Previous research has not correlated parent-child interaction patterns with different forms of child psychopathology. This study examined whether parent-child interaction corresponded with childhood depression/anxiety and childhood aggression. Forty-two clinically-referred children and adolescents, 8 to 16 years old, were classified into four groups based on parental responses on the Child Behavior Checklist (Achenbach, 1991): Aggressive (n=9); Depressed/Anxious (n=11); Mixed Aggressive and Depressed/Anxious (n=12); and Children whose parents report few clinical symptoms (n=10). Parents and children participated in a 6-minute videotaped conflict discussion task, and the observed behaviors (verbal and nonverbal) were coded using the Structural Analysis of Social Behavior (Benjamin, 1974). Results suggest that parents of aggressive children were less affirming, understanding, and expressive toward their children and more critical and blaming than nonaggressive children's parents. Aggressive/Depressed children's parents were less critical toward their children than parents of aggressive-only children. Parents of depressed/anxious children were less disclosing and expressive, but no more critical or hostile than parents of nondepressed children. Aggressive children were cooler toward their parents than nonaggressive children, and depressed/anxious children tended to be less controlling and domineering toward their parents than nondepressed children. The results provide insight into the family behaviors of troubled children. (RJM)
ABSTRACT

Previous research has not identified parent-child interaction patterns associated with different forms of child psychopathology. This study examined whether specific parent-child interaction patterns are differentially associated with childhood depression and anxiety and childhood aggression. Forty two clinically-referred children and adolescents 8 to 16 years old and their primary parents constituted the sample. Children were classified into four groups based on parent report on the Child Behavior Checklist (Achenbach, 1991) -- Aggressive n=9, Depressed/Anxious n=11, Mixed Aggressive and Depressed/Anxious n=12, and children whose parents report few clinical symptoms n=10. Parents and children participated in a six minute videotaped conflict discussion task, and their observed behaviors (verbal and nonverbal) were coded using the Structural Analysis of Social Behavior (Benjamin, 1974). Results suggest that parents of aggressive children were less affirming and understanding, more critical and blaming, and less disclosing and expressive toward their children than parents of nonaggressive children. When aggressive children were also depressed, their parents tended to be less critical toward them than parents of aggressive only children. Parents of depressed/anxious children were also less disclosing and expressive, but no more critical or hostile than parents of nondepressed children. Aggressive children were less warm toward their parents than nonaggressive children, and depressed/anxious children tended to be less controlling and domineering toward their parents than nondepressed children. The results provide insight into the specific family behaviors of children with different problems.
INTRODUCTION

Several theories implicate parenting characteristics, child-rearing strategies, and parent-child interactions as precursors of child deviance (Hetherington & Martin, 1986; Maccoby & Martin, 1983), yet few investigations have examined specific relationships between family processes and child dysfunction, or the contribution of depressed and anxious children to dysfunctional parent-child interaction patterns. In fact, many parenting characteristics and parent-child interaction styles associated with childhood depression and anxiety, such as maternal criticism and lack of warmth, also appear to predict childhood aggression. This poses a dilemma regarding the specificity of family processes related to different childhood problems. With the exception of the work by Saunders, Dadds and colleagues and Elizabeth McCauley at the University of Washington, most of the observational research linking parent-child interactions and child psychopathology is limited to aggression and hyperactivity (e.g., Barkley, et al., 1991; Patterson, 1990), and most of these studies do not include comparison groups of non-externalizing disturbed youngsters. Few empirical studies have investigated the observed behavior of families of depressed and anxious children or used observational systems designed to identify complicated family processes. Because of these limitations, we still know relatively little about the overt family behaviors and antecedents associated with different forms of child psychopathology.

SPECIFIC AIMS

This study sought to address these limitations by identifying patterns of parent-child interaction behaviors of four groups of parents and their clinically-referred children and adolescents: (1) Aggressive, (2) Depressed and Anxious, (3) Mixed Aggressive, Depressed, and Anxious, and (4) children whose parents report relatively low levels of clinical symptoms. Groups were compared on several theoretically derived dimensions (e.g., Parental criticism and control, Child dependency, Lack of warmth).

