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# Communication Styles of Children of Mothers with Affective Disorders, Chronic Medical Illness, and Normal Controls: A Contextual Perspective

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*Research has demonstrated impaired parent-child relationships in families with affective disorders. The present study examines the association of children's interactional style during a direct conflict-solving task to both the mother's interactional style and the child's diagnostic status. The sample includes 63 children, ages 8 to 16, of mothers with affective disorders, chronic medical illness, and normal controls. Children's dominant coping style profile (CS) (autonomous, neutral, or critical) was related to their mother's affective style (AS) (benign or negative). Affective disorder in the child at 6-month followup was associated with a critical CS profile at intake, while the child's nonaffective symptomatology was unrelated to CS. Findings indicate that children's affective disturbance is linked to interpersonal deficits in affectively charged situations. Results suggest that the child's CS is more strongly predicted by maternal AS than by either the child's or the mother's diagnostic status.*

A recent trend in the study of the family environment is the examination of the relationship between family members' interactional responses (Cook,

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Strachan, Goldstein, & Miklowitz, 1989). Although research began with a focus on the impact of parental behavior on child functioning, the emphasis has shifted to the reciprocal effects of parent and child interaction styles (Goldstein, et al., 1989; Hahlweg, et al., 1989). A link between parent and child interpersonal behavior has been shown when the offspring is the identified psychiatric patient (Cook, Asarnow, Goldstein, Marshall, & Weber, 1990; Hahlweg, et al., 1989; Strachan, Feingold, Goldstein, Miklowitz, & Nuechterlein, 1989). The first hypothesis of the current study was that there would also be an association between mother and child interactional style in our sample of children at risk for psychopathology due to maternal disorder.

Affective style (AS) reflects the emotional atmosphere of the family, particularly as indexed by criticism, guilt-induction, and intrusiveness (Doane, Falloon, Goldstein, & Mintz, 1985). Negative AS has been linked to both onset and course for the schizophrenia spectrum disorders (Doane et al., 1985; Doane, West, Goldstein, Rodnick, & Jones, 1981). For patients with bipolar disorder, negative AS has been found to predict both relapse and social functioning at followup (Miklowitz, Goldstein, Nuechterlein, Snyder, & Mintz, 1988). Earlier analysis of women in the present study found that mothers with unipolar disorder were more likely to be characterized by negative AS than were those with bipolar disorder, chronic medical illness, or normal controls (Hamilton, Jones, & Hammen, 1993). The patient coping style coding system (Strachan, Feingold, Zaden, & Valone, 1990) was developed to complement the affective style coding system (Doane, Dingemans, Goldstein, & Zaden, 1989). Coping style (CS) assesses alternative ways in which a patient can respond to parental affectively charged communication. In a study of the interactions of recent-onset schizophrenic patients and their families, Strachan and his colleagues (1989) found that the majority of patients with benign AS parents had a benign CS profile, as indexed by autonomy and neutrality, while most patients of negative AS parents had a negative CS profile, as indexed by criticism and self-denigration. Dysfunctional family interactions appear to be characteristic of psychiatric disturbance in general (Asarnow, Goldstein, & Ben-Meir, 1988). This suggests that CS may be a valid construct to apply to other psychiatric diagnoses besides schizophrenia.

In the current study the mother was identified as the primary patient, having either an affective disorder or a chronic medical illness. Normal control mothers were also included. However, a notable number of offspring in the sample had also experienced either previous or current psychiatric symptomatology. Earlier research on this project reports that, although children of unipolar mothers have high rates of both affective and nonaffective disorders, diagnosable symptomatology is also observed

in children of bipolar, medically ill, and control mothers (Hammen et al., 1987). Due to variations in diagnostic status of both mother and child, this sample allows the opportunity of investigating the association between mother and child interaction styles apart from purely diagnostic factors.

