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Parenting Practices and Child Disruptive Behavior Problems in Early Elementary School

Elizabeth A. Stormshak

Department of Applied Behavior and Communication Sciences, University of Oregon

Karen L. Bierman

Department of Psychology, Pennsylvania State University

Robert J. McMahon and Liliana J. Lengua

Department of Psychology, University of Washington

Conduct Problems Prevention Research Group¹

Abstract

Examined the hypothesis that distinct parenting practices may be associated with type and profile of a child's disruptive behavior problems (e.g., oppositional, aggressive, hyperactive). Parents of 631 behaviorally disruptive children described the extent to which they experienced warm and involved interactions with their children and the extent to which their discipline strategies were inconsistent and punitive and involved spanking and physical aggression. As expected from a developmental perspective, parenting practices that included punitive interactions were associated with elevated rates of all child disruptive behavior problems. Low levels of warm involvement were particularly characteristic of parents of children who showed elevated levels of oppositional behaviors. Physically aggressive parenting was linked more specifically with child aggression. In general, parenting practices contributed more to the prediction of oppositional and aggressive behavior problems than to hyperactive behavior problems, and parenting influences were fairly consistent across ethnic groups and sex.

Disruptive behaviors in early childhood (including oppositional, aggressive, and hyperactive behaviors) are often stable and predictive of negative mental health outcomes in later life, ranging from school failure to substance abuse and criminality (e.g., Campbell & Ewing, 1990; Loeber & Dishion, 1983; West & Farrington, 1973). Research focusing on the early development of disruptive behavior problems is crucial to understanding the etiology and developmental course of these behaviors.

Although extensive empirical work exists linking parenting practices to child disruptive behavior problems, few studies have tested models linking specific parenting practices to specific profiles of child behaviors. Instead, the focus has been on parenting practices associated with broadband patterns of child disruptive behaviors. However, developmental theory and empirical assessment studies suggest that three narrowband dimensions of child disruptive behavior can be differentiated: oppositional, aggressive, and hyperactive behaviors

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Requests for reprints should be sent to Elizabeth A. Stormshak, Department of Applied Behavior and Communication Sciences, 5251 University of Oregon, Eugene, OR 97403. bstorm@darkwing.uoregon.edu.

¹Members of the CPPRG include, in alphabetical order, Karen L. Bierman, Pennsylvania State University; John D. Coie, Duke University; Kenneth A. Dodge, Duke University; Mark T. Greenberg, University of Washington; John E. Lochman, University of Alabama; Robert J. McMahon, University of Washington; and Ellen Pinderhughes, Vanderbilt University.

(Hinshaw, Morrison, Carte, & Cornsweet, 1987). Furthermore, these three types of behavior problems may be associated with different etiological factors and outcomes, including different parenting strategies (Frick et al., 1993; Hoge & Andrews, 1992; Loeber & Lahey, 1987). The goal of this study was to examine the relation between specific parenting practices and these three narrowband dimensions of child behavior problems.

This study focused on five parenting practices that have been associated with the development of disruptive behavior problems in the literature: (a) *punitive discipline* (yelling, nagging, threatening), (b) *inconsistency*, (c) *warmth and positive involvement*, (d) *physical aggression* (hitting, beating), and (e) *spanking* (Patterson, 1986; Patterson & Stouthamer-Loeber, 1984). Although prior studies have not examined the differential relations among these five aspects of parenting practices and the three narrowband child behavior problems studied here (oppositional, aggressive, and hyperactive behavior), the literature highlights several trends that provide a basis for hypothesis generation.

An extensive body of research has linked punitive and inconsistent parenting practices with the emergence of child oppositional and aggressive behaviors (Danforth, Barkley, & Stokes, 1991; Hart, Ladd, & Bursleson, 1990; Kuczynski, Kochanska, Radke-Yarrow, & Girmius-Brown, 1987). Much of the research in this area has been conducted by Patterson and his colleagues (Patterson, 1986), who coined the term *nattering* to describe the frequent, irritable, and angry exchanges that occur as parents try to coerce compliance from their oppositional children. Although designed to engage compliance, frequent negative commands and threats may be ignored by children, resulting in passive noncompliance (Campbell, 1990), or may elicit more aggressive acts of defiance (Danforth et al., 1991; Patterson, 1986). Parents may encourage child noncompliance or defiance by giving in or failing to follow through with their commands.

Correspondingly, inconsistency is a second parenting practice that has often been linked with elevated rates of child oppositional and aggressive behavior (Wahler & Dumas, 1986). For example, in an observational study, Gardner (1989) documented that mothers of preschool children with behavior problems were more inconsistent in follow-through of their commands than mothers of children without such problems. Patterson (1986) noted that parental failure to follow through with commands resulted in reinforcement of child noncompliance, thus increasing the likelihood that noncompliance would be repeated and might escalate. In an alternative model labeled the *predictability hypothesis*, Wahler and Dumas suggested that, when they are faced with an unpredictable and inconsistent parent, children engage in oppositional and defiant behaviors designed to elicit predictable (albeit often negative) responses from their parent. Given these developmental mechanisms, it was anticipated that both punitive and inconsistent parenting practices would be associated with elevated levels of oppositional and aggressive behavior problems.

