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Experimental Task and Speaker Effects on Parent-Child Interactions of Aggressive and Depressed/Anxious Children

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Parent-child interactions of aggressive and depressed/anxious clinic-referred children were observed during two different tasks: planning a vacation and discussing a conflict. Marked group differences were found as a function of the type of task, who was speaking (parent vs. child), and type of child psychopathology. Negative behaviors (e.g., Belittling and Blaming) were especially pronounced in the conflict task, whereas positive behaviors (e.g., Nurturing and Protecting) were more common in the planning task. Parents displayed other-directed behavior (e.g., Watching and Controlling), whereas children showed more self-directed behavior (e.g., Walling Off and Distancing), and patterns of child psychopathology interacted with task and speaker in theoretically important ways; for example, parents of aggressive children showed more Belittling and Blaming than their children in the conflict task, but not in the planning task. The findings highlight key factors that may need to be incorporated into models of parent-child interaction and child psychopathology.

KEY WORDS: Disturbed children and adolescents; parent-child interactions; aggression; depression; anxiety; task differences.

Early efforts to explain family processes related to child and adolescent (hereafter referred to as "child") psychopathology have focused on parenting characteristics and parent behavior during parent-child interactions (Hetherington & Martin, 1986). These studies illuminate intriguing associations between certain parent behaviors and child disturbance (e.g., Cole & Rehm, 1986; Patterson, 1982), but considerably less is known about children's behavior during parent-child interactions or how children's behavior relates to their own clinical problems. A broader framework is needed to evaluate family processes linked to child deviance, one that encompasses situation or person factors that might affect parent-child interaction and its association with child dysfunction.

One such framework has been proposed by Bronfenbrenner (1986) and Henggeler and Borduin (1990), who argued that family processes and child development are affected by multiple interrelated systems. These authors emphasized the impact of extrafamilial contexts on family functioning (e.g., the neighborhood, school, community), but it is also important to understand the role of intrafamilial contextual factors that may affect family processes, for example, factors such as the context or activity within which the family interacts, the role of the speaker (e.g., parent vs. child) within the family, and the patterns of child psychopathology represented in these

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families. According to Henggeler and Borduin, increased understanding of interrelated extrafamilial systems may enhance our understanding of child development and the emergence of psychopathology in children. The same principle should apply to intrafamilial contextual factors as well. Thus, in the present study, we built on this general concept, focusing on three potentially important influences on parent-child interactions of troubled youth: (1) type of interactive activity or task; (2) role of the speaker in the family — i.e., parent versus child; and (3) type of child psychopathology.

The first factor we examined was task. Changes in parents' and children's behavior from one situation to another may inform us about the dynamics of parent-child interactions in relation to children's psychological problems — e.g., by enriching our understanding of the situations and activities that serve as catalysts for troublesome or clinically significant patterns of interaction. Also, the methods used in observational studies of parent-child interaction are expensive, labor-intensive, and time-consuming (Sillars, 1991), and thus, it is important to identify the kinds of tasks that yield the most bountiful information about interaction in relation to child psychopathology — particularly whether some tasks are more sensitive to differences between clinical groups than other tasks.

Multisystemic theorists suggest that parent-child interactions are context-dependent, and thus, the type of activity or task in which parents and children engage will exert substantial influence on the kinds of behavior observed (Henggeler & Borduin, 1990). The question of cross-situational consistency of parent-child interactions may be viewed as an extension of the longstanding debate over whether individuals have stable personality traits or whether individual behavior is situation-specific (Epstein & O'Brien, 1985; Mischel, 1968). By assessing the consistency of parent-child interactions across tasks, investigators may generate hypotheses about the stability of *relationship patterns* across situations and whether patterns change as function of the situation. Little is known about the impact of context on parent-child interactions, because most observational studies have examined parent and child behavior within a single type of interactive task — typically a task designed to produce conflict (e.g., Sanders, Dadds, Johnston, & Cash, 1992). Given this methodological homogeneity, it remains unclear whether the patterns reported thus far reflect general characteristics of parent-child interaction involving disturbed children, or whether such patterns may be unique to conflictual situations. Thus, in the present study, we observed parent-child interactions in two different tasks, one designed to be a cooperative planning activity and the other designed to stimulate conflict.

Specific predictions were difficult to make because methods and findings have differed across the small number of previous studies (e.g., Borduin, Pruitt, & Henggeler, 1985; McColloch, Gilbert, & Johnson, 1990; Stiles & White, 1981). For example, Jacob and Davis (1973) and Zuckerman and Jacob (1979) compared family interactions in three different tasks. In both studies, two of the tasks involved families participating in a conflict discussion and creating a story from a set of Thematic Apperception Test cards. For the third task, Jacob and Davis (1973) instructed families to "plan something together," while Zuckerman and Jacob (1979) had families discuss and resolve a hypothetical problem. In both studies family process was not altered as a function of the experimental task, and the authors concluded that family interactions are stable across different tasks.

Other evidence, however, suggests that behavior changes as a function of task content. A study of well-adjusted families showed that displays of affect and dominance were more pronounced during a conflict discussion than a planning task (Henggeler, Borduin, Rodick, & Tavormina, 1979), and Gilbert, Christensen, and Margolin (1984) found that distressed parent-child dyads showed less supportive behavior under conditions of conflict as compared to a neutral planning task. Similarly, Alexander, Waldron, Barton, and Mas (1989) found a reduction in the number of negative behaviors displayed by families of delinquents during a cooperative versus a competitive game of Scrabble. Overall, findings suggest that negative interactions increase as tasks shift from cooperative, relatively nonarousing activity to activity that stimulates conflict and is emotionally arousing.

Methodological limitations of these studies leave at least three questions unanswered. First, most of the research involves presumably well-adjusted nonclinically referred children (e.g., Henggeler, et al., 1979; Jacob & Davis, 1973; Zuckerman & Jacob, 1979) or school-based populations (McColloch et al., 1990); thus, the findings may not be representative of families of children with clinical problems. Second,

even those studies involving disturbed children did not compare different clinical groups to one another; instead, they compared disturbed and nondisturbed (e.g., Alexander, et al., 1989; Borduin, et al., 1985), and distressed and nondistressed youth (Gilbert et al., 1984). Consequently, we do not know how families of children with different types of problems respond across different tasks, and we thus know little about the diagnostic specificity of the patterns identified in those studies. Finally, general outcome measures (i.e., positive vs. negative behavior) or verbal behavior only (Stiles & White, 1981) were used in these studies, and thus, we do not know what specific behaviors are associated with task effects. These concerns were addressed in the present study by focusing on a treatment sample classified into distinct diagnostic groups (see below) and by using an outcome measure that examined 16 different behaviors, both positive (e.g., Nurturing and Protecting) and negative (e.g., Belittling and Blaming).

The second factor we examined, "who is speaking," may also be related to observed parent-child interactions (Henggeler & Borduin, 1990; Stiles & White, 1981). While research suggests that parenting behavior is associated with child psychopathology, it may be that children's own behavior during interactions with their parents is also linked to their clinical problems and syndromes. Data on child and parent behavior during interactions could help generate hypotheses about the relative contribution of children and parents to children's clinical problems, and enrich our understanding of how the syndromes fit into a family context. Although three decades have passed since Bell (1968) reconceptualized children's role in socialization, most of the research still focuses on parent (and not child) behavior associated with child deviance (for exceptions see Dadds & Sanders, 1992; Stiles & White, 1981). And, even studies that have examined children's behavior during parent-child interactions typically involve subjects who were selected primarily based on parent psychopathology (e.g., maternal depression) and not child psychopathology (e.g., Gordon et al., 1989). Thus, findings from such samples may not be representative of child or parent behavior during parent-child interactions involving clinic-referred children. As a result, little is known about the behavior of clinic-referred children during face-to-face interactions with their parents.

One model for understanding parents' and children's unique contributions to parent-child interactions has been offered by Benjamin's (1974) structural analysis of social behavior (SASB). The SASB is a circumflex model of interpersonal relations based on Sullivan's (1953) interpersonal theory and prior circumflex models of social behavior (i.e., Leary, 1957; Schaefer, 1965). According to this model, children tend to behave in a self-focused manner (e.g., Trusting and Relying), while parents tend to behave in an other-focused manner (e.g., Watching and Controlling) during parent-child interactions. However, the theory does not explicate how such patterns might change as a function of child psychopathology or the interactive task context. For example, some theorists posit that child psychopathology is associated with role reversal and poor parent-child boundaries, i.e., children assume a caretaker role (Bernstein, Svingen, & Garfinkel, 1990; Minuchin, Rosman, & Baker, 1978), although few studies have examined this empirically. The SASB is linked to a corresponding observational methodology that has been well validated in previous studies of observed parent-child interactions (Humes & Humphrey, 1994; Humphrey, 1987, 1989). The method divides 16 behaviors into two domains, behaviors that are focused on others and behaviors that are focused on the self. According to SASB theory, role reversal would be evident in children's predominant use of other-focused behavior and parents' primary use of self-focused behavior. Table I describes each SASB code examined in this study and indicates whether it is self- or other-focused. This study provided a test of these theoretical positions by examining parents' and children's behavior separately.