Depressive symptomatology in children has been linked to dysfunctional communication with parents, social skills deficits, and impairments in the ability to reciprocate social initiatives (Altman & Gotlib, 1988; Kovacs, 1989; Lewinsohn, Hoberman, Teri, & Hautzinger, 1985). Psychiatrically hospitalized depressed children have been found to be less globally positive and more globally negative in interactions with their mothers than children with schizophrenia spectrum disorders (Cook et al., 1990). However, Kazdin, Esveltd-Dawson, Sherrick, and Colbus (1985) report that psychiatrically hospitalized depressed children show less affect-related expression than nondepressed inpatients. In sum, these studies document the adverse association between affective disturbance and the quality of interpersonal relationships.

The second hypothesis of the present study was that children with affective disorder would be likely to be characterized by negative CS, as indexed by criticism of the mother, while those without affective disorder would show relatively positive CS, as indexed by autonomous statements. No differences were expected as a function of nonaffective diagnoses. This is not to suggest that nonaffective disorders are not associated with interpersonal difficulties, but they are more likely to be related to other dimensions of interaction not directly assessed by the CS system.

## METHOD

### *Participants*

Participants were 64 mother-child pairs from the UCLA Family Stress Project. The mothers' current and past psychiatric functioning was assessed by the Schedule for Affective Disorders and Schizophrenia-Lifetime version (SADS-L; Endicott & Spitzer, 1978). The mother-child pairs included 16 mothers with unipolar disorder, 13 mothers with bipolar disorder, and 11 mothers with a chronic medical illness (diabetes or rheumatoid arthritis). The sample also contained 24 control mothers who were free of diagnosable psychiatric disorders and chronic medical illness at the time of intake. Maternal functioning is more extensively detailed in a previous paper (Hamilton et al., 1993).



The mean age of the mothers was 38.03 years. The average Hollingshead score was 45.72, placing the sample in the upper middle socioeconomic level. Eighty-one percent of the unipolar women and 69% of the bipolar women were unmarried, while 36% of the medically ill mothers and 29% of the normal mothers were unmarried. Thirty-one percent of the unipolar mothers and 29% of the normal mothers were nonwhite, while 8% of the bipolar mothers and none of the medically ill mothers were nonwhite. Children's ages ranged from 8 to 16 years, with a mean age of 11.96 years. There were 32 girls and 32 boys. There were no significant differences between maternal diagnostic groups on maternal age, socioeconomic status (SES), children's sex, or children's age.

Mothers with affective disorders were recruited from specialty clinics, hospitals, and private practices where they were all undergoing treatment. All had experienced the onset of symptoms prior to the child's birth or during its earliest years. The selection criteria for the affective disorders group resulted in a fairly chronically disordered sample, with an early onset. Medically ill women were recruited from specialty clinics and private practices and through newsletters of the American Diabetes Association or Arthritis Foundation. The normal control group was contacted from the same or demographically similar schools as families in the other groups. Inclusion was contingent on the lack of a significant psychiatric history or treatment of psychological disorder.

### *Procedure*

Participation in the study involved two initial evaluation sessions in which the mother and child came to UCLA to be interviewed, complete questionnaires, and be observed while performing interaction tasks. Six months following intake, mother and child were recontacted and were interviewed separately about the child's diagnostic status.

*Psychiatric Diagnoses.* At the initial evaluation, information on lifetime child psychiatric history was obtained through two structured interviews, one with the mother and one with the child, using the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS; Puig-Antich, Blau, Marx, Greenhill, & Chambers, 1978). Graduate students with extensive training completed the structured interviews. Good reliability for diagnostic rating with the K-SADS has been shown (Orvaschel, Puig-Antich, Chambers, Tabrizi, & Johnson, 1982). Diagnostic information was scaled as a continuous variable on a 4-point scale. The affective diagnoses scale ranged from 0 (no depression), 1 (transitory period of depressive symptoms at nondiagnosable levels), 2 (minor depressive episode or mild

dysthymia), to 3 (major depressive episode or dysthymic disorder). The nonaffective diagnoses scale ranged from 0 (no diagnoses), 1 (possible disorder or past, brief minor disorder), 2 (one significant disorder), to 3 (two or more diagnoses or multiple, chronic episodes). Nonaffective disorders included separation anxiety, conduct disorder, hyperactivity, and substance abuse. Reliability of converting diagnostic information to the 4-point scale was established on two sets of independent ratings and yielded an intraclass  $r = .98, p \leq .0001$ .