In this study, punitive discipline (nagging, yelling, and threatening) was differentiated from discipline that involved physically aggressive and violent parental behaviors (e.g., hitting, beating), based on theoretical models that predict that more escalated and deviant child outcomes will be associated with the latter form of discipline (Patterson, 1986). Investigators have postulated that many children follow a standard progression in the development of disruptive behavior problems (Patterson, 1986; Stormshak, Bierman, & CPPRG, 1998). The developmental sequence begins with child oppositional behaviors (e.g., whining, noncompliance, talking back), which, in some cases, progress to more escalated forms of child aggression and defiant acting out (e.g., hitting, physical fighting). As argued earlier, past research suggests that punitive and inconsistent parenting may both be associated with the initiation of this developmental sequence. Physically aggressive parenting, on the other hand, may be present primarily at the more advanced levels of the coercive developmental sequence

and, therefore, correlated with high levels of child aggressive behavior specifically. That is, parents who rely on physically aggressive discipline to gain control of their children are likely to have children who are engaging in more severe forms of aggressive behavior (George & Main, 1979; Salzinger, Feldman, Hammer, & Rosario, 1993; Salzinger, Kaplan, Pelcovitz, Samit, & Kreiger, 1984). Indeed, previous researchers have documented links between physically aggressive parenting practices and elevated levels of child aggression in home and school settings (Hart et al., 1990; Strassberg, Dodge, Pettit, & Bates, 1994). Reflecting escalation of parent—child conflict or specific modeling processes, we, therefore, hypothesized that specific associations would emerge between physically aggressive parenting and child aggressive behaviors.

In this study, spanking was considered separately from other forms of physically aggressive punishment based on previous research suggesting that spanking and physically violent parenting are associated with incremental increases in aggressive behavior problems (Strassberg et al., 1994). Although spanking involves use of physically aggressive parental control tactics, some investigators have argued that “controlled” spanking may represent a low level of parental aggression that in some cultural circles is a common and accepted parenting practice (Peterson, Ewigman, & Vandiver, 1994). If so, spanking may function more like a punitive discipline strategy, associated with oppositional as well as aggressive child behaviors, than like more extreme physically aggressive parenting strategies that involve hitting a child in anger and the use of physical beatings. Based on previous research, stronger associations were expected between spanking and oppositional and aggressive behaviors than between spanking and hyperactive behaviors.

Although hyperactive behaviors are classified as disruptive behaviors, along with aggressive and oppositional behaviors, developmental theory and empirical assessment studies suggest that they can be differentiated and may be associated with somewhat different etiological factors and outcomes (Frick et al., 1993; Hoge & Andrews, 1992; Loeber & Lahey, 1987). For example, cognitive control deficits have been implicated as key factors underlying the behavior problems of hyperactive children (Barkely, 1990). At the same time, children who are highly active and impulsive may elicit control-oriented parenting (Anderson, Lytton, & Romney, 1986; Campbell, Pierce, March, & Ewing, 1991). If frequent control attempts by parents become negatively toned, inconsistent, and physically aggressive, they may elicit escalations in concurrent child oppositional and aggressive behaviors. Thus, although child hyperactive behavior alone may not necessarily be associated with inconsistent and physically aggressive discipline (Campbell et al., 1991), investigators have suggested that frequent co-occurrence of hyperactive and aggressive behaviors may reflect transactional processes in which punitive, inconsistent, and physically aggressive parental strategies to control child hyperactive behavior lead to the development of aggressive child behavior (Campbell, 1990; Loeber, Brinthaup, & Green, 1990; Taylor, Schachar, Thorley, & Weiselberg, 1986). On the basis of these findings, we hypothesized that punitive discipline practices would be associated with elevated rates of hyperactive, oppositional, and aggressive behaviors (reflecting the elevated control attempts of parents of hyperactive children) but that other problematic parenting practices (inconsistency, spanking, physically aggressive parenting) would be less characteristic of parents of hyperactive children and more strongly associated with child oppositional—aggressive behaviors.

Finally, although research on disruptive behavior problems has emphasized negative parenting practices, low levels of parental warmth, and positive involvement may also contribute to the development of problem behaviors (Capaldi, 1991; East, 1991; Pettit & Bates, 1989). Parent—child relationships characterized by low levels of warmth and supportiveness have been linked with child insecurity and emotion regulation difficulties, including frequent child temper tantrums, whining, stubbornness and noncompliance, behaviors that are part of the oppositional

—defiant narrowband problem dimension (Keenan & Shaw, 1994; Pettit, Bates, & Dodge, 1997; Zahn-Waxler, Iannotti, Cummings, & Denham, 1990). Additionally, low levels of parental praise have been associated with internalizing behavior, including social withdrawal and anxiety (Cole & Rehm, 1986). Developmental researchers have postulated that high levels of parental warmth, involvement, and communication foster development of child negotiation and conflict-resolution skills, affording children skills to manage interpersonal relations and reducing their reliance on noncompliant or oppositional tactics (Kochanska, 1993; Kuczynski et al., 1987; Pettit et al., 1988). Additionally, Pettit et al. (1997) found that supportive parenting in early childhood predicted reduced levels of disruptive behavior in grade school, even after controlling for effects of harsh discipline. On the basis of these findings, we predicted in this study that low levels of parental warmth and positive involvement would be associated with elevations in both oppositional and internalizing behavior problems.

This Study

Using a large, at-risk, diverse, population-based sample of first graders, this study focused on five parenting practices as differential correlates of three narrowband dimensions of child disruptive behavior problems. Parent interviews were conducted to elicit reports of the five parenting practices and to elicit reports of child behavior problems. A confirmatory factor analysis of the child behavior ratings demonstrated that the three distinct narrowband dimensions of disruptive child behaviors (oppositional, aggressive, and hyperactive behaviors) were well-differentiated in parent descriptions of child behavior. Internalizing problems were also included in this study to provide a comparison with the externalizing behaviors.