A third potential influence on parent-child interaction is child psychopathology. It is widely believed that different childhood disorders can be linked to particular patterns of parent-child interaction, yet few studies have established specific linkages (Keitner & Miller, 1990). We do not know, for example, whether child problems as different as aggression and depression are associated with different styles of parent-child interaction, in part because existing evidence is relatively nonspecific; that is, diverse problem patterns have been linked to similar patterns of interaction. For example, there is evidence associating child aggression, as well as depression and anxiety, with parental hostility and criticism (e.g., Burbach & Borduin, 1986; Loeber, 1990; Patterson, 1982; Tearnan & Telch, 1988), lack of warmth (e.g., Borduin et al., 1985; Messer & Gross, 1995; Sanders et al., 1992; Stice, Barrera, & Chassin, 1993), and the use of control techniques (e.g.,

Huffington & Sevitt, 1989; Lewinsohn et al., 1994; Shaw & Bell, 1993), and even these studies failed to consider the impact of contextual factors (i.e., task and speaker differences) on parent-child interactions of *disturbed* children. Consequently, we do not know how children with diverse problems respond across different tasks, and we thus know little about the diagnostic specificity of the patterns identified in those studies. Thus, this study focused on clinically disturbed children admitted to mental health clinics who were classified into four distinct groups which were compared to each other: depressed/anxious only,[4] aggressive only, comorbid (i.e., aggressive plus depressed/anxious), and low aggression/ low depression/anxiety (i.e., children without significant levels of aggression or depression/anxiety). These four groups formed part of a factorial design that included Depression/Anxiety (high vs. low) and Aggression (high vs. low) factors.

In sum, we sought to study whether parent-child interactions change as a function of three contextual factors, task, speaker and child psychopathology. Task effects were assessed using two frequently used tasks, one designed to be emotionally arousing (i.e., discussing a conflict) and another designed to be less arousing (i.e., planning a hypothetical vacation). Speaker effects were evaluated by analyzing parent and child behavior separately, and child psychopathology effects were examined by including children with high and low levels of aggression crossed with high and low levels of depression/anxiety. Contextual factors may also affect each other, and thus, task, speaker, and child psychopathology were crossed to examine potential interaction effects. We used the SASB to analyze parent-child interactions, because (1) we could build on previous SASB research on parent-child interaction, (2) the SASB is a well-validated measurement tool for families of clinically disturbed youth (Humphrey, 1989), (3) SASB theory offers hypotheses about parents' and children's unique contributions to parent-child interactions, and (4) among the SASB codes (see Table I) are several which have been previously associated with childhood aggression and/or depression, such as hostile coercion (coded as "Belittling and Blaming" in the SASB), neglect (coded as "Walling off and Distancing" in the SASB), warmth (coded as "Joyfully Connecting" in the SASB), and control (coded as "Watching and Controlling" in the SASB). We examined multiple SASB codes to generate a relatively comprehensive picture of parent-child interactions.

[4]Depression and anxiety were combined in the present study because considerable evidence suggests that the two syndromes are highly correlated and tend to coexist in children (Ollendick & Yule, 1990; Strauss, Last, Hersen, & Kazdin, 1988), and that they may not represent two distinct syndromes (Weiss & Weisz, 1988). Indeed, Achenbach's (1991) factor analyses of the Child Behavior Checklist generated a single factor for anxious/ depressed.

METHODS

Overview and Procedures

This research grows out of a larger longitudinal study of clinic-referred children 7 to 16 years old. Six outpatient clinics in southern and central California participated in the study. Subjects were informed of the study during clinic intake, and interested parents were contacted by project staff. There was a high rate (> 90%) of consent to participate among eligible families. Interviews were conducted prior to the beginning of therapy. Parents and children separately completed standard measures of adjustment and diagnosis, and parent-child dyads were videotaped interacting. Parents were paid $50, and children received an age-appropriate gift at the end of the interview. This study evaluated parents' and children's observed behaviors during two different tasks, planning a vacation and discussing a conflict. Interactions were coded using the SASB (Humphrey & Benjamin, 1989), a microanalytic coding system for analyzing complex patterns of social interaction. The reliability and validity of the SASB have been documented extensively (see Humes & Humphrey, 1994; Humphrey, 1987, 1989; Humphrey, Apple, & Kirschenbaum, 1986).

Measures

Child Behavior Checklist (CBCL; Achenbach, 1991). The CBCL is a widely used, standardized parent-report measure of child behavior problems. Parents circle 0 for each problem that is *not true* of their child, 1 for each one that is *somewhat or sometimes true,* and 2 for each one that is *very true or often true.* The CBCL generates raw and *T*-scores for total problems, broad-band internalizing (e.g., sadness, anxiety) and externalizing (e.g., fighting, swearing) syndromes, and individual narrow-band syndromes (e.g., aggressive, depressed/anxious). Evidence on the reliability and validity of these scores is now extensive (see Achenbach, 1991).

Teacher Report Form (TRF) of the Child Behavior Checklist (Achenbach & Edelbrock, 1986). With parental consent, teachers of participating children were asked to complete the TRF. The measure parallels the CBCL, except that problems likely to be seen only at home (e.g., insomnia) are replaced by problems likely to be seen only at school (e.g., makes odd noises in class). The TRF generates the same raw and *T*-scores as the CBCL, and its reliability and validity evidence are equally extensive (Achenbach & Edelbrock, 1986).

Youth Self Report (YSR; Achenbach & Edelbrock, 1987). The YSR is designed to measure children's reports about their own behavior and parallels the format used in the CBCL. The instrument was normed for children ages 11 to 18 and assumes a mental age of 10 years. Each of the 112 problem items was read by the experimenter, and the child's response was obtained. There is also evidence for its reliability and validity (Achenbach, 1991).

The Diagnostic Interview Schedule for Children — Parent Version (DISC 2.3; Costello, Edelbrock, Dulcan, Kalas, & Klaric, 1984; Shaffer, Fisher, Piacentini, Schwab-Stone, & Wicks, 1991). The DISC generates an array of *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.) (DSM-III-R; American Psychiatric Association, 1987) diagnoses and has documented reliability and validity (see Piacentini et al., 1993; Shaffer et al., 1993). DISC diagnoses were arrived at using algorithms developed by Shaffer and colleagues at Columbia.[5]

Potential Parent-Child Problems (PPCP). The PPCP was used to identify a topic for the conflict discussion task. Parents and children independently indicated how much they disagreed about a list of 14 issues (e.g., child's grades or schoolwork, chores, friends, bedtime, curfew, privacy) on a scale of 1 to 5, where 1 = do not disagree and 5 = strongly disagree. The PPCP was derived from two measures (Christensen & Margolin, 1988; Marshall, Longwell, Goldstein, & Swanson, 1990) and modified to include topics relevant to adolescents. Consistent with the method used by Marshall et al., and Christensen and Margolin, the item rated most conflictual by both people, and least discrepant between the two respondents was chosen as the topic for the conflict discussion.

Interaction Tasks. Family members were videotaped for 5 min prior to engaging in the tasks discussed here to reduce their reactivity to being videotaped. After 5 min, subjects were instructed to plan a 2-day vacation, including (a) where they would go, (b) how they would get there, (c) where they would stay overnight, and (d) what they would do during the day. Planning task instructions invited a wide range of possible vacations to be planned within a family's means — e.g., a day trip to the zoo, a day trip to Disneyland, an hour road trip to visit an aunt. Thus, generating plans did not require family members to envision having large sums of money. Following the 4-min planning task, subjects were given 6 min to discuss and try to resolve the conflictual issue identified on the PPCP questionnaire. Topics accounting for ≅ 75% of the interactions were chores around the house (22%), schoolwork or getting into trouble at school (18%), listening to directions (15%), getting along with siblings (12%), and bedtime (8%). We analyzed the frequency with which subjects discussed the different topics in two ways. First, we examined whether groups differed across the 12 specific topics using a chi-square analysis, and results indicated that they did not, $\chi^2(30, N = 60) = 25.64$, n.s. Second, we combined similar topics into broader topic areas, i.e., family-related, peer-related, school- related, and independence seeking-related topics, and compared whether groups differed on these, and results indicated that they did not, $\chi^2(9, N = 60) = 2.85$, n.s.[6] Reviews of the videotapes confirmed that all of the subjects discussed the topic. The two interaction tasks were not counterbalanced, because the emotionally arousing nature of the conflict discussion might have unduly influenced family members' behavior during the planning task. Accordingly, all parent-child dyads were given the more neutral planning task first.

[5]Scoring procedures for the DISC depression module were slightly altered for the purposes of this study to match the DSM-III-R criteria for major depression requiring that children display symptomatic behavior for at least 2 weeks in order to receive a diagnosis. Thus, this study utilized a somewhat more conservative estimate of children who qualified for a diagnosis of major depression.

