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# Maternal Interaction Style in Affective Disordered, Physically Ill, and Normal Women\*

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*Affective style (AS) and communication deviance (CD) have been suggested as markers of dysfunctional family environments that may be associated with psychiatric illness. Studies have focused mainly on parental responses during family interactions when an offspring is the identified patient. The present study is unique in examining AS and CD in mothers with unipolar depression, bipolar disorder, or chronic physical illness, and in normal controls. The sample consisted of 64 mothers with children ages 8 to 16. Unipolar mothers were more likely to show negative AS than were any other maternal group. There were no group differences for CD. Chronic stress, few positive life events, and single parenting were associated with AS. CD was associated solely with lower socioeconomic status. Results suggest that dysfunctional interactions are determined not only by maternal psychopathology, but also by an array of contextual factors that are*

*related to the quality of the family environment.*

A longstanding interest in the interpersonal context of psychiatric illness has prompted research on the relationship between family factors and psychiatric disorders (Bateson, Jackson, Haley, & Weakland, 1963; Hammen, Gordon, Burge, et al., 1987; Wild, Singer, Rosman, et al., 1965; Wynne & Cole, 1983). In general, the literature has indicated impaired interactional processes in families of patients with psychiatric disorders (Asarnow, Ben-Meir, & Goldstein, 1987; Miklowitz, Goldstein, Neuchterlein, et al., 1988; Wynne, Singer, Bartko, & Toohey, 1977). However, the specificity of different patterns of dysfunction to major psychiatric disorders is an issue that merits additional research, particularly direct observation studies on clinical samples.

Research suggests that two important dimensions of the family environment are parental negative affect and impaired thought processes (Doane, West, Goldstein, et al., 1981; Singer & Wynne, 1965a,b). Earlier work indicates that negatively charged parental attitudes, as indexed by expressed emotion (EE), predict the likelihood of relapse from schizophre-

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nia in the offspring (Brown, Birley, & Wing, 1972; Vaughn, Snyder, Jones, et al., 1984). A recent study suggests that maternal EE is associated with children's increased risk for depressive disorder, substance abuse, and conduct disorder (Schwartz, Dorer, & Beardslee, et al., 1990). As a behavioral analogue of EE, affective style (AS) reflects the emotional atmosphere of the family during direct interactions, particularly as indexed by criticism, guilt-induction, and intrusiveness (Doane et al., 1981). Negative AS has been found to predict relapse for both schizophrenia (Vaughn et al., 1984) and bipolar disorder (Miklowitz et al., 1988), and has also been linked to the onset of schizophrenia-spectrum disorders for high-risk adolescents (Goldstein, 1987). Communication deviance (CD), a disturbance in maintaining a focus of attention in family transactions, has also been linked to onset for the schizophrenia-spectrum disorders (Doane et al., 1981; Jones, 1977; Lewis, Rodnick, & Goldstein, 1981). Research using parental projective test protocols suggests that CD is more frequent in parents of hospitalized adult schizophrenics than in parents of hospitalized neurotic offspring or parents of normal control offspring, and in parents of hospitalized children with schizophrenia-spectrum disorders than in parents of depressed children (Asarnow et al., 1987; Wynne et al., 1977). Behavioral assessment has found that psychiatrically hospitalized children with schizophrenia-spectrum disorders show more disturbed attention and thought disorder during a Family Rorschach interaction than do depressed children, although parents of the two groups exhibit similar communication behaviors (Tompson, Asarnow, Goldstein, & Miklowitz, 1990). The implication of these studies is that CD is specifically linked to schizophrenia while negative affect may be more generally associated with psychiatric disorder. However, future re-

search is needed to clarify the relationship of these constructs to psychiatric disorder, particularly studies that assess overt behavior in direct family interactions and include appropriate control groups.