On the basis of past research, punitive discipline practices were hypothesized to be associated with elevated rates of oppositional, aggressive, and hyperactive child behavior. Inconsistency, on the other hand, was expected to be associated with oppositional and aggressive behavior problems but less highly associated with hyperactive behavior. It was unclear whether spanking would be associated primarily with child aggression or with child oppositional behavior and aggression; however, stronger relations were expected between spanking and both of these problem dimensions than were expected between spanking and hyperactivity. Physically aggressive parenting, in contrast, was expected to relate primarily to child aggression. Low levels of parental warmth and involvement were expected to correlate with child oppositional and internalizing behaviors. In addition, previous research suggests that the quantity as well as the quality of child behavior problems may be related to parenting difficulties. For example, children who are hyperactive and aggressive (or oppositional) have greater parent—child relationship difficulties than children who are hyperactive alone (e.g., Barkley, Fischer, Edelbrock, & Smallish, 1991; Loeber et al., 1990; Moffit, 1990). Children who develop disruptive behavior problems during early childhood in the context of conflictual parent—child interactions may have a greater variety of problems that may develop in a cumulative sequence than do children who develop more specific patterns of conduct problems at later points in time (e.g., Loeber et al., 1993; Patterson, 1982). Thus, the degree to which children are exposed to punitive, inconsistent, and aggressive parenting practices may be related to the quantity of behavior problems that they develop as well as the quality (e.g., the specific dimensions) of their behavior problems. We hypothesized that multiproblem profiles would be associated with all the parenting practices, whereas single problem profiles would be associated with specific types of parenting. Profiles of problem behavior in this study were formed based on developmental theory suggesting a progression in the development of behavior problems from hyperactive to oppositional and aggressive behavior or from oppositional behavior to aggression. The profiles included oppositional only, oppositional—aggressive, hyperactive only, and multiproblem, a combination of all three.

Last, the study examined ethnic—racial and sex differences in the relation between parenting and child behavior. Based on previous research in this area, we anticipated that the links between parenting and behavior problems would be strongest for European American families (as compared to African American families; Deater-Deckard, Dodge, Bates, & Pettit, 1996). Sex, on the other hand, was not expected to impact the relations between parenting and behavior problems (Parke & Slaby, 1983). Although externalizing behavior may be more strongly linked to parenting in boys (Rothbaum & Weisz, 1994), the pattern of relations between the parenting dimensions and behavior problems was expected to be the same for boys and girls.

Method

Participants

Target children included 631 kindergartners and their parents, selected for inclusion in a longitudinal project designed to examine the developmental progression of conduct problems and the effectiveness of a preventive intervention program (Fast Track; CPPRG, 1992). The first two cohorts of participants were included in this study. Participants were selected from four areas of the country, each representing different cross-sections of American culture. The areas included (a) Durham, North Carolina, a small city with a large low- to middle-socioeconomic status (SES), predominantly African American population; (b) Nashville, Tennessee, a moderate-sized city with a mix of low- to middle-SES African American and European American families; (c) Seattle, Washington, a moderate-sized city with a low- to middle-SES and ethnically diverse population; and (d) central Pennsylvania, a mostly rural area with low- to middle-SES European American families. SES was calculated with the Hollingshead Two-Factor Index, yielding the following breakdown from highest (1) to lowest (5): Class 1 (2%), Class 2 (13%), Class 3 (20%), Class 4 (26%), and Class 5 (39%). The sample included 49% minority (predominantly African American) and 51% European American families, reflecting the ethnic diversity of the populations at four sites. Sex ratios in the high-risk sample reflected epidemiological data that document a higher prevalence of disruptive behavior in boys than in girls; 74% of the sample were boys, and 26% were girls. The mean age of children in the sample was 6.45 years ($SD = .50$) with limited range (range = 2.81 years).

A multiple-gating strategy was used to identify target high-risk children. In the spring of their kindergarten year, all children in participating schools at the four sites of the Fast Track project were screened with the Authority Acceptance scale of the Teacher Observation of Classroom Adaptation—Revised (TOCA—R; Kellam, 1989), which assesses a range of behavior problems at school. The parents of children who scored in the top 35% on this scale were contacted by telephone and, on consent, were administered a 24-item scale of conduct problems drawn from the aggression scales of the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1981) and the Revised Problem Behavior Checklist (Quay & Peterson, 1987). Based on the average teacher and parent problem scores (combined), 631 behaviorally disruptive children were identified as the high-risk sample (out of about 6,000 total children across the four sites). The selected sample represented the top 10 to 15% of the sampling population in terms of their cross-situational problem behavior ratings. Overall, average t scores on the CBCL externalizing scale were near the 85% for the high-risk sample ($M = 61$, $SD = 8.9$). Children in the high-risk sample were then randomly assigned to intervention or control conditions, with school as the unit of assignment. Once identified, families were sent a letter explaining the study and contacted over the phone by a trained interviewer. If families agreed, a home visitor contacted the families and an interview was conducted in their home. The project was discussed at this time and consent forms were signed.

Although the majority of the analyses in this study utilized participants from the high-risk sample ($N = 631$), a normative sample ($N = 387$) of the same age was used to standardize scores on behavioral dimensions when forming groups of children in later analyses. The normative

sample contained 100 kindergarten children at each site (87 in Seattle) who were selected on the basis of race, sex, and teacher ratings of behavior problems (TOCA—R) to be representative of the school population at each site (see Lochman & CPPRG, 1995, for more details on the screening process). Overall, the normative sample showed fewer behavior problems than the high-risk sample on the TOCA—R (high-risk $M = 30.7$, $SD = 10.2$; normative $M = 16.7$, $SD = 11.6$). The mean age of the normative sample at entrance into first grade was 6.52 years ($SD = .44$). The sample was 51.2% male with 48.8% minority representation (42.5% African American and 6.3% other). The normative and high-risk samples did not differ in terms of SES, $\chi^2(1, N = 1018) = 6.8, p > .10$.