[6]In each analysis, the expected value cell fell below five, which is the lower limit frequently recommended for chi-square tests (Hayes, 1973). However, research by Camilli and Hopkins (1979) and Roscoe and Byars (1971) has shown that the chi-square statistic is quite robust in the face of violations of these limits. Indeed, research suggests that expected cell frequencies as low as one or two generate valid statistics and significance levels provided that the total sample size is 20 or more. Our analyses fulfilled this condition.

SASB. The SASB includes 16 individual codes, eight for communications directed toward the other person, and eight for communications directed toward the self. Coding is based on discreet units of communication consisting of sentences, complete thoughts, or nonverbal gestures (e.g., laughing). Long comments may consist of several units. Coding entailed assigning up to three codes to each communication unit, based on a series of discreet decisions and ratings, detailed in the sections below.

1. *Process and content.* The first step in coding involved identifying the process and content components of each communication unit. Although the system allows for coding the literal meaning of the words (content), only process is reported here because earlier reports have not shown effects related to content (e.g., Humes & Humphrey, 1994; Humphrey, 1989). *Process* refers to the meaning of the spoken words combined with the manner in which they are spoken, including nonverbal and contextual nuances of the communication such as tone of voice, facial expression, and body posture.
2 *Focus, affiliation, and interdependence.* In the second step, coders decided whether the communication was directed toward the other person or directed toward the self. Other-directed communications typically involve transitive verbs and were coded as "Other" focus. Self-directed communications typically involve intransitive verbs reflecting either a state of being or a reaction to the other person and were coded as "Self" focus. The third coding step required observers to rate each communication unit on two continuous, orthogonal dimensions. The same scale, -9 to +9, was applied to both dimensions, with observers indicating the degree of warmth (disaffiliation-affiliation) and control (interdependence-independence) expressed. Specific codes in the SASB system are designated for each combination of observers' judgments about the focus, affiliation, and interdependence of the communication as defined above. Table I provides a brief description of each SASB code along with relevant examples.

Subjects

A subset of 60 families constituted the present sample. Children ranged in age from 7 to 16 years (M = 11.5, SD = 2.2); 36.7% were female; and subjects were ethnically diverse (Caucasian 40.7%, Latino 27.1%, mixed descent 18.6%, African-American 13.6%). Families ranged from lower to middle socioeconomic status, with 76% reporting incomes below $30,000 per year. Each child participated in the study with the primary caregiver with whom s/he was residing at the time of the study (biological mothers 86.7%, biological fathers 8.3%, foster parents 3.3%, grandmothers 1.7%). Children identified by the clinics as mentally retarded were excluded from the study. None of the children had any known organic impairment that might interfere with his or her cognitive functioning (e.g., brain injury), and none was taking medication to treat a psychiatric condition.

Children were classified into four distinct groups based on four potential sources of information: (1) the CBCL (Achenbach, 1991), (2) parent report on the DISC (Shaffer, 1991), (3) the YSR (Achenbach & Edelbrock, 1987), and (4) the TRF (Achenbach & Edelbrock, 1986). Teacher reports were unavailable for 35% of the sample (many children had not been in class for the 2 months required for TRF administration, and others were on school vacation at the time of the assessment), and 26% of the children were too young for the YSR, which is normed for children 11 years and older. To be classified into a particular group, at least half of the available sources of information had to meet criteria for the same clinical category, and no cases with consistent disagreement (e.g., two sources would have placed the child in one category and two would have placed the child in another) were included. Criteria used to classify children on each diagnostic instrument are described below. The same criteria were applied to parent, teacher, and child self-reports on the CBCL, TRF, and YSR, respectively.[7]

[7]Despite agreement that multiple measurements and informants should be used to classify children in clinical research, neither examinations of various methods for combining informant reports, nor comparisons of the utility of psychiatric diagnoses versus statistically derived problem syndromes, have produced an optimum strategy for deriving multi-informant or multisource classifications (e.g., Gould, Bird, & Staghezza, 1993; Jensen, Salzberg, Richters, & Watanabe, 1993). Therefore, we used a combination of several well-validated instruments plus reports by different informants to classify children in the present investigation.

Classification Criteria

Aggression. To qualify for the aggressive group on the CBCL, TRF, or YSR, children were required to score at or above the Achenbach (1991) borderline clinical cut-off on the Aggressive subscale ($T \geq 67$), and below the borderline clinical cutoff ($T < 67$) on the three internalizing narrow-band syndromes: Withdrawn, Somaticizing, and Anxious/Depressed.[8] Children were classified as aggressive on the DISC if they received a diagnosis of conduct disorder (CD) and/or oppositional defiant disorder (ODD), but not any anxiety disorder or mood disorder.

Depression/Anxiety.[9] Children qualified for the depressed/anxious group on the CBCL, TRF, or YSR, when they scored at or above the Achenbach (1991) borderline clinical cutoff on the Anxious/Depressed syndrome ($T \geq 67$) and below the borderline clinical cutoff ($T < 67$) on the two externalizing narrow-band subscales, Delinquency and Aggression. Children were classified as depressed/anxious on the DISC when they met criteria for dysthymia, major depressive disorder, and/or any anxiety disorder, but not CD or ODD.

Comorbid Aggression and Depression/Anxiety. To qualify for the comorbid group on the CBCL, TRF, or YSR, children scored at or above the Achenbach (1991) borderline clinical cutoff on *both* the Aggressive and Depressed/Anxious subscales ($T \geq 67$). To qualify as comorbid on the DISC, children received diagnoses of at least one anxiety and/or mood disorder plus CD and/or ODD.

Low Aggression/Low Depression/Anxiety. Children who qualified for the low-aggression/low-depression/anxiety group had no elevated *T*-scores ($T < 67$) on any of the internalizing or externalizing narrow-band subscales of the CBCL, TRF, or YSR,[10] and they did not qualify for DISC diagnoses of CD, ODD, any mood disorder, or any anxiety disorder. These children sought treatment for a range of problems (33% family, 24% emotional, 17% school, 16% behavior, 5% peers, and 5% other, e.g., caught with drugs, racial identity problem) and all were recommended for treatment.

Means and standard deviations of the broad-band internalizing and externalizing *T*-scores, and the narrow-band Aggressive and Anxious/Depressed subscales on the CBCL, TRF, and YSR are presented for each group in Table II. Cross informant agreement in this study was consistent with figures reported in other studies (see Achenbach, McConaughy, & Howell, 1987). Using the preceding criteria, 11 children were classified as aggressive only, 13 qualified for the depressed/anxious only group, 15 were categorized as morbid, and 21 were classified as subclincal (low on both subscales). Two-way analyses of variance (ANOVAs) on the CBCL, TRF, and YSR narrow-band Aggression and Depression/Anxiety subscales indicated that groups differed on all three measures of child behavior problems in a direction that was consistent with the selection criteria (see Table II). Analyses also indicated that groups did not differ significantly on any demographic variable, including child age, gender, race, birth order, number of siblings, parent income or education.

Observers and Reliability

Videotapes were coded by an advanced undergraduate and graduate student in psychology, both of whom were blind to subjects' group status. Coders were trained in the SASB laboratory at Northwestern University Medical School (supervised by Laura Humphrey, Ph.D.), and this was followed by practice and feedback until acceptable reliability was attained. Coders met and received feedback through the duration of coding to prevent criterion drift.

[8]Two cases were permitted where children scored above the borderline clinical cutoff on either the Withdrawn ($T = 68$) or Somatic Complaints ($T = 72$) subscales, but not the Anxious/Depressed syndrome, because their scores on the Aggression subscale were 22 and 17 *T*-score points higher, respectively, than their scores on the internalizing narrow-band subscale. Thus, their Aggression scores ($T = 90$ and 89) were strikingly higher than the one elevated internalizing scale.

[9]Of the 10 children in this study classified as anxious/depressed according to the DISC, 70% met criteria for both an anxiety and depressive disorder.

[10]This group scored at approximately the 50th percentile on all but one of the 12 symptom measures on the CBCL, TRF, and YSR indicating that this group showed few symptoms of aggression and/or depression/anxiety (see Table II).

Table I. Structural Analysis of Social Behavior Code Descriptions

Behavioral codes and descriptions
Affirming and Understanding Demonstrating an open-minded attitude toward someone else's experience, including actively listening and asking questions, for example, "What do you think would be a good solution?" or "You really seem to be listening to me."
Nurturing and Protecting Teaching, guiding, and problem solving in a kind and friendly way and/or taking care of, nurturing, and protecting others. Examples of this code include "I can help you with your homework," or "Let's think of some other possible solutions."
Watching and Controlling Directing another person to behave or to think in a particular manner. Examples of this code are, "After you clean your room, then you can watch TV," or "Don't touch the microphone."
Belittling and Blaming Attempting to influence another person by criticizing, condemning, manipulating, deceiving or being condescending to get the upper hand. "You better start cleaning up around the house" or "If you don't start cooperating, I'm sending you to your father's house" are examples of this code.
Joyfully Connecting Responding to another person in a relaxed, joyful, loving, or even a playful manner. Two examples of this code are "I love you too, Mom," or a child sitting on his mother's lap.
Trusting and Relying Willingly taking in, accepting help, or learning from another person in a friendly way, for example, "Okay, I'll agree to your solution," or "Can you help me with this?"
Sulking and Appeasing Resentfully complying, whining, fuming, and becoming defensive. Examples of this code are "But mom, I always have to do things your way," or "I never get to sleep over at my friend's house."
Walling Off and Distancing Shutting others out, isolating oneself, or being preoccupied and nonreactive to others, for example, "I don't know how to solve it," or not responding to another person's question.