At the initial evaluation 56% of the children had experienced no depressive symptoms, 13% had undergone transitory periods of nondiagnosable symptoms, 17% had undergone minor depressive episodes, and 14% had a history of major depressive disorder or dysthymia. For nonaffective disorders, 54% of the children had no history of symptomatology, 16% reported brief or minor symptoms, 19% had experienced one diagnosable disorder, and 11% had a history of at least two disorders. There were no gender or age differences in the distribution of diagnoses.

Six months after intake, both mothers and children were recontacted and interviewed separately about the diagnostic status of the child during the previous 6 months. Due to practical considerations these evaluations were obtained by telephone interviews by advanced graduate students. Previous work suggests that the reliability of diagnostic information by telephone contact is adequate (Wells, Burnam, Leake, and Robins, 1988). Followup diagnostic information was scaled for both affective disorders and nonaffective disorders as a continuous variable on the 4-point scale.

Of the 59 children available for followup interviews, 73% had experienced no affective symptomatology over the 6-month interim, 2% reported transitory symptoms, 8% had had minor depressive episodes, and 17% had experienced major depressive episodes or dysthymia. For the nonaffective disorders, 75% of the children had no diagnosable symptomatology, 5% had mild symptoms, 13% had experienced at least one diagnosable disorder, and 7% reported at least two disorders.

*Conflict Resolution Task.* A sample of the quality of the mother-child interaction was obtained through a conflict resolution task. Mother and child were asked to generate together a list of topics on which they disagreed. They were told that the topics should be ones which they would be willing to discuss for a 5-min period in an effort to reach some agreement. The research team then selected one of the topics to be the focus of their discussion. Mother-child interactions during the task were videotaped and later transcribed verbatim for coding purposes.



*Maternal Affective Style.* Mothers' statements were assessed by the affective style coding system (Doane et al., 1989). The AS system includes (1) supportive statements, (2) guilt-inducing statements, (3) critical statements (benign situational criticism or harsh personal criticism), and (4) neutral intrusive statements. Prior research has established AS profiles by dividing subjects into dichotomous low and high AS groups on the basis of one or more harshly critical or guilt-inducing statements or six or more neutral intrusive comments during two 10-min interactions (Doane et al., 1981; Miklowitz et al., 1988). A profile method may more sensitively capture idiosyncratic patterns in complex data than the analysis of means alone (Doane & Lewis, 1984). In the current study, a summary proportion score for negative AS was created by dividing the number of speech units coded as either critical, guilt-inducing, or intrusive by the total number of speech units made by the mother. Each complete thought or idea was designated a speech unit. This method was chosen to account for the fact that only 5 min of interaction were available and also to control for individual differences in the amount of speech. Use of proportion scores differs from earlier AS studies which use summary scores in a critical incident model (Doane et al., 1985; Miklowitz et al., 1988), but it parallels the method used by Hahlweg and his colleagues (1989) for the *Kategorien system fuer Partnerschaftliche Interaktion*, a coding system similar to AS. Proportion scores were transformed by an arc sine function to normalize the distribution prior to conducting analyses. Profiles were then created based on the median split of negative AS proportion scores.

Transcripts were coded by trained graduate students and an advanced undergraduate student who were blind to diagnostic status. Previous research reports an overall interrater reliability of .90 for AS (Miklowitz et al., 1988). In the current study independent interrater reliability for AS overall was adequate (Cohen's kappa = .85), ranging from .70 to .90. for separate categories. There is to date no information on the stability of AS over time, although its relationship to psychiatric relapse and followup social functioning has been shown (Miklowitz et al., 1988).

