers

Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Step 1: Father variables				.10
DPICS-II demandingness	.00	.00	-.29*	
Step 2: Mother variables				.12
DAS	.00	.00	-.35*	

Note. DAS = Dyadic Adjustment Scale; DPICS-II = Dyadic Parent-Child Interaction Coding System-II. Final model:  $F(2, 39) = 5.64$ ,  $p < .01$ ,  $R^2 = .22$ .

\* $p < .05$ .

### Diagnostic Group Differences

We also compared children with a single diagnosis of ODD ( $n = 10$ ) or CD ( $n = 2$ ) to those who met diagnostic criteria for comorbid ODD/CD and ADHD ( $n = 41$ ) on the separate mother and father measures of personal distress and interactions and experiences with their child. Children in the latter category met diagnostic criteria for either: ODD and ADHD ( $n = 32$ ) or ADHD and CD ( $n = 9$ ). The two groups were compared on each of the following variables using independent samples *t* tests: maternal and paternal parent-domain stress, depressive symptomatology, marital adjustment, tolerance for their child's misbehavior, reports of child disruptive behavior frequency, and behavioral observations of responsiveness, and demandingness as well as child compliance with mothers and with fathers. After a Bonferroni correction, which set the alpha level at .0025, no significant group differences were found between children with a single diagnosis versus a comorbid diagnosis of ODD/CD and ADHD.

### DISCUSSION

In this clinic-referred sample of preschoolers, both mothers and fathers perceived their child's behavior to be highly disruptive and problematic. These findings are important in light of past studies linking high parenting stress to several parent-child relationship factors including insecure child attachment (Robson, 1997) and child abuse and neglect (Chan, 1994; Rodriguez & Green, 1997). Further examination showed that mothers experienced more parent- and child-related stress than fathers. It is possible that mothers' greater involvement with childcare (McBride & Mills, 1993) leads to greater exposure to situations where problem behaviors occur, or that mothers are more susceptible to stress in relation to their child's behavior.

Results from this study revealed other important differences in the experiences of mothers and fathers of dis-

ruptive children. As expected, fathers rated their children as less disruptive than did mothers. Although this discrepancy in parental perceptions of child behavior is not always seen (e.g., Baker & Heller, 1996), it is consistent with several studies that have examined parental perceptions in clinical samples (Eisenstadt et al., 1994; Stormshak et al., 1997; Webster-Stratton, 1988), and particularly in families of younger children (Duhig, Renk, Epstein, & Phares, 2000) and families with high levels of distress (Christenson, Margolin, & Sullaway, 1992). This finding suggests the importance of including fathers in the clinical assessment to provide a more complete understanding of the situations in which child behavior may vary.

Behavioral observations of parent-child interactions revealed important contextual information concerning mothers' and fathers' interactions with their disruptive children. Compared to nonreferred mothers (Bessmer et al., 2003) and nonreferred fathers (Brestan et al., 2003) of preschool children, both mothers and fathers showed very high levels of demandingness and low levels of responsiveness and their children showed high levels of non-compliance. Differences also emerged in this clinical sample in that mothers showed more responsive behaviors than did fathers and yet children were more compliant with fathers. Consistent with these findings, other studies have found self-reported nurturance to be higher in mothers than fathers of young children (Platz, Pupp, & Fox, 1994) and children to be more compliant with fathers than mothers (Buhrmester, Camparo, Christensen, Shapiro Gonzalez, & Hinshaw, 1992; Tallmadge & Barkley, 1983).

As expected, both mothers and fathers contributed uniquely to the variance in child disruptive behavior, underscoring again the importance of the father's role. We were able to predict a moderate amount of the variance in disruptive behavior reported by mothers and fathers. For both, the parent-domain stress of the fathers was a significant predictor. Although fathers' ratings of parenting stress were lower than mothers', it appears that fathers' resources for managing the behavior of their disruptive child were also taxed. In this sample that includes highly involved fathers, fathers may have felt increasingly stressed as they spent time with a highly disruptive child. Thus, fathers may have believed that they lacked adequate coping resources to meet the demands of a child that they viewed as difficult to manage, which is central to the notion of parenting stress (Deater-Deckard & Scarr, 1996). This, in turn, may have led mothers to view the child as more difficult to manage.

This result may also suggest that paternal stress plays a particularly important role in the development or maintenance of child maladjustment within the family, as has

been found in other studies (Cohen, Burt, & Bjork, 1987), possibly because of its relation to dysfunctional parent-child relationships (Deater-Deckard, 1998). Indeed, some researchers have found that stress may be an important predictor of the stability of preschoolers' disruptive behavior problems (DeKlyen et al., 1998). These results also highlight the need to address parenting stress experienced by both parents in the treatment of child disruptive behavior and may have implications for parents' participation in and completion of treatment, as attrition seems to be related to parental distress (Werba, Eyberg, & Boggs, 2004).