Note. From Humphrey and Benjamin (1989). Adapted with permission of the author.

Table II. Group Means, Standard Deviations, and Main Effects Involving CBCL, TRF, and YSR Scores[a]

	Aggressive (n = 11)		Depressed/anxious (n = 13)		Comorbid (n = 15)		Subclinical (n = 21)		Agg	D/A
Problem scale	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*F*
Child Behavior Checklist										
Externalizing	69.7	4.0	57.2	5.2	78.7	9.5	52.8	9.5	82.5[d]	10.1[b]
Internalizing	55.3	4.5	71.7	6.2	77.0	4.1	52.6	11.7	n.s.	91.5[d]
Aggressive	69.2	5.2	57.6	4.2	84.7	13.6	55.4	7.2	80.8[d]	15.2[c]
Anxious/depressed	57.3	4.1	73.2	5.1	80.5	6.2	67.0	10.0	n.s.	102.1[d]
Teacher Report Form										
Externalizing	72.1	13.7	59.8	6.8	70.2	6.5	57.1	10.2	15.9[c]	n.s.
Internalizing	59.4	9.9	73.8	11.6	65.7	9.6	56.3	9.2	n.s.	13.6[c]
Aggressive	77.6	15.8	60.3	6.6	71.8	10.5	58.9	7.5	20.1[d]	n.s.
Anxious/depressed	60.6	6.0	75.4	10.5	65.6	8.5	57.2	6.9	n.s.	21.1[d]
Youth Self-Report										
Externalizing	68.3	7.5	52.0	7.3	65.6	9.6	53.2	11.3	17.7[c]	n.s.
Internalizing	57.9	7.5	71.7	6.0	59.6	16.3	52.2	9.5	n.s.	5.7[b]
Aggressive	67.3	8.3	56.3	5.2	67.0	9.2	55.9	7.2	17.3[c]	n.s.
Anxious/depressed	59.4	7.1	70.0	7.1	64.9	15.1	55.0	5.6	n.s.	10.9[b]

[a]CBCL = Child Behavior Checklist (Achenbach, 1991); TRF = Teacher Report Form (Achenbach & Edelbrock, 1986); YSR = Youth Self-Report (Achenbach & Edelbrock, 1987); Agg = aggression main effect; D/A = depression/anxiety main effect.
[b]$p < .01$.
[c]$p < .001$.
[d]$p < .0001$.

Table III. Pearson Correlation Coefficients — Interrater Reliability for Parent and Child Behavior in the Conflict and Planning Tasks

	Conflict		Planning	
Dimension	Parent	Child	Parent	Child
Affirming and Understanding	.77	.84	.74	.22[b]
Nurturing and Protecting	.73	.79	.73	.60
Watching and Controlling	.75	.80	.60	.75
Belittling and Blaming	.81	.25[a]	.65	.79
Approaching and Enjoying	.88	.93	.95	.72
Trusting and Relying	.76	.84	.50	.94
Sulking and Appeasing	.78	.65	.43	.91
Walling off and Distancing	.75	.82	.89	.96

[a]Interrater reliability may have been especially low due to the rare occurrence of this behavior (M = 1.79%).

[b]Interrater reliability may have been especially low due to the rare occurrence of this behavior (M = 0.79%).

Interrater reliability was established on 25% of the sample. Where overall percentages of behavior constitute the dependent variable and ratings by an individual coder are the units of analysis, Pearson correlations are the most appropriate index of interrater agreement (Johnson & Bolstad, 1973).[11] Correlations were computed separately for parents and children in the planning and conflict tasks, thereby yielding four estimates of interrater reliability for each code. Codes were excluded from data analyses for low frequency or poor reliability, as follows. First, five[12] out of the 16 possible codes were dropped because they were observed with base rates lower than 2% in both tasks for all four groups of parents and/or children. Although rare events (i.e., codes occurring < 2%) may be important, the codes dropped from this study had such low variability that it made little sense to compare them across groups. Second, three codes were excluded because interrater agreement fell below .60 for two of the four reliability estimates. Low interrater agreement for these three codes[13] may be explained, in part, by the particularly low frequency with which these behaviors occurred (i.e., M < 2.5% for parent-to-child and child-to-parent). Two codes, Affirming and Understanding and Belittling and Blaming, showed low interrater agreement on only *one* of the four reliability estimates, so these were retained in the analyses. Low interrater agreement for these codes may also be explained by the low frequency of occurrence for these two behaviors (M = 1.79 and M = 0.79 respectively). Of the eight codes retained in the analyses, interrater reliability for parent behavior ranged from r = .73 to r = .88, with a mean of r = .78, in the conflict task, and from r = .43 to r = .95, with a mean of r = .69, in the planning task. Agreement for child behavior ranged from r = .25 to r = .93, with a mean of r = .74, in the conflict task, and from r = .22 to r = .96, with a mean of r = .74 in the planning task. Table III lists interrater reliability coefficients separately for parents and children in the two tasks.

[11]Intraclass correlations were not used as an index of interrater reliability, because the unit of analysis consisted of ratings by individual coders rather than the mean rating of the coders (Shrout & Fleiss, 1979). Kappas were also not used as the index of agreement, because the dependent variables were continuous rather than categorical, and kappas are more appropriate for categorical ratings (see Johnson & Bolstad, 1973). However, SASB codes have been treated as categorical in the past, so we evaluated interrater agreement using Cohen's weighted kappa statistic (see Humes & Humphrey, 1994, for the rationale for a weighted kappa), and interrater agreement remained strong — ranging from .43 to .85 with a mean of .70 for the conflict task, and .60 to .86 with a mean of .70 for the planning task. These kappas are consistent with previously published reports using the SASB (Humes & Humphrey, 1994; Humphrey, 1987, 1989; Humphrey et al., 1986).

[12]The five codes were Freeing and Forgetting, Loving and Approaching, Attacking and Rejecting, Ignoring and Neglecting, and Protesting and Recoiling. Previous SASB studies have dropped the same codes from data analyses because of low base rates (Humes & Humphrey, 1994).

[13]The three codes were Asserting and Separating, Disclosing and Expressing, and Deferring and Submitting. Humes and Humphrey (1994) dropped two of these codes (Asserting and Separating and Deferring and Submitting) from their analyses because of low base rates.

Table IV. Percentage Means and Standard Deviations of the Codes for Each of the Four Groups in the Conflict and Planning Tasks

	Parents				Children			
Behavioral dimension	Agg (n = 11)	D/A (n = 13)	Com (n = 15)	Sub (n = 21)	Agg (n = 11)	D/A (n = 13)	Com (n = 15)	Sub (n = 21)
Affirming and Understanding								
Conflict								
M	6.16	13.20	13.38	7.83	1.27	0.43	0.75	0.78
SD	3.74	8.22	7.54	4.97	1.56	1.33	1.13	1.10
Planning								
M	3.67	7.87	5.65	4.35	1.18	0.44	0.63	0.92
SD	2.95	6.80	4.60	3.81	1.71	0.81	1.08	1.87
Nurturing and Protecting								
Conflict								
M	14.89	10.04	8.67	17.00	1.70	1.74	2.42	3.55
SD	20.13	14.76	12.06	15.13	1.91	3.06	7.36	5.95
Planning								
M	31.75	28.75	28.65	26.56	8.25	8.19	8.81	7.38
SD	25.96	18.05	16.89	14.38	10.81	8.64	10.31	6.68
Watching and Controlling								
Conflict								
M	37.92	48.94	43.38	41.09	25.63	14.79	20.07	21.28
SD	16.81	10.74	16.58	15.30	14.99	9.99	8.37	12.75
Planning								
M	29.57	36.76	36.61	33.28	24.98	20.61	23.39	25.50
SD	16.97	16.77	12.66	12.85	16.66	10.19	13.77	15.36
Belittling and Blaming								
Conflict								
M	11.18	4.50	6.93	2.21	2.68	1.22	1.68	1.56
SD	11.44	5.64	9.20	3.13	4.23	1.59	3.09	2.19
Planning								
M	0.88	0.99	0.59	0.75	1.35	0.47	0.32	1.12
SD	1.28	1.29	1.48	0.86	2.90	1.07	0.59	1.57
Joyfully Connecting								
Conflict								
M	2.75	1.36	2.44	5.00	4.38	5.21	6.14	8.24
SD	2.78	1.98	2.69	4.67	3.02	5.81	5.28	5.66
Planning								
M	4.83	5.82	5.35	7.76	7.43	8.45	9.71	9.65
SD	4.33	5.26	4.25	5.18	3.91	8.70	5.10	6.05
Trusting and Relying								
Conflict								
M	4.27	5.67	6.27	6.33	14.45	13.68	7.93	12.51
SD	3.39	5.34	9.19	6.44	17.80	10.37	7.57	9.76
Planning								
M	10.56	10.16	9.75	10.39	23.26	22.11	20.70	19.36
SD	6.82	9.55	7.32	5.15	18.33	9.74	10.56	8.70
Sulking and Appeasing								
Conflict								
M	13.15	12.94	15.51	12.33	16.69	22.05	28.26	23.49
SD	14.13	8.29	12.91	8.78	8.37	12.89	15.53	13.53
Planning								
M	6.61	5.22	8.56	6.03	6.19	8.88	10.23	9.52
SD	10.22	6.16	10.61	5.93	5.58	8.35	10.54	7.22
Walling off and Distancing								
Conflict								
M	3.55	0.19	0.19	1.80	12.72	14.12	12.66	9.25
SD	6.52	0.50	0.54	3.49	13.31	15.51	12.00	6.98
Planning								
M	4.05	0.22	0.51	3.41	8.25	8.74	5.11	5.23
SD	9.77	0.54	1.18	8.57	15.98	12.38	6.42	8.53