Measures

Home interviews were conducted with primary caregivers (usually mothers) during the summer prior to their children's first-grade year (prior to any intervention). Caregivers were asked about their parenting practices in separate measures (described later), and they also completed a rating scale to describe their child's behavior problems. Each measure was collected in an interview format lasting approximately 2 hr.

Assessment of narrowband child behaviors—Items from the CBCL—Parent Report Form (CBCL—PRF; Achenbach, 1991) were used to assess discrete narrowband dimensions of problem behavior. The standard scoring system for the CBCL does not provide a clear discrimination between oppositional, aggressive, and hyperactive behavior problems, distinctions that are of theoretical significance to early childhood. To provide a clear discrimination among the narrowband dimensions of oppositional behaviors, aggressive conduct problems, and hyperactive—inattentive behaviors, a confirmatory factor analysis was conducted using items from the CBCL—PRF using the same sample ($n = 631$ for high-risk children). The Diagnostic and Statistical Manual of Mental Disorders (4th ed.; American Psychiatric Association, 1994) was used as a guideline to create theoretically distinct scales. Items on the CBCL—PRF that reflected the same content as the various criteria for oppositional defiant disorder, conduct disorder, and attention deficit hyperactivity disorder were used in the analyses. The confirmatory factor analyses produced a model with a good fit to the data, $\chi^2(182) = 453.68, p < .01$, goodness-of-fit index = .94, Bentler Bonett = .91. Details of this factor analysis and item content were presented elsewhere (see Stormshak et al., 1998).

Correlations among the scales were moderate (mean $r = .50$) with acceptable internal reliability ($\alpha = .68-.78$) and supported using the factors separately in analyses. Items from the narrowband internalizing scales Anxious/Depressed and Withdrawn were used to form a measure of internalizing behavior problems. This scale was moderately correlated with the three externalizing scales (oppositional $r = .53$; hyperactive $r = .36$; aggression $r = .49$).

TOCA—R (Kellam, 1989)—The Authority Acceptance scale includes 10 items describing disruptive and aggressive school behaviors, which teachers rate on a 6-point scale ($\alpha = .85$), ranging from 0 (*almost never*) to 5 (*almost always*). The TOCA—R has been found to be related to both concurrent and later academic and behavioral problems (Werthamer-Larsson, Kellam, & Wheeler, 1991). This measure was used as the teacher screen in the first wave of the multiple-gating procedure.

Parenting measures—Parenting practices were assessed using several measures. The *Parent Questionnaire (PQ)*, a 27-item adaptation of Strayhorn and Weidman's (1988) Parent Practices Scale, was a self-report instrument that measured a variety of parenting practices of theoretical and empirical significance to the development of disruptive behavior problems, including warmth and involvement, consistency, and punitive discipline tactics. Parents were

asked to rate the frequency of specific parenting techniques on a 5-point Likert scale, ranging from 0 (*never*) to 4 (*many times each day*).

The *Parenting Practices Inventory* (PPI) was devised specifically for the Fast Track Project (CPPRG, 1996). This instrument also measured consistency and punitive discipline tactics. Parents reported the frequency with which they used various parenting strategies on a 4-point scale, ranging from 0 (*never*) to 3 (*often*).

A modified version of the *Conflict Tactics Scale* (CTS; Straus, 1989) was used to assess punitive discipline, spanking, and physical aggression (Strassberg, Dodge, Pettit, & Bates, 1996; Straus, 1989). Parents rated the frequency with which they engaged in various parenting behaviors on a 7-point scale, ranging from 0 (*never*) to 6 (*almost every day*). In this study, items from the CTS were used in a confirmatory factor analyses as part of the Punitive Discipline construct. Additionally, separate scales of Spanking and Physical Aggression were used based on item content and previous research with this measure (Deater-Deckard et al., 1996).

Formation of parenting constructs—Five theoretical constructs of parenting behavior were identified a priori as relevant in this study and were modeled in separate confirmatory factor analyses: Warmth/Involvement ($M = 24.6$, $SD = 4.9$), Consistency ($M = 22.1$, $SD = 5.7$), Punitive Discipline ($M = 24.4$, $SD = 9.0$), Spanking ($M = 8.1$, $SD = 4.2$), and Physical Aggression ($M = 3.4$, $SD = 4.8$). Items from the self-report measures (PQ, PPI, and CTS) were combined, based on content and theory, as measures of each construct. Separate confirmatory factor analyses with one latent variable specified were estimated for each of the five constructs. In each case, the fit of the model to the data was adequate. These items and factor loadings are presented in Table 1. Cronbach's alphas for the Warmth/Involvement, Consistency, Punitive Discipline, Spanking, and Physical Aggression constructs were .73, .74, .72, .73, and .73, respectively, suggesting acceptable internal reliability. The confirmatory factor analysis for the Spanking construct produced a saturated model; hence no goodness-of-fit statistic was available. However, although the Spanking scale had only three items, the loadings were moderate to strong and significant, and the scale demonstrated acceptable internal consistency compared to the other scales.

Results

Intercorrelations Among Parenting Constructs

To examine the independence of the five dimensions of parenting practices used in analyses, bivariate correlations were conducted to assess the degree of relatedness among the measures. The results are presented in Table 2. The highest correlation occurred between parent-reported Physical Aggression and Punitive Discipline ($r = .44$, $p < .001$). However, based on previous research suggesting that parents may move through a progression of parenting skills in which physical aggression represents a final strategy (e.g., Patterson, 1982), this correlation was expected. Similarly, although Spanking was related to both Punitive Discipline and Physical Aggression, we did not anticipate that these parenting constructs would be mutually exclusive but rather differentially related to the narrowband dimensions of behavior (Deater-Deckard et al., 1996). In fact, the correlation between Spanking and Physical Aggression was surprisingly low given that physically aggressive parents likely use a great deal of spanking ($r = .33$). Overall, the correlations suggested moderate to high level of independence of the parenting practices and supported keeping them separate in later analyses.