A primary objective of the present study was to investigate whether affective disorder in the mother was associated with increased rates of maternal negative AS and CD. A related question was whether mothers with unipolar and bipolar disorder differed from each other on these dimensions. Research to date has examined AS and CD when the offspring is identified as having a psychiatric disorder. The present study applies these constructs to mother-child interaction when the mother is the identified patient. To our knowledge, this is the only study to assess AS and CD in direct interactions where the parent, rather than the child, is psychiatrically disordered.

The current study includes mothers with unipolar depression, bipolar disorder, and chronic physical illness, as well as normal controls. Previous studies have found notable impairment in the maternal functioning of depressed mothers in comparison to normal mothers (Hammen et al., 1987; Kochanska, Kuczynski, Radke-Yarrow, & Welsh, 1987). Research suggests that depressed mothers are unresponsive and withdrawn (Cox, Puckering, Pound, & Mills, 1987; Goodman & Brumley, 1990), hostile (Lyons-Ruth, Zoll, Connell, & Grunebaum, 1986), inconsistent (Davenport, Zahn-Waxler, Adland, & Mayfield, 1984), intrusive (Cohn, Matias, Tronick, et al., 1986), and providers of low rates of positive feedback (Cole & Rehm, 1986). These dysfunctional parenting characteristics led us to predict an association between maternal affective disorder and AS. We also hypothesized that the distortions in cognitive processes found in the affective disorders might be apparent in interactions

marked by CD, relative to physically ill mothers and normal controls.

A second goal of the present research was to explore psychosocial factors, in addition to maternal psychiatric diagnosis, that might be associated with dysfunctional interaction patterns. Research indicates that negative life events and ongoing major difficulties contribute to depressive experiences in both adults and children (Brown & Harris, 1978; Hammen, 1988; Hammen, Burge, & Stansbury, 1990). Further, stressful life conditions have been linked to negative family interactions (Downey & Coyne, 1990; Hammen et al., 1987). Rutter and Quinton (1984) suggest that the primary risk determinant for children of mentally ill parents is not psychiatric disorder *per se*, but, rather, associated disturbances in the environment. In the current study, both episodic and chronic stressors were examined because research indicates that these two types of stressors have differential effects (Richters, 1987). Finally, the impact of both negative and positive episodic life events was investigated since relatively little attention to date has been focused on the potentially beneficial role of positive events.

In the present study, AS and CD were examined by diagnostic groups, but they were not assumed to be solely a function of maternal psychopathology. Instead, maternal behaviors were viewed as arising in part from environmental stressors that may make it more difficult to interact effectively with their children. We hypothesized that chronic stress, high rates of negative life events, and low rates of positive life events would be related to negative family interactions. We also predicted that lower socioeconomic status and single parenthood would be associated with a dysfunctional family environment. This hypothesis was suggested by an earlier finding that external stresses such as unemployment are one of the determinants of the

degree of expressed emotion (EE), an attitudinal analogue of AS, found in families of schizophrenic patients (Vaughn, 1986). In schizophrenic samples, high EE has been more frequently associated with single-parent family composition in comparison to dual-parent families (Miklowitz, Goldstein, Falloon, & Doane, 1984; Parker & Johnston, 1987). In summary, the current study investigates differences in maternal AS and CD both as a function of maternal psychiatric status and environmental stressors.

## METHOD

### Participants

Subjects included 16 mothers with unipolar disorder, 13 mothers with bipolar disorder, and 11 mothers with chronic physical illness (diabetes or rheumatoid arthritis) in order to compare the effects of strain associated with coping with ongoing illness. Women currently in treatment were recruited since treatment sources were used to identify potential subjects. Mothers did not participate in the study until at least 3 months after beginning treatment in order to avoid the distress that might be associated with a recent hospitalization or acute episode. The sample also contained 24 control mothers who were free of diagnosable psychiatric disorders and chronic physical illnesses at intake. All children in the study were between the ages of 8 and 16.