Note. SASB = Structural Analysis of Social Behavior (Humphrey & Benjamin, 1989); Agg = aggressive; D/A = depressed/anxious; Com = comorbid; Sub = subclinical.

Diagnostic Groups for Data Analysis

For the purpose of data analysis, the four diagnostic groups were arrayed as two factors within the overall factorial design (see Overview of Data Analyses, below): Aggression (high vs. low) and Depression/Anxiety (high vs. low). The aggressive-only group was redefined as high on aggression and low on depression/anxiety. The depressed/anxious-only group was redefined as high on depression/anxiety and low on aggression. The comorbid group was redefined as high on both factors, and the subclinical group was redefined as low on both factors. Thus, within the factorial design, high-aggression subjects included aggressive-only plus comorbid children, and high-depression/anxiety subjects included depressed/anxious-only plus comorbid subjects. The low-aggression subjects included subclinical children plus depressed/anxious-only children, and low-depression/anxiety subjects included subclinical subjects plus aggressive-only children. The factorial design was adopted in lieu of construing child psychopathology as a simple four-group array, because the factorial approach (a) allowed for a comparison of the four groups along two orthogonal dimensions of aggression and depression/anxiety, and (b) provided a test of the interaction between the two factors, thereby maximizing the amount of information derived from the data.

RESULTS

Overview of Data Analyses

Data were analyzed using a series of 2 (Task: Planning and Conflict) × 2 (Speaker: Parent and Child) × 2 (Aggression: High and Low) × 2 (Depression/Anxiety: High and Low) repeated-measures general linear model (GLM) analyses. Repeated-measures factors were experimental task and speaker, and between-subjects factors were aggression and depression/anxiety. Significant interactions were followed up via relevant *post hoc* analyses using Student Newman-Keuls tests. Each dependent variable consisted of a percentage value reflecting the number of communications classified into a particular code relative to the total number of communication units for the full interaction period. Percentage scores were used, rather than raw scores, to correct for differences in the total amount of communication across subjects. Table IV lists the codes and descriptive statistics used for the analyses.

Data analyses were conducted in two waves. In the first wave, child age and gender were included as between-subjects factors along with the two psychopathology factors to examine their effect on parent-child interaction patterns. Children were divided into two age groups — less than 11 years old and equal to or greater than 11 years old. There was one effect related to child age and no effects associated with child gender. Thus, the data were reanalyzed excluding gender but including child age as a between-subjects factor along with aggression and depression/anxiety. Because one purpose of this study was to detect possible methodological factors that may influence how findings are interpreted in studies of observed parent-child interactions and child deviance, it seemed especially important to minimize the risk of Type II error; thus, we did not use excessively conservative statistical protection procedures, such as Bonferroni. However, to provide a measure of protection against chance findings and multiple comparison error, we only report findings significant at $p < .01$.

Main Effects Involving Task

Consistent with the literature reviewed earlier, behavior changed as a function of the topic being discussed. Data analyses revealed a significant main effect of task for all but one of the eight codes; three codes were displayed more frequently in the planning task, and four codes occurred more often in the conflict task (see Fig. 1). Family members showed more Nurturing and Protecting, $F(1, 55) = 86.47$, $p = .0001$ (Ms = 18.29% and 7.78%, respectively); Joyfully Connecting, $F(1, 55) = 13.04$, $p = .0001$ (Ms = 7.60% and 4.76%, respectively); and Trusting and Relying, $F(1, 55) = 66.41$, $p = .0001$ (Ms = 15.61% and 8.88%, respectively) in the planning than the conflict task, and they exhibited more Belittling and Blaming, $F(1, 55) = 45.97$, $p = .0001$ (Ms = 3.63% and 0.80%, respectively); Sulking and Appeasing, $F(1, 55) = 85.30$, $p = .0001$ (Ms = 18.26% and 7.77%, respectively); Affirming and Understanding, $F(1, 55) = 36.34$, $p = .0001$ (Ms = 5.43% and 3.05%, respectively); and Walling Off and Distancing, $F(1, 55) = 8.57$, $p = .005$ (Ms = 6.58% and 4.31%, respectively) in the conflict than the planning task.

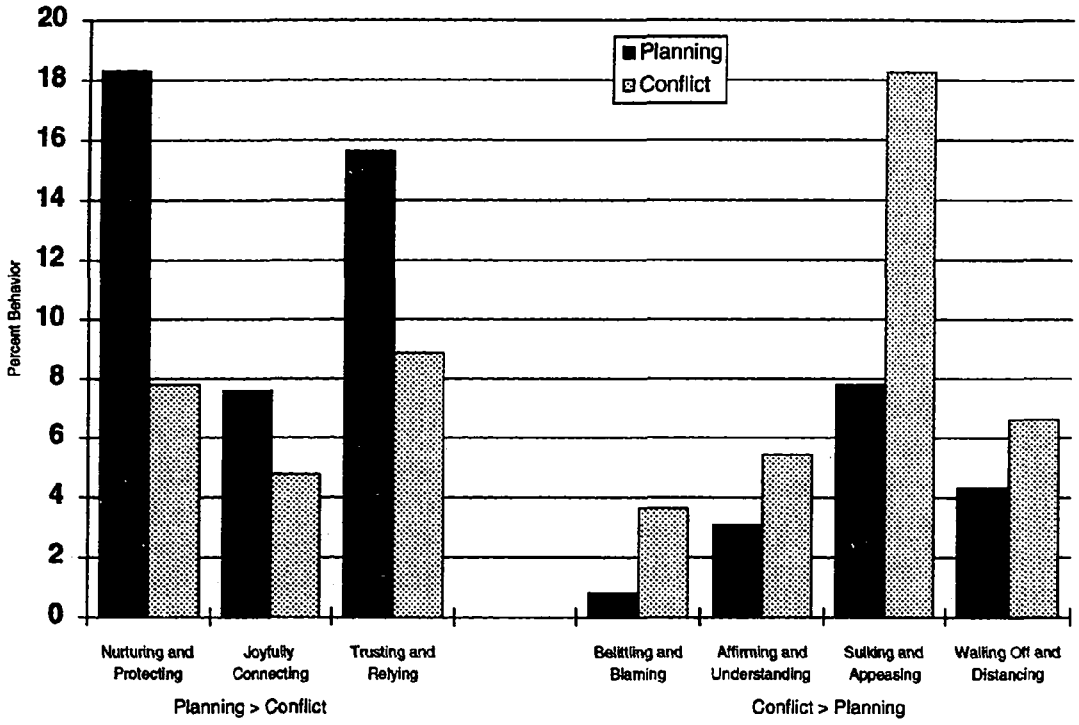

Fig. 1. Main effects of task.

Main Effects of Speaker

There was a significant main effect of speaker for all eight codes. In a pattern consistent with SASB theory but contrary to other evidence (e.g., Bernstein et al., 1990), parents displayed significantly more other-focused behavior and children showed significantly more self-focused behavior (see Fig. 2). These data suggest that the question "Who is talking?" may be critical to our understanding of parent-child interactions. Means revealed that, compared to their children, parents were coded as more Affirming and Understanding, $F(1, 55) = 124.21$, $p = .0001$ (Ms = 7.69% and 0.79%, respectively); Nurturing and Protecting, $F(1, 55) = 90.71$, $p = .0001$ (Ms = 20.77% and 5.30%, respectively); Watching and Controlling, $F(1, 55) = 85.60$, $p = .0001$ (Ms = 38.48% and 22.09%, respectively); and Belittling and Blaming, $F(1, 55) = 15.39$, $p = .0001$ (Ms = 3.16% and 1.27%, respectively). These behaviors are considered other-focused and prototypically parentlike (Humphrey & Benjamin, 1989). Similarly, children appeared more Joyfully Connecting, $F(1, 55) = 32.28$, $p = .0001$ (Ms = 7.68% and 4.68%, respectively); Trusting and Relying, $F(1, 55) = 36.80$, $p = .0001$ (Ms = 16.49% and 8.00%, respectively); Sulking and Appeasing, $F(1, 55) = 18.56$, $p = .0001$ (Ms = 16.04% and 10.0%, respectively); and Walling Off and Distancing, $F(1, 55) = 45.83$, $p = .0001$ (Ms = 9.15% and 1.74%, respectively) than their parents. These behaviors are considered self-focused and prototypically childlike (Humphrey & Benjamin, 1989).