Relation Between Parenting Practices and Child Behavior Problems

Next, to examine the specific variance accounted for by the parenting practices in the relation to narrowband child behavior problems, a series of correlations and multiple-regression

analyses were conducted. Internalizing behavior was included in the analyses to provide a comparison with externalizing disruptive problem dimensions.

First, bivariate correlations were conducted between each of the parenting practices and the narrowband behavior problems. These correlations are presented in Table 3. Due to the large sample size, only correlations significant at $p < .0025$ were interpreted using Bonferroni's correction for Type I error ($.05/20 = .0025$; approximate $r = .12$). Punitive Discipline was correlated with all the narrowband dimensions of behavior, including internalizing behavior problems. Parents who reported high levels of any of the behavior problems also reported using punitive discipline tactics, such as yelling and verbal threats. Similarly, Spanking was also correlated with all the behavioral dimensions but less so with internalizing than with the disruptive behavior problems. Although Spanking and Punitive Discipline showed a similar pattern of correlations, they were kept separate for later analyses to examine the potential independent contributions to each narrowband dimension of behavior. The other parenting constructs appeared to show a specific pattern of correlations. Physical Aggression was most strongly associated with aggressive behavior problems, whereas Warmth/Involvement was correlated (inversely) with oppositional behavior. Consistency was moderately correlated with all the child behaviors.

Hierarchical multiple-regression analyses were then conducted to examine the incremental and independent contributions of each of the parenting constructs to the child behaviors. Parenting dimensions were entered into each equation in the order discussed in the literature review based on developmental theory and the hypotheses for this study. First, Punitive Discipline was entered in the equation given the anticipated correlation with all the child behaviors. Next, Consistency and Spanking were entered based on the hypotheses that these parenting constructs would be associated with fewer child behavioral problems (oppositional behavior and aggression). Lastly, Physical Aggression was entered, followed by Warmth/Involvement. To examine the incremental contribution of each parenting construct, change statistics were derived at each step in the equation. However, to examine the independent contribution of each of the parenting constructs, standardized betas from the final equation with each parenting construct controlling for the effects of the other variables are presented in Table 4. Tests of multicollinearity were satisfactory, with all variance inflation factors less than 10.

Consistent with the correlational analyses, Punitive Discipline predicted all the narrowband behaviors, including internalizing behavior problems. Spanking predicted all three dimensions of disruptive behavior problems but did not predict internalizing behavior problems. Differential predictions emerged for oppositional and aggressive behavior, with low parental warmth/involvement predicting child oppositional behavior and parental use of physical aggression predicting child aggressive behavior. Consistency failed to contribute unique variance to the prediction of any dimension of narrowband behavior.

In summary, results suggest the presence of both shared and unique contributions of various parenting practices to the narrowband dimensions of disruptive behavior and internalizing behavior problems. Punitive discipline emerged as a common or shared predictor of all the dimensions of child disruptive behaviors. Deficits in the warmth and responsiveness of the parent—child relationship emerged as a specific predictor of oppositional child behavior, whereas the use of physically aggressive punishment was related specifically to elevated rates of child aggression. Note that, although the betas for oppositional and aggressive behavior were at times small, these effects represent the independent contribution of these variables to the specific child behavior.

Sex and Ethnic—Racial Group Differences in the Relation Between Parenting and Behavior Problems

To examine potential ethnic—racial group differences in the relation between parenting and child behavior problems, ethnic group (European American vs. African American) was entered into a series of separate analyses as a main effect and as an interaction term with the five parenting practices to predict each of the behavior problems. Ethnic group significantly contributed to the prediction of oppositional behavior ($t = -5.33, p < .001$), with European American parents reporting higher levels of oppositional behavior problems than African American families. The interaction between ethnic group and punitive parenting was significant in relation to oppositional behavior, $F(11, 602) = 4.25, p < .05$, as well as the interaction between physically aggressive punishment and ethnic group in the relation to internalizing behavior problems, $F(11, 602) = 4.54, p < .05$.² In both cases, parenting practices were more strongly associated with child behavior in European American than African American families. Ethnic group did not predict any other behavior problems. When controlling for ethnic group in the model, no differences were found in the main effects of parenting strategies that predicted behavior problems.

Similar analyses were conducted with sex. Sex significantly predicted aggression ($t = -4.01, p < .001$), with more boys than girls showing aggressive behavior problems. Sex did not predict other behavioral problems or influence the pattern of predictions. No significant interactions were found between sex and parenting in the prediction of behavior problems.

Group Comparisons in Parenting Strategies

The regression analyses provided some support for the hypothesis that parenting skills were differentially related to various forms of child problem behavior. Previous research has suggested that certain combinations of externalizing behavior (e.g., hyperactivity with comorbid aggression) may be important in predicting child adjustment across a variety of domains (e.g., peer relations, academic achievement; Bierman, Smoot, & Aumiller, 1993; Moffit, 1990; Pope, Bierman, & Mumma, 1989). The following set of analyses examined the extent to which individual parenting practices were associated with particular subtypes or profiles of externalizing behavior problems.