The mean age of the mothers was 38.03 years, and the mean age of the children was 12.05 years. The average Hollingshead SES score was 45.72, placing the sample in the upper-middle socioeconomic level. There were no significant differences between maternal diagnostic groups on maternal age, child age, or SES. One-half of the children were boys and one-half were girls, in the sample as a whole and within maternal groups. Eighty-one percent of the unipolar women and 69% of the bipolar



women were unmarried, while 36% of the physically ill mothers and 29% of the normal mothers were unmarried. Thirty-one percent of the unipolar mothers, 29% of the normal mothers, and 8% of the bipolar mothers were non-white; none of the physically ill mothers were non-white.

Mothers with affective disorders were recruited from specialty clinics, hospitals, and private practices where they were all currently undergoing treatment. All had experienced the onset of symptoms prior to the child's birth, or during its earliest years. Women with unipolar depression had had a mean of 11.4 ( $SD = 8.28$ ) episodes (excluding four women who reported "too many to count") and 1.9 hospitalizations ( $SD = 2.2$ ). The bipolar women had a mean of 5.4 episodes of major depression ( $SD = 3.3$ ), an average of 3.0 manic episodes not including hypomania ( $SD = 2.5$ ), and 2.3 hospitalizations ( $SD = 2.0$ ). In sum, selection criteria for the affective disorders group resulted in a fairly chronically disordered sample, with an early illness onset. Chronically physically ill women were recruited from specialty clinics and private practices and from newsletters of the American Diabetes Association or Arthritis Foundation. These mothers had an average of 3.6 ( $SD = 5.2$ ) hospitalizations for their physical illness.

The normal control group was recruited from schools that were the same or demographically similar to those used by families in the other groups. Inclusion was contingent on the lack of a significant psychiatric history or treatment for psychological disorders. Some of the mothers in this group had had brief periods of depression in response to life events, which would correspond to DSM-III diagnoses of adjustment disorder with depressed mood.

## Procedure

Participants were members of families selected to take part in the UCLA Family Stress Project, a study of the psychosocial

effects of maternal affective pathology on children. Sixty-four mother-child pairs were selected for the current study, one from each of 64 families. Informed consent was obtained prior to the initial interview session.

## *Measures of Maternal Functioning*

Mother's current and past psychiatric functioning was assessed by the Schedule for Affective Disorders and Schizophrenia-Lifetime version (SADS-L; Endicott & Spitzer, 1978). Interviews were conducted by advanced clinical psychology graduate students who had received extensive training on both the SADS-L and the Research Diagnostic Criteria (RDC). Interrater reliability was high, with kappa coefficients of 1.00 for current diagnosis and .92 for past diagnosis.

Episodic life stressors were assessed by the questionnaire version of the Life Stress Inventory of the Psychiatric Epidemiology Research Interview (PERI; Dohrenwend, Kransoff, Askenasy, & Dohrenwend, 1978). Episodic stress was confined to events occurring within the past year. These were classified as either positive or negative. Events typical of an ongoing strain were rated as chronic stress, unless they represented a significant exacerbation or change in an ongoing stressor.

A semi-structured interview was administered to obtain information from the mothers about ongoing stressful conditions in the family. To be considered a chronic stressor, a condition had to reflect circumstances existing for at least the past 6 months. Six dimensions of role functioning were assessed: (1) marital/social; (2) financial; (3) employment; (4) relationships with other family members; (5) health of self; and (6) health of others. These content areas were rated on a 5-point scale, with specific behavioral descriptors as anchors, indicating levels of stress ranging from 1 (high stress) to 5 (low stress). Scale scores for the six content areas were as-

signed by judges with a high degree of interrater reliability, ranging between .93 and .99 across content areas, and with an overall reliability coefficient of .97 ( $p \leq .001$ ). An overall chronic stress score was then obtained by combining all the scales to form an average.