Effects Involving Task and Speaker

Seven of eight codes yielded a Significant Task × Speaker interaction, suggesting that the interplay of what is being discussed and who is doing the talking are important for understanding parent-child interaction patterns. Codes showing Significant Task × Speaker interactions included Affirming and Understanding, $F(1, 55) = 34.76$, $p = .0001$; Nurturing and Protecting, $F(1, 55) = 25.37$, $p = .0001$; Watching and Controlling, $F(1, 55) = 17.83$, $p = .0001$; Be-

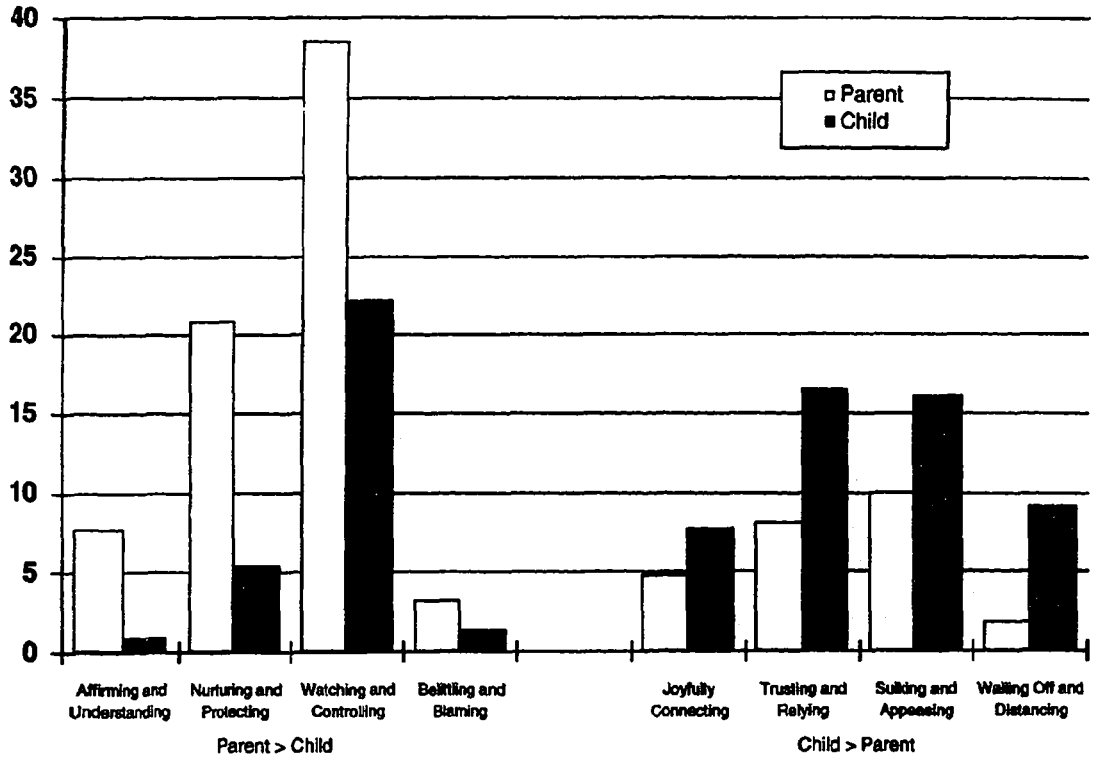

Fig. 2. Main effects of speaker.

littling and Blaming, $F(1, 55) = 23.04$, $p = .0001$; Trusting and Relying, $F(1, 55) = 7.72$, $p = .0075$; Sulking and Appeasing, $F(1, 55) = 13.77$, $p = .0005$; and Walling Off and Distancing, $F(1, 55) = 22.92$, $p = .0001$. The most common pattern was that parents were more influenced by task differences than were children (see Fig. 3), and parent-child differences were more pronounced in the conflict task. Specific patterns seen in each of the interactions are described below.

Affirming and Understanding. Newman-Keuls *post hoc* tests revealed that parents appeared more Affirming and Understanding in the conflict than the planning task (*M*s = 10.08% and 5.31%, respectively), ($p < .0001$), but children did not differ across the two tasks. Viewing the interaction from the other direction, means indicated that parents showed significantly more Affirming and Understanding than children in both tasks (*M*s = 10.08% and 0.79%, respectively, in the conflict task and 5.31% and 0.79%, respectively, in the planning task) (*p*s < .0001).

Nurturing and Protecting. Follow-up mean comparisons indicated that parents and children displayed more Nurturing and Protecting in the planning than the conflict task (*M*s = 28.51% and 13.02%, respectively, for parent behavior and 8.07% and 2.54%, respectively, for child behavior) (*p*s < .0001 and .05, respectively), and parents showed more Nurturing and Protecting than children in the conflict task (*M*s = 13.02% and 2.54%, respectively) and the planning task (*M*s = 28.51% and 8.07%, respectively) (*p*s < .0001 for both).

Watching and Controlling. Post hoc tests showed that parents exhibited more Watching and Controlling in the conflict than the planning task (*M*s = 42.78% and 34.19%, respectively) ($p < .001$), but child behavior did not differ across the two tasks. Data analyses also indicated that parents were coded as more Watching and Controlling than children in the conflict task (*M*s = 42.78% and 20.37%, respectively) and the planning task (*M*s = 34.19% and 23.82%, respectively) (*p*s < .0001 for both).

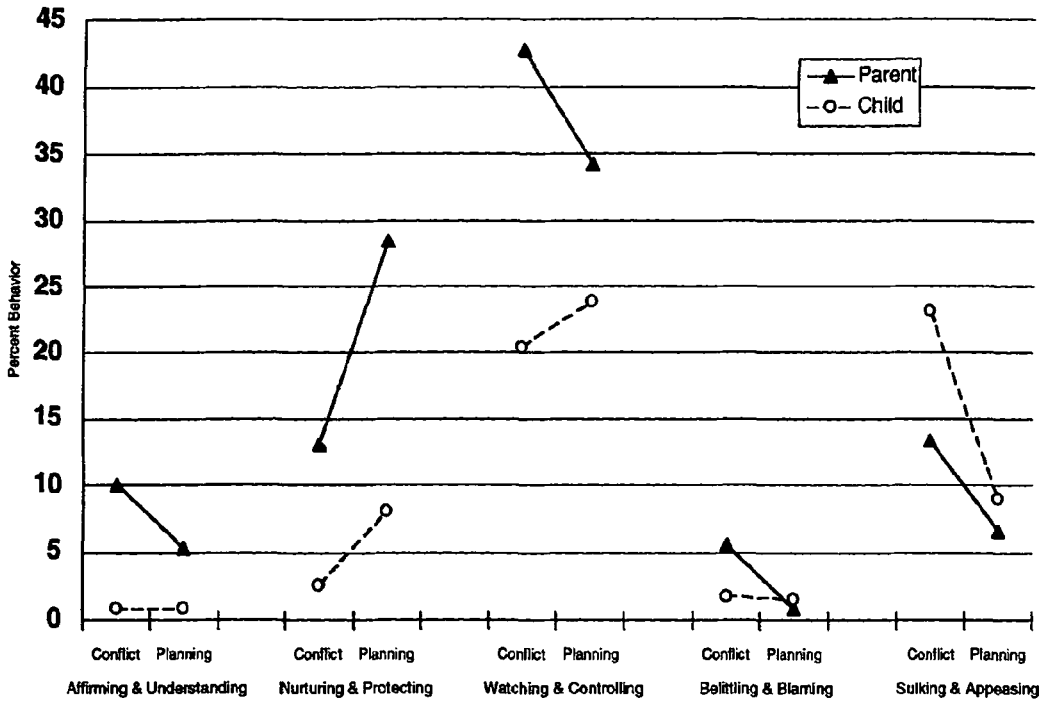

Fig. 3. Task × Speaker interaction effects.

Belittling and Blaming. Mean comparisons indicated that children did not differ from each other across the two tasks, but parents displayed more Belittling and Blaming in the conflict than the planning task (*M*s = 5.53% and 0.79%, respectively) ($p < .0001$). Parents also showed more Belittling and Blaming than children in the conflict task (*M*s = 5.53% and 1.72%, respectively) ($p < .0001$), but parents and children did not differ in the planning task.