*Child Coping Style.* Children's statements were scored by the patient coping style system, which assesses alternative responses which psychiatric patients may make in confrontive interactions with their parents (Strachan, Feingold, Zaden, & Valone, 1990). As with AS, the CS system codes only statements which fit criteria, rather than every utterance. The seven codes are (1) autonomous statements, (2) self-affirmation statements, (3) supportive statements, (4) critical statements, (5) refusals, (6) self-denigration, and (7) partially autonomous statements. Critical statements include benign and harsh criticism, as well as guilt induction. Raw scores were transformed into proportion scores for each of the CS

codes by dividing the number of utterances coded as a particular category by the total number of speech units made by the child. Arc sine transformations were then conducted.

Good interrater reliability has been reported for CS, ranging from .68 to .86 across codes (Strachan et al., 1990). The stability of CS across time has yet to be investigated. In the current study independent interrater reliability for CS codes overall reached an acceptable level (Cohen's kappa = .79), ranging from .72 to .91. Reliability was .79 for autonomous statements and .78 for critical statements. In cases of discrepancy the final code was determined by consensus agreement between raters.

Following guidelines used by Strachan and his colleagues (1989), dominant profiles were created on the basis of the highest proportion of responses coded as either autonomy or criticism, since these two CS dimensions appear to distinguish most clearly between coping styles. Very high rates of partial autonomy, defined as greater than twice the group mean, were combined with autonomy to create an "autonomous profile." Children were then classified as dominantly "autonomous," "critical," or "neutral" (low rates of either response style). Using this method, all but one of 64 children included in the initial evaluation were able to be classified, and this one case, which was characterized solely by extremely high rates of self-denigration, was dropped from the analyses. Reliability of classification of CS profiles from proportion scores was 98%.

Twenty children showed an autonomous CS profile, 25 children had a neutral profile, and 18 children had a critical profile. To demonstrate how strongly defined these profiles were, the mean proportion scores of CS statements were calculated by the dominant CS profiles. The mean proportion of autonomous and critical statements were as follows (1) autonomous profiles (autonomy .11,  $SD = .05$ ; criticism .01,  $SD = .03$ ), (2) neutral profiles (autonomy .02,  $SD = .04$ ; criticism .01,  $SD = .03$ ), (3) critical profiles (autonomy .01,  $SD = .02$ ; criticism .12,  $SD = .07$ ).

## RESULTS

### *Preliminary Analyses*

Associations between the child's CS profile and demographic variables were examined. There were no relationships between child's CS profile and child's sex,  $\chi^2 (2, N = 63) = 1.56, p = .46$ , child's age,  $F (2, 60) = .54, p = .59$ , or family composition,  $\chi^2 (2, N = 63) = .59, p = .74$ . Families of children with autonomous CS profiles had higher socioeconomic status ( $M = 52.10$ ) than those of children with neutral profiles ( $M = 40.91$ ) or critical profiles



**Table I.** Dominant Communication Style Profiles of Children by the Affective Style Profiles of Their Mothers<sup>a</sup>

Mothers' affective style (AS)	Children's communication style (CS)		
	Autonomous ( <i>n</i> = 20)	Neutral ( <i>n</i> = 25)	Critical ( <i>n</i> = 18)
Benign	14	12	5
Negative	6	13	13

<sup>a</sup> Note:  $\chi^2$  (2, *N* = 63) = 6.78, *p* < .05.

(*M* = 44.81), *F* (2, 60) = 3.53, *p* < .05. No association was found between CS and maternal diagnostic group,  $\chi^2$  (6, *N* = 63) = 2.22, *p* = .90.