### *Measures of Interaction Behavior*

**Conflict Resolution Task:** A sample of the quality of the mother-child interaction was obtained through a conflict-resolution task. Using a modified "revealed difference" format, 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 that they would be willing to discuss for 5 minutes in an attempt to come to some agreement or understanding. The research team then selected one of the topics to be the focus of their discussion. Mother-child interactions were videotaped and later transcribed.

**Affective Style:** Mothers' statements were assessed by the affective style (AS) coding system (Doane, Dingemans, Goldstein, & Zaden, 1989). The AS categories include: (1) supportive statements; (2) guilt-inducing statements; (3) critical statements (benign situational criticism or harsh personal criticism); and (4) neutral intrusive statements. The standard method for establishing AS profiles is to divide subjects into dichotomous low and high AS profile groups on the basis of one or more harshly critical or guilt-inducing statements, or six or more neutral intrusive comments, during two 10-minute interactions (Doane et al., 1981; Miklowitz et al., 1988). As Doane and Lewis (1984) have argued, a profile method may more clearly reflect idiosyncratic patterns in complex data in comparison to the analysis of means alone. In the current study, each complete thought or idea was designated a speech unit. 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. This method was chosen to account for the fact that only 5 minutes of interaction were available, and also to control for individual differences both between and within groups in the amount of speech uttered during the interaction. Unipolar mothers spoke less (mean = 47.50) than did bipolar mothers (mean = 54.77), physically ill mothers (mean = 55.27), or normal control mothers (mean = 56.58), although this was a nonsignificant difference ( $F[3,60] = 1.65$ ,  $p = .19$ ). Use of proportion scores differs from previous AS studies that use summary scores in a critical incident model (Doane, Falloon, Goldstein, & Hintz, 1985; Miklowitz et al., 1988), although it parallels the method used by Hahlweg and his colleagues (1987) for the *Kategoriensystem für partnerschaftliche Interaktion* (Hahlweg, Reisner, Vollmer, 1984), 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. Since it was impossible to apply the standard AS criteria, which are based on a longer interaction time sample, median splits were chosen as the most effective way of distinguishing between benign and negative AS mothers. The mean transformed AS proportion score for the 31 women in the benign AS group was .04 ( $SD = .03$ ), while the mean score for the 33 women in the negative AS group was .17 ( $SD = .07$ ). Transcripts were coded by trained graduate students who were blind to maternal diagnostic status. Independent interrater reliability for negative AS in each utterance reached an acceptable level ( $\kappa = .86$ ,  $p < .05$ ).

**Communication Deviance:** Velligan's (1985) coding scheme for assessing CD in

spontaneous family interactions was used to determine the presence or absence of maternal CD. The CD categories in this system include: (1) abandoned or abruptly ceased remarks; (2) unintelligible remarks; (3) contradictions, denials, retractions; (4) ambiguous referents; (5) extraneous statements; (6) tangential or inappropriate responses; (7) odd word usage; and (8) reiteration.

Proportion scores were obtained for overall CD and then transformed. As with AS, CD profiles were made based on the median split of the proportion scores. The mean transformed CD proportion score for the 31 women in the low-CD group was .01 ( $SD = .01$ ), while the mean score for the 33 high-CD women was .09 ( $SD = .04$ ). Independent interrater reliability for the presence or absence of CD was acceptable ( $kappa = .87, p < .05$ ).

## RESULTS

### AS and CD as Functions of Maternal Diagnosis

Median splits were used to create "low" or "high" profiles for both negative AS and CD. The frequencies of each maternal diagnosis in the profile groups are given in Table 1. Chi-square analyses were conducted to examine differences in the proportion of maternal diagnostic groups represented in each of the low versus high categories. There was a significant difference in the distribution of maternal diagnostic group by negative AS ( $\chi^2 [3,$

$N = 64] = 9.21, p < .05$ ), with proportionally more unipolar mothers falling into the high-AS group than into the low-AS group. At first it appears that this finding might be due in part to the relatively lower proportion of physically ill mothers in the high-AS group. However, when physically ill mothers are removed from the analysis, the effect remains, confirming that unipolar mothers are more likely to be classified as high in AS than the other groups ( $\chi^2 [2, N = 64] = 6.18, p < .05$ ). No diagnostic group differences were found for CD ( $\chi^2 [3, N = 64] = 1.25, p = .74$ ).