Trusting and Relying. Follow-up tests revealed that children and parents showed more Trusting and Relying in the planning than the conflict task (*M*s = 21.01% and 11.97% for child behavior, respectively, and 10.21% and 5.79% for parent behavior, respectively) (*p*s < .0001 and .01, respectively), and that children displayed more Trusting and Relying than parents in both tasks (*M*s =11.97% and 5.79%, respectively, in the conflict task and *M*s = 21.01% and 10.21%, respectively, in the planning task) (*p*s < .001 and .0001, respectively).

Sulking and Appeasing. Post hoc comparisons indicated that parents and children exhibited more Sulking and Appeasing in the conflict than the planning task (*M*s = 13.41% and 6.59% for parent behavior, respectively, and 23.12% and 8.95% for child behavior, respectively) (*p*s < .001 and .0001, respectively). Parents and children did not differ from each other in the planning task, but children showed more Sulking and Appeasing than parents in the conflict task (*M*s = 23.12% and 13.41%, respectively) ($p < .0001$).

Walling Off and Distancing. Mean differences suggest that children showed more Walling Off and Distancing in the conflict than the planning task (*M*s = 11.79% and 6.52%, respectively) ($p < .005$), but parent behavior did not differ across the two tasks. Results also revealed that children displayed more Walling Off and Distancing than parents in both tasks (*M*s = 11.79% and 1.37% in the conflict task, respectively, and *M*s = 6.52% and 2.11% in the planning task, respectively) (*p*s < .0001 and .01, respectively).

Effects Involving Psychopathology

In addition to who is talking and what they are talking about, type of child psychopathology (i.e., ag-

gression and depression/anxiety) was related to the patterns observed. Data analyses yielded a main effect of aggression, one main effect of depression/anxiety, two interactions involving aggression, and two interactions involving depression/anxiety.

Belittling and Blaming. Data analyses revealed one main effect and two interactions involving aggression for the code Belittling and Blaming: aggression, $F(1, 55) = 8.34$, $p = .006$; Task × Aggression, $F(1, 55) = 13.30$, $p = .0006$; and Task × Speaker × Aggression, $F(1, 55) = 8.11$, $p = .006$. The high-aggression subjects showed more Belittling and Blaming than the low-aggression subjects (*M*s = 3.14% and 1.56%, respectively), and mean comparisons of the Task × Aggression interaction revealed that the high-aggression group displayed more Belittling and Blaming in the conflict than the planning task (*M*s = 5.42% and 0.73%, respectively) ($p < .0001$). The low-aggression group did not differ across tasks. Viewing the interaction from the other direction, high-aggression subjects showed more Belittling and Blaming than low-aggression subjects in the conflict task (*M*s = 5.42% and 2.26%, respectively) ($p < .0001$), but high- and low-aggression subjects did not differ in the planning task.

Post hoc analyses of the three-way interaction revealed that, within the conflict task, parents in the high-aggression group displayed more Belittling and Blaming than their children (*M*s = 8.73% and 2.10%, respectively) ($p < .0001$), but parents and children in the low-aggression group did not differ from each other. Also in the conflict task, parents in the high-aggression group showed more Belittling and Blaming than parents in the low-aggression group (*M*s = 8.73% and 3.09%, respectively) ($p < .001$), but children in the high- and low-aggression groups did not differ from each other. By contrast, in the planning task, parents and children in the high- and low-aggression groups did not differ from each other, nor were there differences between the high- and low-aggression groups for parents' or children's observed behavior. Mean comparisons of parents' and children's behavior across tasks indicated that parents in the high-aggression group displayed more Belittling and Blaming in the conflict than the planning task (*M*s = 8.73% and 0.71%, respectively) ($p < .0001$), but parents in the low-aggression group did not differ across tasks, nor did high- or low-aggression children.

Watching and Controlling. Results yielded a significant Speaker × Depression/Anxiety interaction for the code Watching and Controlling, $F(1, 55) = 7.66$, $p = .0077$. *Post hoc* tests indicated that parents of high- and low-depression/anxiety children were coded as significantly more Watching and Controlling than children (*M*s = 41.32% and 19.86% for the high-depression/anxiety subjects, respectively, and 36.00% and 24.05% for the low-depression/anxiety subjects, respectively) (both *p*s < .0001), and that parents of high-depression/anxiety children were coded as more Watching and Controlling than parents of low-depression/anxiety children (*M*s = 41.32% and 36.00%, respectively) ($p < .05$). By contrast, high- and low-depression/anxiety children did not differ significantly from each other (see Fig. 4).

Affirming and Understanding. Findings revealed a significant main effect of depression/anxiety, $F(1, 55) = 7.36$, $p = .009$, and a Speaker × Depression/Anxiety interaction, $F(1, 55) = 10.99$, $p = .0016$, for the code Affirming and Understanding. Mean comparisons showed that parents of high-depression/anxiety children appeared more Affirming and Understanding than parents of low-depression/anxiety children (*M*s = 9.99% and 5.69%, respectively) ($p < .0001$), but high- and low-depression/anxiety children did not differ significantly from each other. Moreover, parents in both groups displayed more Affirming and Understanding than their children (*M*s = 9.99% and 0.57%, respectively, for the high-depression/anxiety subjects and 5.69% and 0.98%, respectively, for the low-depression/anxiety subjects) (both *p*s < .0001) (see Fig. 4).

Effects Involving Age

Data analyses revealed one Speaker × Age interaction for the code Nurturing and Protecting, $F(1, 55) = 7.19$, $p = .0097$. *Post hoc* tests revealed that parents showed more Nurturing and Protecting than children (*M*s = 23.52% and 4.43%, respectively, for younger children and 18.01% and 6.18%, respectively, for older children) (both *p*s < .0001), and parents of younger children displayed more Nurturing and Protecting than parents of older children (*M*s = 23.52% and 18.01%, respectively) ($p < .05$). Younger and older children did not differ across the two tasks.

DISCUSSION

In this study, observed patterns of parent-child interaction were markedly altered as a function of three contextual factors — type of interactive activity, who was speaking, and form of child psychopathology. Indeed, data analyses yielded effects involving task and speaker

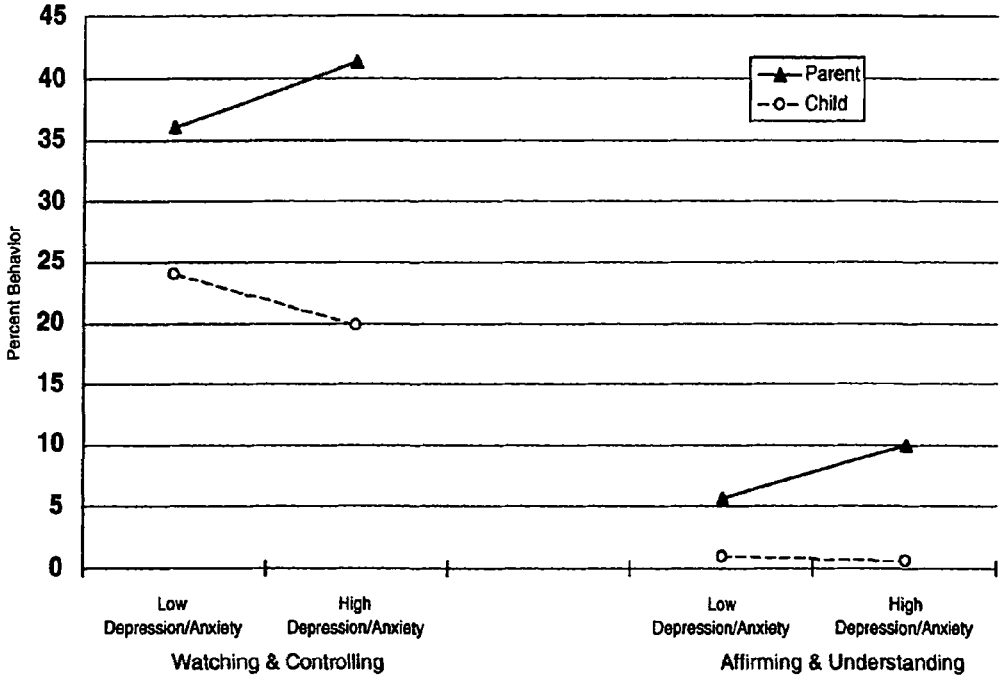

Fig. 4. Speaker × Depression/Anxiety interactions.

for almost every behavior and a number of effects related to child psychopathology. Overall, the variation in the data suggests that observed parent-child interactions are better understood within a contextual framework involving multiple interacting influences. This general finding has potentially important implications for the interpretation of any findings on parent-child interaction, particularly in relation to child deviance.

Findings Related to the Experimental Task

Task differences noted in this study suggest three potentially important points. First, the observed behaviors of parents and their clinic-referred children changed markedly as a function of task content; family members showed more Affirming and Understanding, Belittling and Blaming, Sulking and Appeasing, and Walling Off and Distancing in the conflict than the planning task, and they displayed more Nurturing and Protecting, Joyfully Connecting, and Trusting and Relying in the planning than the conflict task. These data support earlier arguments that behavior is context-dependent and that parent-child interactions vary across tasks (e.g., Alexander et al., 1989; Dadds & Sanders, 1992; Henggeler & Borduin, 1990). They also provide new information about specific behaviors than change with alterations in context, and they extend the literature to an outpatient clinical sample. Furthermore, these results support arguments for the cross-situational inconsistency of parent-child interaction patterns.