METHODS

Procedures

Subjects are part of a larger longitudinal study funded by the National Institute of Mental Health under the direction of John Weisz. Subjects were clinically-referred children and adolescents 8 to 16 years old recruited from nine mental health clinics in Southern and Central California. Families were informed of the study during clinic intake, and interested parents were contacted by project staff. Children were screened over the phone and those with mental retardation (IQ<70) or organic impairment (e.g., brain injury) interfering with cognitive functioning, and those referred only for assessment and not otherwise recommended for treatment were excluded. Three hour interviews were conducted separately for parents and children by trained project staff, each completed standard measures of adjustment and diagnosis. Parents and children were videotaped interacting during three tasks. Families were paid $50, and children received an age appropriate prize at the end of the interview. Subjects were assessed several times over the course of one year, but only the Time 1 data are reported here.

This study evaluated parents' and children's observed behaviors during a videotaped discussion of a mutually identified conflict. Parent-child interactions were coded using the Structural Analysis of Social Behavior (SASB; Humphrey & Benjamin, 1986), a well-validated microanalytic coding system for analyzing complex patterns of social interactions. SASB has been applied to the study of disturbed family interactions of eating disordered and drug abusing adolescents (Blake, 1991; Humes, 1989; Humphrey, 1986, 1987, 1989), but it has not, to our knowledge, been used to study families of aggressive and depressed children.

Subjects

A subset of 42 families from a total 200 constitute the present sample. Children were classified into four groups according to parent report on the recently revised Child Behavior Checklist (Achenbach, 1991). To be classified as Depressed/Anxious (N=11), (1) children scored at or
above the borderline clinical cutoff on the narrow-band Anxious/Depressed subscale (T ≥ 67), and (2) below the clinical cutoff on the Delinquency and Aggressive subscales. To qualify for the Aggressive group (N=9), children scored (1) at or above the borderline clinical cutoff on the narrow-band Aggression subscale (T ≥ 67), and (2) below the clinical cutoff on the narrow-bandWithdrawn, Somaticizing, and Anxious/Depressed subscales (T ≤ 63). Children were classified as mixed Aggressive and Depressed/Anxious (N=12) if they scored above the clinical cutoff on both the Aggressive and Depressed/Anxious subscales (T ≥ 70). Children were classified as Nondepressed and Nonaggressive (N=10) if they scored below the clinical cutoff on ALL narrow-band subscales (T<63).

Several demographic characteristics including child age, gender, race, family income, living arrangement, birth order, number of siblings, parent education, and occupation were examined to determine whether there were any group differences. None were significant, indicating that the groups did not differ on any demographic variable. The average child age was 11 years 0 months, 57% were boys, and subjects were ethnically diverse - 29% were Caucasian, 12% were African American, 32% were Latino, and 27% were of mixed descent. All children had been living with their primary caregiver for at least 1 1/2 months, and the majority (92%) had been living with their biological parent for several years. Groups differed significantly on parent report of child behavior problems in a direction that was consistent with the selection criteria outlined above.

Measures
Several measures were used in the study.

1. **Child Behavior Checklist (CBCL)** (Achenbach, 1991). The CBCL is a widely-used, standardized parent-report measure of child behavior problems. It generates raw and T-scores for total problems, internalizing (e.g., sadness, anxiety) and externalizing (e.g., fighting, swearing), and individual syndromes (e.g., aggressive, depressed/anxious).

2. **Potential Parent-Child Problems**. On the Potential Parent-Child Problems questionnaire, parents and children independently indicated how much they disagreed about a list of 14 issues (e.g., the child's grades or schoolwork, chores, friends, watching television, bedtime, and curfew) on a scale of 1 to 5, where 1=Do Not Disagree and 5=Strongly Disagree. The item rated most conflictual by both people, but least discrepant between the two respondents was chosen as the topic for the conflict discussion task. Subjects were instructed to discuss and resolve the conflictual issue.