To compare the parenting practices experienced by children with different behavioral profiles, four groups of children were identified based on previous research and developmental theory. To create the groups, children were designated as high on a given home-based dimension of conduct problems if their score exceeded 1 *SD* relative to the normative sample. Using these criteria, 297 children (49% of the high-risk sample) fell into one of the four target groups: (a) oppositional only ($n = 31$; 5% of the sample), (b) aggressive and oppositional ($n = 65$; 10% of the sample), (c) hyperactive only ($n = 77$; 12% of the sample), and (d) multiproblem children high on aggressive, hyperactive, and oppositional behavior ($n = 124$; 20% of the sample). Other children in the high-risk sample had elevated scores but did not exceed 1 *SD* on any of these home problem dimensions. A low-problem group of children scoring below the mean on all three externalizing dimensions was also created to provide a basis for comparison with the other profiles ($n = 80$; 13% of the sample). Although scoring below the mean of the normative sample on the three behavior dimensions, these children were still a subgroup of the high-risk sample and thus a better comparison to high-risk participants than the normative group.

²In both the ethnic—racial group and sex analyses, 5 interaction terms were tested in each of four models. Of these terms, only 2 (out of 20) were significant for ethnic group, and none reached significance for sex. Although consistent with other research on ethnic differences in parenting and child behavior problems, effects of ethnic group on the relation between parenting and behavior problems were not strongly supported. SES was not tested as a possible mediator due to the limited variance in SES in this sample.

To examine differences in the parenting practices experienced by these children, one-way analyses of variance were conducted using each of the five parenting constructs as dependent variables. The results are presented in Table 5. In this analyses, parenting constructs were standardized based on scores derived from the normative comparison group. Consistent with the previous regression analyses, parenting practices were associated with different profiles of behavior problems.

Overall, punitive discipline and low levels of consistency were associated with child problem profiles that included oppositional behaviors, aggressive behaviors, or multiproblem profiles of oppositional, aggressive, and hyperactive behaviors. Although parents of hyperactive-only children reported using more punitive discipline than did parents of low-problem children, they were not as punitive as parents of oppositional or aggressive children. Low levels of parental warmth and involvement differentiated oppositional and aggressive children from low-problem children. Spanking was most characteristic of parents who had multiproblem children, although parents of oppositional, aggressive, and hyperactive children all used spanking more than parents of low problem children. Finally, use of physically aggressive parenting characterized parents of oppositional, aggressive, and multiproblem children but not parents of hyperactive-only children.

Discussion

This study had four distinct advantages over previous studies that have investigated disruptive behavior problems in this age group. First, both positive and negative dimensions of parenting were studied together so that their separate and combined effects could be estimated and compared. Second, this study examined three narrowband dimensions of disruptive child behavior problems simultaneously and also included an examination of concurrent levels of internalizing problems. Third, by using a large cross-site sample, this study tested the generalization of parental influences on child behavior problems for African American and European American children and for boys and girls. Finally, by examining the differential relations among parenting behaviors and disruptive behavior problems, this study tested the theoretical assumption that parenting strategies contribute in different ways to the early emergence of various dimensions and patterns of disruptive behavior problems.

Consistent with previous research and the hypotheses of the study, hyperactivity, aggression, and oppositional behavior were all related to elevated levels of punitive discipline and spanking (Barkley, Karlsson, & Pollard, 1985; Campbell, Breaux, Ewing, & Szumowski, 1986; Hart et al., 1990; Patterson & Stouthamer-Loeber, 1984). This relation held when scores on these dimensions were used as continuous variables and when profiles of behavior were formed and between group differences explored. Apparently, children with any one of the conduct problems (hyperactivity, oppositional behavior, or aggression) are difficult for parents to manage and are likely to receive punitive discipline. In the analyses of problem profiles, however, parents of hyperactive-only children reported levels of punitive discipline and spanking that were less severe than that reported by parents of hyperactive children who were also oppositional and aggressive, suggesting that these parenting practices may be associated more with child oppositional and aggressive behaviors than child hyperactive behaviors.

When spanking was examined as a separate predictor, it was associated broadly with all of the narrowband dimensions of externalizing behavior. As predicted, parental physical aggression was associated only with aggressive child behavior. Thus, children who experienced punitive discipline, spanking, and physical aggression showed a pattern of increasing severity in the problems they displayed. These results are consistent with other research suggesting that spanking and physical aggression are related to childhood aggression in a cumulative manner, with increases in aggressive parenting relating to increases in severity of problems (e.g.,

Strassberg et al., 1994) and violent forms of parenting associated exclusively with active, aggressive externalizing behaviors. Interestingly, whereas internalizing behavior was associated with punitive discipline, it was not related to spanking. Apparently, the nattering and complaining that comprises punitive discipline may be associated with internalizing behavior; however, more extensive patterns of punitive parenting that also include spanking or physical aggression are more specifically associated with externalizing child behaviors.

Most research on the parental correlates of child conduct problems has focused on the central role of negative parent—child interactions; however, theoretical models often include a construct reflecting deficits in positive parent—child interactions as a predictor of conduct problems (e.g., Denham, Renwick, & Holt, 1991; Greenberg & Speltz, 1988; Pettit & Bates, 1989). Parental warmth and involvement was only moderately correlated with punitive parenting and was not significantly correlated with spanking or physical aggression, suggesting a moderate level of independence of positive and negative dimensions of parenting. As hypothesized, in the regression analyses, Warmth/Involvement emerged as a significant (inverse) predictor of oppositional behavior, adding unique variance beyond the contributions of both punitive and aggressive parenting. When profiles of conduct problems were examined, low levels of warmth and involvement were reported by parents of oppositional and aggressive children. Notably, parents of children with other single or comorbid patterns of behavior problems did not report similar deficits in positive parenting. Results suggest that early deficits in warmth and involvement may be critical to the development and maintenance of oppositional and aggressive behavior.