An important implication of these task differences is that parents and clinic-referred children showed less effective problem-solving in the conflict task than in the planning task; the conflict task generated higher rates of Belittling and Blaming, Sulking and Appeasing, and Walling Off and Distancing, and lower rates of Nurturing and Protecting, Joyfully Connecting, and Trusting and Relying. Such findings support earlier links between child maladjustment, family conflict, and the inability to resolve conflict (e.g., Henggeler, Edwards, & Borduin, 1987; Lewinsohn et al., 1994; Sanders et al., 1992; Stark, Humphrey, Crook, & Lewis, 1990), and they suggest that interventions with troubled families might do well to focus on problem solving specifically related to emotionally salient conflicts.

Findings Related to Speaker

Parents and children displayed different rates of every behavior studied here, indicating that knowing who is speaking may be important for understanding the independent contributions of parents and children to observed interactions. These data are consistent with Stiles and White (1981), who found differences between parent and child roles during an audiotaped interaction, but extended their findings to a clinically referred sample. The SASB may provide a useful model for understanding parent-child relationships among clinic-referred youth, as parents were more likely to display transitive actions directed toward their children (i.e., Affirming and Understanding, Nurturing and Protecting, Watching and Controlling, and Belittling and Blaming), and children were more likely to show intransitive actions in relation to their parents (i.e., Joyfully Connecting, Trusting and Relying, Sulking and Appeasing, and Walling Off and Distancing). These data support models that propose distinct roles for different family members (Minuchin et al., 1978), but they offer new insight into specific role-related behaviors of parents and clinic-referred youth. Indeed, contrary to previous research (see Bernstein et al., 1990; Minuchin et al., 1978), we found little evidence of role reversal among children and parents in our sample. These results underscore the need to assess both parents' and children's observed behavior to obtain a fuller picture of the processes involved.

Findings Related to the Interaction of Experimental Task and Speaker

Another notable finding was the consistent interactive effect of task and speaker; seven of eight behaviors showed a Task × Speaker interaction. Parent and child differences were found primarily in the conflict task, and parents appeared to be more influenced by changes in task content than children. Parent behavior differed significantly across tasks for six of the eight codes compared to children whose behavior varied for four of the eight codes. These findings suggest that parent-child differences may be especially pronounced under stressful conditions, and that parents and children adapt differently to contextual cues; this in turn suggests that efforts at both research and clinical assessment of differences between parent and child behavior may be more productive in interactive contexts that involve conflict and disagreement.

Findings Related to Type of Psychopathology

This study yielded new insight into the association between parent-child interactions and children's clinical problems. Child dysfunction alone had some effect on parent-child interactions, but the interaction of psychopathology with task and speaker had substantial effects. Child aggression interacted with both task and speaker, and child depression/anxiety interacted with speaker. Notably, the majority of effects involving child psychopathology entailed parent behavior in the conflict task. For example, parents of high-aggression children showed more Belittling and Blaming in the conflict than the planning task, but parents of low-aggression children did not differ across tasks. Parents of high-aggression children also showed more Belittling and Blaming than their children in the conflict but not the planning task, but parents of low-aggression children did not differ from their children in either task. And parents in the high-aggression group showed more Belittling and Blaming than parents in the low-aggression group, but again, only in the conflict task. These findings are consistent with Alexander et al. (1989), who found that families of delinquent children showed more controlling, blaming, indifferent, and superior behavior in a negative interactional context compared to a positive one, but they underscored the specificity of these interaction styles in families of aggressive children. Similarly, these results corroborate previous research showing that emotionally arousing tasks are more likely to differentiate distressed and nondistressed families than are nonarousing tasks (Jacob, Tennenbaum, & Krahn, 1987), but they extend the literature to comparisons of distinct clinical groups.

Of particular interest were the findings related to child depression/anxiety. Parents of high-depressed/anxious children showed more Watching and Controlling and Affirming and Understanding than parents of low-depressed/anxious children, but child behavior did not differ by levels of depression/anxiety. Previous research has associated adult depression/anxiety with retrospective reports of overcontrolling and dominant maternal behavior (e.g., Burbach & Borduin, 1986; McCranie & Bass, 1984; Tearnan & Telch, 1988), but this study provides data on observed parent-child interactions of depressed/anxious children. The finding that the depressed/anxious group showed more Affirming and Understanding than the nondepressed/anxious group, and that parents of high-depression/anxiety children showed more Affirming and Understanding than par-

ents of low-depression/anxiety children seems inconsistent with previous reports and the overall pattern of these data. Closer examination of the findings clarified the picture. First, the code label "Affirming and Understanding" does not accurately represent the type of behavior assigned to this code. Indeed, such behavior is more accurately characterized as questions and not affirmations (see Table I). Second, this code was typically assigned in combination with the code Watching and Controlling. One example of a communication unit simultaneously assigned both codes was when a parent said to her daughter, "Isn't it about time you clean your room?" This communication combined a question (and therefore was coded as Affirming and Understanding) with a direction to respond in a particular manner (and therefore was coded as Watching and Controlling). We compared the two levels of depression/anxiety for parent behavior on the combined code, and we found that parents in the high-depression/anxiety group used the combined code significantly more often than parents in the low-depression/anxiety group. In fact, when we excluded the combined code from the data set altogether, there was no effect for Affirming and Understanding alone. Taken together, the pattern suggests that, although parents of depressed/anxious children may solicit their children's ideas, they tend to do so in rather controlling ways, consistent with previous literature on parent behavior associated with child depression.

Parent-child interactions did not vary as a function of child gender in this study, and child age showed only one effect, an Age × Speaker interaction for the code Nurturing and Protecting. Other research has failed to show effects of child age or gender on family interactions (Paikoff & Brooks-Gunn, 1991; Smetana, Yau, & Hanson, 1991), but other research has shown important effects (Steinberg, 1987). It is possible that a larger, more homogeneous sample would show age and gender effects; however, the findings in this study suggest that other situation (i.e., experimental task) and personal (i.e., psychopathology) factors may well be more salient than these demographic factors in affecting parent-child behaviors. It is also possible that specific individual child characteristics have a greater impact on parent-child interactions than general demographic factors such as age and gender.

Some potential concerns regarding this study should be noted. First, in observational research of this sort, as in other research conducted in out-of-the-home settings, one cannot be certain that observed parent-child interactions derived from laboratory assessments can be generalized to everyday behavior in the home. Dadds and Sanders (1992) reported significant correspondence between parent behavior displayed in a laboratory interaction with parallel behaviors exhibited in the home, but the generalizability of behaviors observed in a research setting continues to be of considerable uncertainty and warrants further research. Second, the two tasks were not counterbalanced, because the emotionally arousing nature of the conflict discussion might influence family members' behavior during the planning task in a way that would not be true if the order were reversed. Thus, the planning task preceded the conflict task, and this order may have influenced the findings, e.g., parents and children may have felt more comfortable being videotaped in the later task, and they may have behaved more genuinely during it. However, family members were videotaped in an alternative task for 5 min prior to engaging in the planning discussion so as to reduce reactivity to being videotaped, and previous evidence suggests that task order does not significantly influence observed family interactions in a laboratory setting (Borduin et al., 1985).

A third concern is that parents' and children's observed behavior in this study may have changed when another parent was also involved in the discussion (Gjerde, 1986). Additional research is needed to identify how interactions of clinic-referred children and one parent change in the presence of another parent. Fourth, cross-task differences found in this study may reflect family members' decreased involvement and/or interest in the planning than the conflict task, because the former involves a hypothetical vacation and the latter entails a real-life conflict. However, this seems unlikely because the planning task required family members to address four questions, and reviews of the videotapes suggest that family members did discuss the questions. Finally, because the SASB permits multiple combinations of codes to be assigned to a single communication unit, a high number of codes with very low base rates were generated in this study. To address this problem, we combined complex and simple codes for the purposes of data analyses, and by doing so, our findings may have oversimplified how parents and children behaved toward one another (as noted in the case of the code Affirming and Understanding). However, not combining simple and complex codes would have (1) resulted in a substantial loss of information, because many codes would no longer have a high enough base rate for data analyses; (2) reduced the base rate, and

thus, the variability of all of the codes; and (3) increased in the number of analyses, thereby adding to the rate of multiple-comparison error.

These findings underscore the complex relation between parent-child interactions and child psychopathology. To better understand this relationship, these data suggest that we may need to consider a broader contextual framework, including not only the forms of child psychopathology involved, but also the task used to evoke interactions, and the potentially unique contributions of parents and children to the interactive process. Indeed, these data indicate that conflict discussions may be more sensitive to clinically significant patterns of interaction, and thus may be a more efficient method for identifying important group differences. In sum, these findings argue for a more sophisticated, multifactor approach to both theory and research on parent-child interactions and their determinants.

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