3. **Videotaped Interaction**: For the videotaped interaction task, (Conflict Discussion Task; Asarnow, Ben-Meir, & Goldstein, 1987) subjects were given 6 minutes to discuss and resolve the conflictual issue identified in the Potential Parent-Child Problems questionnaire. Instructions were read by the parent interviewer verbatim.

Coding of videotapes
Videotapes were coded by the first author and an advanced undergraduate student. Coders were blind to subject status, and trained to use the system at Northwestern University by Laura Humphrey and her team of research assistants. Coders received over 100 hours of intensive training, practice, and feedback, and continued to meet and receive feedback through the duration of coding to prevent criterion drift. To assist in the coding, several preliminary steps were completed. First, verbatim transcripts were prepared to include verbal behavior and nonverbal gestures of parent and child. Second, transcripts were checked for accuracy by someone other than the transcriber. Third, transcripts were segmented into grammatical speech units, and each speech unit was assigned one of 16 possible codes. Coding was assisted by both the transcript and videotape.

Coding required a series of decisions involving judgments about the parent and child's verbal and nonverbal behavior, and affective and contextual cues. Guidelines for coding are provided in a manual that explains how to rate each speech unit on three levels: focus, affiliation, and interdependence (Humphrey & Benjamin, 1989). Together, these three judgments determine the final code. A well developed conceptualization guided the development of the coding system along the dimensions of friendliness and independence. For a full review of the model, the reader is referred to Benjamin, 1974 and 1984. In this study, each speech unit was assigned one of 16 possible codes.
depending on the degree of friendliness and independence exhibited. Below is a list of all of the possible codes:

Freeing and Forgetting
Affirming and Understanding
Loving and Approaching
Nurturing and Protecting
Watching and Controlling
Belittling and Blaming
Attacking and Rejecting
Ignoring and Neglecting
Asserting and Separating
Disclosing and Expressing
Joyfully Connecting
Trusting and Relying
Deferring and Submitting
Sulking and Scurrying
Protesting and Recoiling
Walling off and Distancing

RESULTS

Interrater reliability was assessed using Cohen's (1968) weighted kappa coefficient. Based on 38% of the total sample, kappas ranged from .67 to .85 with a mean of .73. This reliability coefficient is within the guidelines recommended by Hartmann (1977) (i.e., \( r > .60 \)) and is consistent with previously published reports using the SASB (Humes, 1989; Humphrey, 1987, 1989; Humphrey, Apple, & Kirschenbaum, 1986). The results presented here are preliminary, as they are based on 1/2 of the full subject sample. In addition, due to the small sample sizes in each cell, the results should be interpreted with caution.

Data were analyzed in two waves, first for parent speaking to child and second for child speaking to parent. The analyses are based on the frequency of each code for a family member in relation to the total number of codes for that family member. Those codes assigned to less than 20% of the subjects were excluded from the analyses. Arcsine transformations were performed on the data, but because the results were very similar, the raw data were used in the analyses. Intercorrelations among the codes for parent speaking to child ranged from -.40 to .62 with an average correlation of .08. The intercorrelations among the codes for child speaking to parent ranged from -.42 to .95 and averaged about .008.

A 2 X 2 Analysis of Variance (ANOVA), aggression - high and low and depression - high and low, was conducted for each code that met the 20% cutoff, separately for parent speaking to child and child speaking to parent. An initial MANOVA was not conducted due to the small sample size and risk of committing a Type II error. Of the 16 possible codes for parent speaking to child, 9 met the 20% cutoff criteria for being included in the analyses. Of the 16 possible codes for child speaking to parent, 10 reached the 20% cutoff. Neuman-Keuls post-hoc tests were conducted to examine simple effects.