Based on previous research linking low levels of positive parenting with internalizing behavior, we hypothesized that a negative correlation would emerge between warmth and involvement and internalizing behavior. However, in this study, parental warmth showed no relation to child internalizing behavior problems. Differences in findings may reflect different measurement techniques. For example, observations of parents (Cole & Rehm, 1986), child reports (Capaldi, 1991), and retrospective reports (Burbach & Borduin, 1986) have all been used in previous research, whereas this study relied on parent reports of this construct.

Previous research has suggested that parenting strategies might be culturally specific in their relation to child behavior problems. For example, the effects of physical discipline on child behavior problems at school have been found to be stronger for European American than for African American children (Baumrind, 1993; Deater-Deckard et al., 1996). Ethnic group differences in this study support previous research, with stronger associations between punitive discipline and behavior problems found for European American than African American children. Similarly, physically aggressive discipline strategies were more strongly associated with internalizing behavior problems in European American than in African American children. In each case, a variety of interpretations can be generated to explain these data. Perhaps punitive discipline has different meanings across these two cultures, with punitive discipline relating to authoritarian parenting in European American families and authoritative parenting in African American families (Kelley, Power, & Wimbush, 1992). With the exception of ethnic group differences in the strength of the association between punitive parenting and spanking and child behavior problems, no other ethnic group effects or sex differences in parenting and behavior problems were found, suggesting a relatively high degree of consistency in the influence of various parenting strategies on subgroups of American youth.

These results do not speak to the possible roles that ethnicity and sex may play in moderating the impact of parenting practices and child adjustment in settings outside the home. As previous research has suggested, when the relation between parenting and child behavior problems is examined across contexts (to school), ethnic group may play a more influential role in predicting child adjustment (Deater-Deckard et al., 1996). Similarly, in a normative sample,

sex effects may be stronger and parenting may be more predictive of problematic adjustment for boys than girls (Rothbaum & Weisz, 1994). In this sample, there were more boys than girls, but the influences of parenting on child adjustment appeared similar.

One limitation of this research involves the reliance on parent reports for estimates both of parenting practices and child behavior problems. The findings of this study suggest that parents can provide internally consistent and well-differentiated accounts of both their parenting practices and their children's problem behaviors. However, parental responses may reflect the extent to which parents are socially aware of acceptable parenting. Future research in this area may benefit from use of multiple methods for assessing relations between parenting and child problems in addition to an examination of parenting practices as predictors of child behavior problems across contexts (e.g., school). Future research may also benefit from examining different profiles of parenting strategies as predictors of child behavior (e.g., Baumrind, 1971).

Although results from this study provide a start to understanding relations between parenting and narrowband dimensions of child behavior problems, the correlational nature of this study limits interpretation in terms of the predictive function of parenting in the development of patterns of child behavior. Although previous longitudinal research has identified both coercive parenting processes and low levels of parental sensitivity and involvement as predictive of the development of later behavior problems (e.g., Campbell et al., 1991; Zahn-Waxler et al., 1990), the reverse effect may be true as well. For example, some research suggests that difficult child behavior may elicit poor parenting in mothers (Anderson et al., 1986). Additionally, even the best linear combination of parent reported practices accounted for only 18% of the variance in child behavior in this study, suggesting that many other contextual and individual factors impact the development of these behavior problems. The negative relation between parenting constructs and specific profiles of behavior may be due to a third variable, such as individual child temperament. Parents may respond to children who are moody and irritable with detachment and hostility, thus perpetuating the development of behavior problems and further straining the parent-child relationship (Sroufe, 1989). Research examining the interaction between early temperament, specific parenting, and later adjustment is needed to help understand the development of these problems. Additionally, although the parenting constructs were uniquely associated with child behavior in some cases, punitive discipline emerged consistently as a primary correlate with all three child behavior problems. Punitive discipline is clearly a core parenting deficit and may be the most relevant parenting problem to work on with children and families in clinical settings. To expand on these findings, future research should examine the developmental sequence of maladaptive parenting and narrowband profiles of child behavior in a longitudinal design to explicate the direction of effects more clearly.

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Table 1
Factor Loadings and Fit Indexes for the Five Parenting Constructs

Parenting Construct, Measure, and Item	Factor Loadings
Warmth/Involvement ^d	
Parent Questionnaire	
How often do you talk or play together?	.63
How often do you play sports or games with child?	.60
How often do you do something special with child?	.48
How often do you praise your child?	.51
How often do you play make-believe together?	.50
How often do you tell about your own experience?	.42
How often do you laugh together?	.55
Fraction of time you have fun with child	.34
Fraction of the time you are too worn out to play with child	.19
Fraction of the time you praise child	.45
Consistency	
Parent Questionnaire ^b	
Fraction of the time you tell child to do something and make sure s/he does it	.38
If you tell child s/he will get punished, how often do you follow-through?	.39
How often does child get away with things?	.54 ^c
Punishment you use depends on mood	.26
Child is able to get out of punishment	.53 ^c
Parenting Practices Inventory	
How often do you give up trying to get child to do something?	.53
If punishment is decided, how often does child get you to change it?	.54
How often does child get away with things?	.62
How often do you decide not to punish child even though rules were broken?	.56
Punitive Discipline ^d	
Conflict Tactics Scale	
Argue angrily	.35
Yell, insult, or swear	.56
Sulk, refuse to talk	.38 ^c
Stomp out of room	.33 ^c
Throw something	.33 ^b
Parenting Questionnaire	
Tell your child you may leave is s/he doesn't behave	.29 ^c
Tell your child s/he is bad	.30 ^c
Fraction of time you talk to your child with disapproval	.21
Fraction of time you get angry when punishing	.48
Parenting Practices Inventory	
Threaten child with punishment	.54
Yell at child	.62
Lose temper	.47
Spanking ^e	
Conflict Tactics Scale	
Threaten to spank your child	.54
Spank your child	.98
Spank your child with something	.60
Physical Aggression ^f	
Conflict Tactics Scale	
Threaten to throw something at your child	.25 ^c
Throw something at your child	.30 ^c
Push, grab, or shove your child	.27
Threaten to hit your child	.73

Parenting Construct, Measure, and Item	Factor Loadings
Hit or tried to hit child	.91
Hit or tried to hit your child with something	.72
Threaten to beat up child	.30 ^c
Beat up your child	.24 ^c

Note: Reverse items were scored to allow positive loadings. CFI = comparative fit index.