### *Association Between Mother and Child Responses*

As predicted, the child's CS profile was associated with maternal AS, as shown in Table I,  $\chi^2$  (2, *N* = 63) = 6.78, *p* < .05. Of the 31 children engaged in interaction with a benign AS mother, 45% had a CS profile characterized by autonomy, 39% had a benign CS profile, and only 16% had a critical CS profile. A reverse pattern was found for the 32 children interacting with a negative AS mother, as only 18% had an autonomous profile, 41% had a benign profile, and 41% had a critical profile.

### *Association Between Child Affective Symptomatology and CS*

Due to the relatively small sample size, lifetime diagnostic information was collapsed to form two diagnostic categories. For affective diagnoses, the first category reflected either no symptomatology or transitory periods of symptoms at nondiagnosable levels, while the second category encompassed diagnosable episodes, including both minor and major episodes. For nonaffective diagnoses, the first category included no diagnoses or possible symptomatology, while the second category encompassed at least one significant disorder.

A marginally significant association was found between lifetime affective symptomatology at intake and CS,  $\chi^2$  (2, *N* = 63) = 5.36, *p* < .07. Of the 43 children with no affective disorder, 39.5% had an autonomous CS profile, 39.5% had a neutral CS profile, and only 21% had a critical CS profile. Of the 20 children who had experienced diagnosable affective symptoms, 15% had an autonomous CS profile, 40% had a neutral

profile, and 45% had a critical profile. No association was found between child's CS profile and lifetime nonaffective symptomatology,  $\chi^2 (2, N = 63) = .71$ .

Followup data on diagnostic status were available for 59 of the 63 children at 6 months after initial evaluation. These data were compared with the child's dominant CS profile as assessed at intake. CS profile was associated with followup symptomatology for affective disorders,  $\chi^2 (2, N = 59) = 9.70, p < .01$ , but not for nonaffective disorders,  $\chi^2 (2, N = 59) = 1.81, p = .40$ . Of the 44 children without diagnosable affective symptoms, 36.4% had autonomous profiles, 45.4% had neutral profiles, and only 18.2% had critical profiles. Of the 15 children with diagnosable affective disorders at followup, only 13.3% had been characterized by autonomous profiles at intake, 26.7% by neutral profiles, and 60% by critical profiles. Distributions at followup for both affective and non-affective disorders by CS profile are presented on Table II. Due to relatively small sample sizes in some of the cells, autonomous and benign categories were collapsed and Fisher's exact tests were conducted to verify findings. The same pattern emerged for both affective disorders, Fisher's exact test,  $p < .01$ , and for nonaffective disorders, Fisher's exact test,  $p = .30$ . Of children with no affective symptomatology at followup, 82% had benign CS profiles, while only 18% had critical profiles. Of the children with diagnosable affective disorder, 40% had benign CS profiles, while 60% had critical profiles.

### *Prediction of Child CS From Maternal AS and Child Diagnostic Status*

Both maternal AS and child affective diagnosis were associated with the child's CS profile. A subsequent question was which of these most strongly predicted CS. Since both maternal AS and child diagnostic status were dichotomous variables, autonomous and neutral child CS profiles were collapsed into one benign category, with critical CS as the second category. A logistic regression was then conducted to determine the relative importance of maternal AS and child diagnosis in contributing to CS. Assessment of the overall change in model fit (the change in the likelihood ratio statistic) was made with the addition of each of these factors. The mother's AS status alone predicted child's CS profile indicating a stronger link between mother and child interaction style than between child affective disorder and CS,  $\chi^2 (1, N = 63) = 5.50, p < .05$ .

**Table II.** Dominant Coping Style (CS) Profiles of Children by Levels of Symptomatology During 6-Month Follow-up

CS profiles	Diagnostic status			
	Affective symptoms <sup>a</sup>		Nonaffective Symptoms <sup>b</sup>	
	Nonsignificant (n = 44)	Diagnosable (n = 15)	Nonsignificant (n = 47)	Diagnosable (n = 12)
Autonomous	16 (36%)	2 (13%)	16 (34%)	2 (16%)
Neutral	20 (46%)	4 (27%)	19 (40%)	5 (42%)
Critical	8 (18%)	9 (60%)	12 (26%)	5 (42%)

<sup>a</sup> $\chi^2$  (2, N = 63) = 8.41,  $p$  = .01.