### Correlates of Maternal Interaction Behavior

Analyses of the relationship between both negative AS and CD and psychosocial factors were conducted to test the hypothesis that stress would be a significant contributor to AS and CD, and that this would be the case apart from maternal diagnostic status per se. Hierarchical logistic procedures were used to examine this question. In logistic regression, outcome variables are categorical, and independent variables (either interval or categorical) are evaluated for their utility in predicting group membership. Due to the sample size, two sets of logistic regressions were conducted. The first set examined the contribution of chronic and episodic stressors to AS and CD, and the second examined the contribution of demographic factors associated with stressful life conditions.

A model was first tested by entering

TABLE 1  
*Distribution of Mothers by Diagnostic Status in AS and CD Profile Groups*

	Unipolar (n = 16)	Bipolar (n = 13)	Medical (n = 11)	Normal (n = 24)
<b>Negative AS</b>				
Low	3 (19%)	6 (46%)	8 (73%)	14 (58%)
High	13 (81%)	7 (54%)	3 (27%)	10 (42%)
<b>CD</b>				
Low	7 (44%)	7 (54%)	4 (36%)	13 (54%)
High	9 (56%)	6 (46%)	7 (64%)	11 (46%)

maternal diagnostic status with life stress variables, including: (1) chronic stress, (2) positive life events, and (3) negative life events. Chronic stress was significant by itself in distinguishing between low- and high-AS groups since higher rates of ongoing stress were predictive of high AS ( $\chi^2 [1, N = 64] = 5.34, p < .05$ ). Positive life events then entered the equation as the second predictor variable since lower rates of positive events were associated with high AS ( $\chi^2 [1, N = 64] = 5.69, p < .05$ ). Neither maternal diagnostic status nor negative life events added significantly to prediction of AS group membership. None of these variables afforded significant prediction of CD group membership. The means for each AS profile group on the life stress variables are presented in Table 2.

A second model was tested by entering mother's diagnostic status with demographic variables, including (1) SES and (2) marital status. Marital status was a significant predictor of AS since single parenthood was associated with negative AS ( $\chi^2 [1, N = 64] = 6.33, p < .05$ ). Neither maternal diagnostic group or SES contributed to the equation. CD group membership was predicted uniquely by

lower SES ( $\chi^2 [1, N = 64] = 11.93, p < .01$ ). The mean Hollingshead score for mothers with low CD was 51.59 (SD = 12.25), while the mean score for high-CD mothers was 40.21 (SD = 13.88).

## DISCUSSION

Results suggest that unipolar mothers are more likely to be high in negative AS than are mothers with physical illness or normal controls. This is congruent with previous research showing particularly deleterious effects of unipolar depression on parenting styles (Goodman & Brumley, 1990; Hops, Biglan, Sherman, et al., 1987). Current findings also complement earlier results, with a subset of the same sample, using the Peer Interaction Rating System (PIRS; Whalen, Henker, Collings, et al., 1979), which showed that unipolar women used more negative feedback than either physically ill or normal mothers (Hammen et al., 1987). In sum, when interacting with their children, unipolar mothers appear more affectively negative than control mothers on a variety of dimensions. Finally, it is possible that the interactive style of bipolar women differs from both unipolar women and nonpsychiatrically disordered women on characteristics that are not captured by the AS and CD coding systems.