^a CFI = .87, $\chi^2(35, N = 631) = 197.51$.

^b CFI = .88, $\chi^2(26, N = 631) = 136.35$.

^c Item error correlations were estimated.

^d CFI = .89, $\chi^2(51, N = 631) = 155.25$.

^e CFI = not applicable (fully identified model), $\chi^2(0, N = 631) = 0$.

^f CFI = .90, $\chi^2(18, N = 631) = 216.53$.

Table 2
Bivariate Correlations Between Parenting Constructs

Parenting Construct	1	2	3	4
1. Warmth/Involvement	-	-	-	-
2. Consistency	.12*	-	-	-
3. Punitive Discipline	-.21**	-.43**	-	-
4. Spanking	-.10*	-.14*	.41**	-
5. Physical Aggression	.11*	-.15*	.44**	.33**

* $p < .01$.

** $p < .001$.

Table 3
Bivariate Correlations Between Parenting Practices and Narrowband Child Behaviors Problems

Parenting Construct	Child Behavior		
	Oppositional	Aggressive	Hyperactive
Warmth/Involvement	-.17***	-.14**	-.09*
Consistency	-.17***	-.18***	-.12***
Punitive Discipline	.40***	.38***	.31***
Spanking	.24***	.30***	.32 ^a ***
Physical Aggression	.19***	.26 ^b ***	.14 ^a **
			Internalizing
			-.10**
			-.20***
			.36***
			.17 ^b ***
			.18***

Note: Subscripts indicate that correlations within a row significantly differ at the $p < .05$ level using Fisher's r -to- z transformations. All correlations were significant.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4
Hierarchical Regression Analyses Examining the Relation Among Parenting Practices and Narrow-Band Dimensions of Child Behavior Problems

Parenting Practices	Child Behavior											
	Oppositional ^d			Aggression ^b			Hyperactive ^c			Internalizing ^d		
	β	ΔR^2	ΔR^2	β	ΔR^2	ΔR^2	β	ΔR^2	ΔR^2	β	ΔR^2	ΔR^2
Punitive Discipline	.33***	.16**	.14***	.25***	.14***	.09***	.21***	.09***	.31***	.13***	.13***	.13***
Consistency	.00	.00	.00	-.03***	.00	.00	.00	.00	-.05	.00	.00	.00
Spanking	.09*	.01*	.03***	.16***	.03***	.05***	.24***	.05***	.02	.00	.00	.00
Physical Aggression	.01	.00	.01*	.09*	.01*	.00	-.03	.00	.03	.00	.00	.00
Warmth/Involvement	-.09*	.01*	.00	-.05	.00	.00	-.02	.00	-.02	.00	.00	.00

Note: Betarefers to the standardized beta coefficients in the full model (controlling for the effects of the other variables). ΔR^2 statistics reflect the incremental variance predicted by each of the parenting constructs (in the order presented).

^a Full-model adjusted $R^2 = .18$, $F(5, 619) = 26.96$ ***.

^b Full-model adjusted $R^2 = .18$, $F(5, 619) = 27.31$ ***.

^c Full-model adjusted $R^2 = .14$, $F(5, 619) = 20.69$ ***.

^d Full-model adjusted $R^2 = .13$, $F(5, 619) = 19.86$ ***.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 5
 Mean Levels of Parenting Practices for Children Showing Different Profiles of Conduct Problem Behavior

Parenting Practice	Problem Profile												F ^f
	Oppositional ^d		Aggressive ^b		Hyperactive ^e		Multiproblem ^d		Low Problem ^e		M	SD	
	M	SD	MSD	M	SD	M	SD	M	SD	M			
Warmth/Involvement	-0.51 ^b	0.99	-0.54 ^b 0.81	-0.36 ^{a,b}	0.91	-0.47 ^{a,b}	0.89	-0.13 ^a	1.05	2.34 [*]			
Consistency	-0.53 ^c	1.01	-0.59 ^c 0.95	-0.10 ^{a,b}	0.95	-0.38 ^{b,c}	1.16	0.14 ^a	0.92	6.43 ^{***}			
Punitive Discipline	0.89 ^a	0.90	0.63 ^d 0.68	0.30 ^b	0.93	0.73 ^a	1.06	-0.38 ^c	0.67	24.09 ^{***}			
Spanking	0.53 ^{a,b}	0.91	0.44 ^b 1.03	0.50 ^{a,b}	0.86	0.80 ^a	0.95	-0.11 ^c	0.82	12.28 ^{***}			
Physical Aggression	0.40 ^a	1.07	0.38 ^a 1.0	0.00 ^b	0.87	0.44 ^a	1.23	-0.27 ^b	0.57	8.05 ^{***}			

Note: Parenting constructs are standardized z scores based on the means and standard deviations of the normative sample. Different subscripts indicate significant mean differences between groups on the parenting practices using Duncan's comparison test at $p < .05$.

^a $n = 31$.

^b $n = 70$.

^c $n = 78$.

^d $n = 124$.

^e $n = 80$.

^f $df = 4, 377$.

* $p < .05$.

** $p < .01$.