<sup>b</sup> $\chi^2$  (2, N = 63) = 1.81,  $p$  = .40.

## DISCUSSION

The goal of this study was to examine the association between child communication style as assessed by coping style (CS) and two contextual factors, maternal affective style (AS) and child symptomatology. In sum, results show that children's and mother's interactional behavior is linked, and that child affective symptomatology is related to the use of critical CS.

Although present results do not argue for causality, they indicate reciprocity between mother and child interpersonal responses. Children's interaction styles are not completely analogous to those of their mothers, but there is a link between mother and child interactional deficits. Reciprocal processes are suggested by the association between affective negativity in the mother and criticism of the mother by the child, and by the link between the relative absence of maternal negativity and child autonomy. Present results are congruent with Strachan and his colleagues' (1989) previous findings of a relationship between negative AS and CS profiles in a sample of adults with schizophrenia.

An association was found between child affective symptomatology and child CS at 6-month followup, although there was only a trend between CS and affective disturbance at intake. However, nonaffective symptomatology was not related to CS profiles at either time. Current findings support previous research indicating impaired social functioning in children with affective disorders (Cook et al., 1990; Lewinsohn et al., 1985). Present results do not indicate that depressed children evidence *less* affect-related expression, as previously suggested by Kazdin and his colleagues (1985), but rather that they are impaired in their ability to express affect *appropriately* within an emotionally charged setting.



It seems likely that affective disorder may have an aggregate effect on interpersonal skills over lifetime. Although some of the children in the affectively disturbed group were not clinically depressed at the time of the interaction task, the past experience of depression may have resulted in less access to effective interpersonal strategies, even when affective symptoms were in remission. Current findings are interesting in light of Puig-Antich and his colleagues' report (1985) that deficits in children's family relationships improved only partially following recovery from a major depressive episode. Further, major depressive disorder in children seems to interfere with age-appropriate acquisition of verbal skills (Kovacs et al., 1988). Affectively disordered children with poor communication skills may receive little interpersonal reinforcement, which in turn may contribute to maintenance of their symptoms. Thus, affective disturbance may interfere with the ability both to achieve and maintain optimal functioning. There are currently no studies which assess the stability of either AS or CS over time. The present relationship between child's CS at intake and affective diagnosis at followup suggests that interpersonal deficits associated with mood disorders may be longstanding, rather than reflecting more transient mood changes. To clarify whether AS and CS are enduring constructs, further research could reassess interaction style as a function of fluctuations in active symptomatology across time.

Generalizability of the present findings is limited by the relatively small sample size. As such, results should be interpreted as suggestive, rather than conclusive. Another limitation with the current study is the short sample of interactive behavior. Only verbal behaviors were assessed, and consideration of other interactional aspects, including nonverbal communication, may have provided a finer-grained analysis. Finally, it should be noted that any comparison between current findings and previous studies of AS and CS should take into account differences in methodology, as proportion scores rather than the standard critical incident model were used due to the shorter interaction time available.

Despite shortcomings of the study, findings indicate that the child's communication style is related both to a family transactional process, as indexed by maternal AS, and to the child's affective symptomatology. Results further suggest that mother and child interaction style is linked apart from psychiatric diagnosis *per se*, as maternal AS is a stronger predictor of child CS than either child or maternal diagnostic status. Findings support the utility of examining interconnected factors to more fully capture the family environment. Future research could examine whether interactions of affectively disordered children are consistent across interpersonal spheres and across time. Finally, the development of intervention strategies for children at risk for poor interpersonal functioning, due both to affective



disturbance as well as to dysfunctional parental interaction style, may be a particularly promising line of research.

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