Chronic stress and low frequencies of positive life events were associated with AS, apart from maternal psychiatric diagnosis. Previous research indicates that stressful environmental conditions are related to maternal depression (Brown & Harris, 1978; Downey & Coyne, 1990; Rutter & Quinton, 1984). Current findings further suggest that levels of stress may be more important than the mother's diagnostic status per se in determining affective negativity during family interactions. In sum, the high levels of chronic stress experienced by depressed mothers may adversely affect the way they interact with their children, in addition to the effects of

TABLE 2  
*Psychosocial Factors by Maternal AS Profile*

Psychosocial Factors	AS Profile Grouping	
	Low (n = 31)	High (n = 33)
Chronic stress <sup>a</sup>		
Mean	35.72	33.21
SD	4.21	4.39
Positive life events		
Mean	6.29	2.21
SD	17.37	2.37
Negative life events		
Mean	5.10	2.75
SD	17.53	2.67
Marital status		
Single	11 (35%)	22 (67%)
Married	20 (65%)	11 (33%)

<sup>a</sup> Lower numbers are indicative of more chronic stress.

the symptoms of their illness. However, although ongoing strain may be especially likely to occur in clinically depressed mothers, it is not unique to mothers with affective disorder. Stressful life conditions may interfere with the mother's interpersonal functioning, and dysfunctional interactions may also contribute to ongoing environmental stressors.

Positive life events appeared to play a protective role against dysfunctional interactions because their absence was associated with negative AS. In general, one shortcoming of research on psychiatrically disordered families has been the focus on variables contributing to the exacerbation of psychopathology, with insufficient weight given to factors that may attenuate its effects (Rutter, 1986). Current results are interesting in relation to earlier work showing that the experience of "fresh-start" events, positive events, and reductions in the severity of difficulties predict recovery or improvement from depressive episodes (Brown, Adler, & Bifulco, 1988; Parker, Tennant, & Blignault, 1985). Positive life events may mitigate the effects of psychiatric disorder, including both the exacerbation of symptoms and maladaptive patterns of interaction. Future research should continue to explore psychosocial factors that may enhance psychiatric and interpersonal functioning.

The current association between single parenting and AS is congruent with the relationship between parents' marital status and negative parental attitudes reported in earlier work (Miklowitz et al., 1984; Parker & Johnston, 1987). Interestingly, SES was not associated with AS status, suggesting that other indices of ongoing life strain, including both chronic stress and single parenting, may be more directly related to the affective quality of the parent-child relationship.

It should be noted that the variables used to assess stress in the current study

are interrelated. Although SES is independent of diagnostic status, marital status and stress are associated with psychiatric status. In the current study, results are presented in a way to highlight the role of environmental stressors, although it should be emphasized that women with interpersonal deficits may contribute to creating their own stressors and fail to generate positive events in their lives. In sum, results suggest that although maternal affective diagnosis is related to AS, other contextual variables reflecting stressful life circumstances may be more strongly associated with the mother's affective behavior. Future work is required to investigate more thoroughly the complex relationship among psychosocial factors, psychopathology, and impaired parenting.

There were no diagnostic group differences on CD in the present sample of affectively disordered, physically ill, and normal mothers. This finding adds to previous research that suggested communication deviance may be specific to the schizophrenia-spectrum disorders (Asarnow et al., 1987; Tompson et al., 1990; Wynne et al., 1977). In conjunction, this information may eventually be used to target children at risk for developing schizophrenia, and also to construct appropriate intervention programs.

The association between CD and SES in the current sample suggests that both CD and lower SES may be risk factors indexing environmental disturbances. Alternatively, some of the CD codes may be confounded by language usage that is acceptable in certain socioeconomic classes but not in others. Future work with a larger data base might clarify this preliminary finding by examining the relationship of SES to the individual CD codes. For example, it is possible that SES is related to language anomalies but not to more pathological communication dimensions, such as unintelligible remarks or contradic-



tions and denials. Finally, it should be noted that the current CD measure is based on Velligan's (1985) interactive coding system and, as such, findings may not be analogous to much of the previous research that has used individual Rorschach protocols or the Thematic Apperception Test (Asarnow et al., 1987; Wynne et al., 1977).