Parent speaking to child

First, I will report the results for parent speaking to child. Of the 9 ANOVAs conducted, three showed a significant main effect for aggression, one showed a significant main effect for depression, and one showed a significant interaction. Figure 1 shows the means for high and low aggression for the code "Affirming and Understanding." This code is assigned to statements that are friendly and independence giving, for example, "How do you feel about the way chores are divided up in the house?" or "I understand that you feel angry when I keep telling you what to do." As Figure 1 indicates, parents of nonaggressive children were significantly more Affirming and Understanding than parents of aggressive children \( F(1, 38) = 6.09, p=.018 \).

There was also a significant main effect for aggression on the code "Belittling and Blaming" (see Figure 2). Parents received this code when they made a comment that was critical and hostile toward their child, for example, "You are always so lazy," or "You never listen to me when I tell you to do something." As Figure 2 suggests, parents of aggressive children were significantly more critical and blaming than parents of nonaggressive children \( F(1, 38) = 4.59, p=.038 \). Finally, there was a significant main effect for aggression and depression on the code "Disclosing and Expressing" (See Figures 3 and 4 respectively). This code was assigned when parents made
statements about themselves in a friendly, open, and autonomous manner, for example, "I really appreciate your help around the house," or "I'm looking forward to spending more time with you." Figure 3 shows the means for high and low aggression, where parents of aggressive children are less disclosing and expressive than parents of nonaggressive children, and Figure 4 shows the means for high and low depression, suggesting that parents of depressed children were less disclosing expressive than parents of nondepressed children.

There was one significant interaction for parent speaking to child. This occurred for the code Belittling and Blaming $F(1,38) = 4.45$, $p = .04$. Figure 5 indicates that parents who reported low levels of clinical symptoms in their children were significantly less critical than parents of aggressive children ($p = .006$). Also, although the difference between the means of the aggressive and mixed groups only approached significance ($p = .078$), the trend suggests that when aggressive children were also depressed, their parents were less critical toward them.

Child speaking to parent

In the second wave of analyses looking at child speaking to parent, there was one significant main effect and interaction, and one effect that approached significance. Figure 6 shows the means for the code "Joyfully Connecting." This code is assigned to comments or behaviors that are very warm and friendly, such as laughing or returning a hug. The ANOVA indicated that aggressive children were significantly less warm and friendly toward their parents than nonaggressive children $F(1,38) = 5.18$, $p = .028$. One code approached significance ($p = .057$) for a main effect of depression. This code, "Watching and Controlling," is assigned to behavior or statements that are very controlling and domineering, for example, a child might take the microphone away from the parent or say "You have to stop bothering me about my friends." Figure 7 shows the means for high and low depression. Although the ANOVA was only marginally significant, the means suggest that depressed children are less controlling toward their parents than nondepressed children $F(1,38) = 3.83$, $p = .057$. Lastly, there was significant interaction on the code Joyfully Connecting (See Figure 8) which indicated that the nonsymptomatic children were significantly more warm and friendly than the aggressive, depressed and anxious, and mixed groups.

**DISCUSSION**

Given the small sample size of the present study, interpretations of the results are preliminary. However, they support previous research on parent-child interactions of aggressive children (Patterson, 1982), in that parents of the aggressive children were more critical and less affirming than parents of the nonaggressive children. Although the mean differences only approached significance between the aggressive and the mixed group, they suggest that when the aggressive children were also depressed, their parents were less critical of them than parents of children who were only aggressive. Perhaps parents respond to depression in their aggressive children with compassion thereby reducing the level of criticism and possibly improving the chances for better outcomes for these children.

The data contribute new information about family interactions of depressed and anxious children. Parents of depressed children were not more critical than nondepressed/anxious children's parents or parents who report few clinical symptoms in their children. This finding contradicts previous research which has associated childhood depression with critical parenting styles (Asarnow, Goldstein, Thompson, & Guthrie, 1992; Burbach & Borduin, 1986). The contradiction may reflect that nature of the present sample, in that these children were an outpatient clinically-referred population classified according to dimensional ratings. By contrast, Asarnow's subjects were psychiatrically hospitalized children diagnosed with Major Depressive Disorder.