Fathers' demandingness, operationalized as total number of commands issued during a father-child interaction, was a significant predictor of child compliance during both mother-child and father-child interactions. Perhaps with the highly noncompliant child, it is the father who takes the active role in trying to control the child. Without success in controlling the child's behavior, paternal demandingness and child disruptive behavior may create a coercive cycle (Patterson et al., 1992) which carries over into the mother-child relationship.

Marital satisfaction of the mothers also predicted the child's actual compliance during both mother-child interactions and father-child interactions. In a similar study of young, clinic-referred children, Mahoney and her colleagues (1997) found that mothers' reports, but not fathers' reports, of marital discord over childrearing were related to child disruptive behavior. Some researchers have found that marital satisfaction predicts both maternal and paternal involvement with their young children (McBride & Mills, 1993), which is in turn related to child adjustment (Stormshak et al., 1997). In our clinic sample, it appears that maternal anger and frustration within the marriage, even though not necessarily directed toward the child, may be related to children's emotional stability and behavior. Perhaps fathers of disruptive children are better at separating their feelings toward their wife from their feelings toward their child. These findings support the notion that marital discord, especially when experienced by mothers, may constitute a significant risk for disruptive behavior in the child. Of course, difficult child behavior is a stress to the marriage as well. For example, the mothers in our sample may have found the parenting situation particularly stressful because the additional parenting resources they expected to have available in their two-parent families were lacking.

We found no significant differences between parents of children with a diagnosis of ODD or CD only and children with comorbid ADHD. Although differences on the ECBI and PSI were in the expected direction, effects of comorbidity were not evident for mothers or fathers on most self-report measures of distress or on observational mea-

asures. The degree to which disruptive behavior disorders and ADHD have failed to differ on respective correlates has led some researchers to argue for the commonality or shared expressions of the disorders (Reeves, Werry, Elkind, & Zametkin, 1987), though others have emphasized that ODD and ADHD symptoms, while distinct, tend to cluster together (Lahey et al., 1995; Speltz, McClellan, DeKlyen, & Jones, 1999). Indeed, among children in this sample with a single diagnosis of ODD, the number of ADHD symptoms endorsed in the diagnostic interview was 4-13 with a mean of 7.20 ( $n = 10$ ;  $SD = 2.82$ ). Still, it is possible that the absence of more robust differences between these groups reflects the high severity of disruptive behavior shown by all the children in our sample; for example, behavioral observations revealed a compliance rate of only 26% to the total commands given by parents.

The severe problems experienced by children in the sample are further illustrated by the significant percentage (21%) of young children meeting diagnostic criteria for CD. Although there is controversy as to whether the CD diagnosis should be applied to children at such a young age (Campbell, 1990), symptoms such as initiating physical fights, being physically cruel to animals, and deliberately destroying property were not uncommon among the preschoolers in our sample. Although the prognostic and diagnostic significance of such symptoms in children between 3 and 6 years of age has not been fully established, Keenan and Wakschlag (2002) have concluded that, on the basis of existing evidence for the construct validity of behavior disorders in preschoolers, valid diagnoses of both ODD and CD can be made in young children.

There are limitations to our study that should be noted. First, we were unable to examine the effect of child gender on parent or child variables because of the small number of girls in our sample ( $n = 9$ ). Differences between mothers' and fathers' perceptions of and interactions with boys versus girls likely exist (Christenson et al., 1992) and may have influenced our findings in unknown ways. We also included some nonbiological parents in our sample, and it will be important for future studies to examine differences among family constellations to understand whether the influences of male and female primary caregivers generalize across biological parents, grandparents, stepparents, and foster parents. Finally, we did not measure the amount of time each parent spent with the child, particularly in the childrearing role, which may account for differences between the mothers and fathers in our sample. It is often suggested that mothers spend more time with their children, yet father-child interactions have been shown to be important in children's development (DeKlyen et al., 1998; Kazura, 2000).

By examining the experiences of mothers and fathers with their child in a referred sample, our study provides new information on the functioning of two parent-families of children with disruptive behavior, at least in families where both parents are involved in their child's treatment. In particular, this study emphasizes the attention that must be given to parent-domain stress, particularly of fathers, when planning children's treatment. In mothers' and fathers' interactions with their children, gender differences in parenting behavior emerged, and paternal demandingness and mother's marital satisfaction played a primary role in predicting parent report of child compliance. It is unclear whether parents' demandingness and marital dissatisfaction cause child disruptive behavior or vice versa; more likely, parent and child behaviors continuously interact to influence each other. These findings underscore the importance of taking a contextual approach to the assessment of children's disruptive behavior.

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