A number of limitations with the current study should be noted. First, 5 minutes of interaction time is brief. Second, the comparison groups are small. Third, comparison of current results to the AS and CD literature should be made, taking into account methodological differences in the present study, most importantly the use of a median split procedure for AS and CD. Fourth, only the mothers' interactional style is examined. Investigation of the effects of paternal affective diagnosis and stress on the quality of father/child interaction would have provided a more comprehensive picture. The exploration of AS and CD by separate category might have provided a richer view, although the short time sample available precluded this analysis. Finally, it should be noted that AS may be characteristic of chronic parental mental illness rather than unipolar status per se.

In conclusion, the assessment of interactive styles with direct behavioral tasks appears valuable for the investigation of the quality of the family environment and its relationship to psychiatric functioning. A comprehensive assessment of parent-child interactions must include the examination of the contribution of the child to the interactional context. A companion article presents results describing the children's responses during the conflict task in relationship to maternal interaction style and child diagnostic status (Hamilton, Hammen, Minasian, & Jones, 1993). Future work should continue to examine an array of contextual variables, in addition to

psychiatric status, that influence dysfunctional family interactions, including a close examination of both chronic and episodic life stressors. Complex models of psychopathology that include both diagnostic and psychosocial variables are likely to be the most theoretically and clinically useful in understanding families with psychiatric disorder. Finally, the identification of environmental influences contributing to vulnerability within the family system may eventually point to potential areas of intervention.

## REFERENCES

- Asarnow, J.R., Ben-Meir, S.L., & Goldstein, M.J. (1987). Family factors in childhood depressive and schizophrenia-spectrum disorders: A preliminary report (pp. 123-138). In K. Hahlweg & M.J. Goldstein (eds.), *Understanding major mental disorder: The contribution of family interaction research*. New York: Family Process Press.
- Bateson, G., Jackson, D.D., Haley, J., & Weakland, J.H. (1963). A note on the double bind—1962. *Family Process* 2: 154-161.
- Brown, G.W., Adler, Z., & Bifulco, A. (1988). Life events, difficulties and recovery from chronic depression. *British Journal of Psychiatry* 152: 487-498.
- , Birley, J.L.T., & Wing, J.F. (1972). Influence of family life on the course of schizophrenic disorders: A replication. *British Journal of Psychiatry* 121: 241-258.
- , & Harris, T. (1978). *Social origins of depression: A study of psychiatric disorder in women*. New York: The Free Press.
- , & Harris, T.O. (eds.). (1989). *Life events and illness*. New York: Guilford Press.
- Cohn, J., Matias, R., Tronick, E., Connel, D., & Lyons-Ruth, K. (1986). Face-to-face interactions of depressed mothers and their infants (pp. 31-46). In E. Tronick & T. Field (eds.), *Maternal depression and infant disturbance*. San Francisco: Jossey-Bass.
- Cole, D.A., & Rehm, L.P. (1986). Family interaction patterns and childhood depression. *Journal of Abnormal Child Psychology* 14: 297-314.
- Cox, A.D., Puckering, C., Pound, A., & Mills, M.