Lower levels of friendly parental expressiveness and disclosure were associated with both aggression and depression in this study. It may be that parents of disturbed children feel less comfortable being open with their children than parents of nondisturbed children and this results in poorer communication in the family. Previous research has found poor communication to be associated with both childhood aggression and depression (Blotcky, Tittler, & Friedman, 1982; Jacob & Lessin, 1982; Puig-Antich, et al., 1985a, 1985b). Taken together, these results may suggest that parents of aggressive children are locked in a cycle of both critical blaming behavior and low levels of
warm, open, and affirming behavior. The lack of positive reinforcement from parents may be either a consequence of their child's aggressive behavior, or a precursor to it. The correlational nature of the results, prohibits determining the causal relationship.

The finding that parents of depressed and anxious children are less open and expressive than nondepressed/anxious children's parents may be important for understanding childhood depression. A main feature of depression is the tendency to internalize feelings instead of expressing them openly. These children may be modeling a strategy of internalizing feelings present in their parents. Again, the correlational nature of the results prohibits determining the causal relationship.

This study adds some insight into the behavior of depressed, anxious, and aggressive children. Aggressive children showed less warmth and positive behavior toward their parents than nonaggressive children. Consistent with Patterson's Coercion Theory, these results suggest that there is little warmth in these families, thereby increasing the likelihood of negative interactions. And finally, although the means only approached significance, depressed/anxious children were less likely to control and dominate their parents than nondepressed/anxious children. This tendency supports the observation that depressed children are more dependent and less autonomous. They may be more likely to defer to their parents, and this deferential stance may be a marker of learned helplessness, a well-known feature of depression (Rutter, Izard, & Read, 1986).

The study could have implications for future research; it could serve as a springboard for understanding the role of family interactions in different child problems, and it could thereby contribute to the long-term goals of prediction and prevention. Longitudinal studies of clinic-referred children are essential for determining the relationship between parent-child interactions and children's outcomes, and the effects of therapeutic interventions on the parent-child relationship. Finally, patterns identified could provide a theoretical foundation for future research on causal relationships between specific child problems and parent-child interactions.

REFERENCES


Figure 1. Parent to child "Affirming and Understanding"

Parent to Child: Affirming and Understanding

F = 6.09, p = 0.018
Figure 2. Parent to child "Belittling and Blaming"

Parent to Child:
Belittling and Blaming

\[ F = 4.59, \ p = 0.038 \]
Figure 3. Parent to child "Disclosing and Expressing"

Parent to Child: Disclosing and Expressing

\[
\begin{align*}
\text{Low} & \quad 1.6 \\
\text{High} & \quad 0.2
\end{align*}
\]

\[F = 4.66, \ p = 0.037\]
Figure 4. Parent to child "Disclosing and Expressing" - Depression

Parent to Child: Disclosing and Expressing

\[ F = 4.48, p = 0.04 \]
Figure 5. Parent to child "Belittling and Blaming" - Interaction

Parent to Child: Belittling and Blaming

\[ F = 4.45, \ p = 0.04 \]
Figure 6. Child to parent "Joyfully Connecting"

Child to Parent:
Joyfully Connecting

![Bar chart showing comparison of percentages of codes between low and high aggression levels. The chart indicates a statistically significant difference with F = 5.85, p = 0.02.]

F = 5.85, p = 0.02
Figure 7. Child to parent "Watching and Controlling"

Child to Parent: Watching and Controlling

F = 3.83, p = 0.057
Figure 8. Child to parent "Joyfully Connecting" - Interaction

Child to Parent: Joyfully Connecting

Low Aggression

High Aggression

F = 8.68, p = 0.005