- (1987). The impact of maternal depression on young children. *Journal of Child Psychology and Psychiatry* 28: 917-928.
- Davenport, Y.B., Zahn-Waxler, C., Adland, M.L., & Mayfield, A. (1984). Early child-rearing practices in families with a manic-depressive parent. *American Journal of Psychiatry* 141: 230-235.
- Doane, J.A., Dingemans, P., Goldstein, M.J., & Zaden, S. (1989). Affective style coding manual. University of California, Los Angeles.
- \_\_\_\_\_, Falloon, I.R.H., Goldstein, M.J., & Mintz, J. (1985). Parental affective style and the treatment of schizophrenia: Predicting course of illness and social functioning. *Archives of General Psychiatry* 42: 34-42.
- \_\_\_\_\_, & Lewis, J.M. (1984). Measurement strategies in family interaction research: A profile approach (pp. 93-101). In N.F. Watt, E.J. Anthony, L.C. Wynne, & J.E. Rolf (eds.), *Children at risk for schizophrenia: A longitudinal perspective*. New York: Cambridge University Press.
- \_\_\_\_\_, West, K.L., Goldstein, M.J., Rodnick, E.H., & Jones, J.E. (1981). Parental communication deviance and affective style: Predictors of subsequent schizophrenia spectrum disorders in vulnerable adolescents. *Archives of General Psychiatry* 38: 679-685.
- Dohrenwend, B.S., Kransoff, L., Askenay, A., & Dohrenwend, B.P. (1978). Exemplification of a method for scaling life events: The PERI Life Events Scale. *Journal of Health and Social Behavior* 19: 205-229.
- Downy, G., & Coyne, J.C. (1990). Children of depressed parents: An integrative review. *Psychological Bulletin* 108: 50-76.
- Endicott, J., & Spitzer, R.L. (1978). A diagnostic interview: The Schedule for Affective Disorders and Schizophrenia. *Archives of General Psychiatry* 35: 837-844.
- Goldstein, M.J. (1987). Family interaction patterns that antedate the onset of schizophrenia and related disorders: A further analysis of data from a longitudinal, prospective study (pp. 11-32). In K. Hahlweg & M.J. Goldstein (eds.), *Understanding major mental disorder: The contribution of family interaction research*. New York: Family Process Press.
- Goodman, S.H., & Brumley, H.E. (1990). Schizophrenic and depressed mothers: Relational deficits in parenting. *Developmental Psychology* 26: 31-39.
- Hahlweg, K., Nuechterlein, K.H., Goldstein, M.J., Magaña, A., Doane, J.A., & Snyder, K.S. (1987). Parental expressed emotion attitudes and intrafamilial communication behavior (pp. 156-175). In K. Hahlweg & M.J. Goldstein (eds.), *Understanding major mental disorder: The contribution of family interaction research*. New York: Family Process Press.
- \_\_\_\_\_, Reisner, L., Kohli, G., Vollmer, M., Schindler, L., & Revenstorf, D. (1984). Development and validity of a new system to analyze interpersonal communication: Kategoriensystem für partnerschaftliche Interaktion (pp. 182-198). In K. Hahlweg & N.S. Jacobson (eds.), *Marital interaction: Analysis and modification*. New York: Guilford Press.
- Hamilton, E.B., Hammen, C., Minasian, G., & Jones, M. (1993). Communication styles of children of mothers with affective disorders, chronic medical illness, and normal controls: A contextual perspective. *Journal of Abnormal Child Psychology* 21: 51-63.
- Hammen, C. (1988). Self-cognitions, stressful life events, and the prediction of depression in children of depressed mothers. *Journal of Abnormal Child Psychology* 16: 347-360.
- \_\_\_\_\_, Burge, D., & Stansbury, K. (1990). Relationship of mother and child variables to child outcomes in a high risk sample: A causal modeling analysis. *Developmental Psychology* 26: 24-30.
- \_\_\_\_\_, Gordon, D., Burge, D., Adrian, C., Jaenicke, C., & Hiroto, D. (1987). Communication patterns of mothers with affective disorders and their relationship to children's status and social functioning (pp. 103-119). In K. Hahlweg & M.J. Goldstein, (eds.), *Understanding major mental disorder: The contribution of family interaction research*. New York: Family Process Press.
- Hops, H., Biglen, A., Sherman, L., Arthur, J., Friedman, L., & Osteen, R. (1987). Home observations of family interactions of depressed women. *Journal of Consulting and Clinical Psychology* 55: 341-346.
- Jones, J.E. (1977). Patterns of transactional



- style deviance in the TAT's of parents of schizophrenics. *Family Process* 16: 327-337.
- Kochanska, G., Kuczynski, L., Radke-Yarrow, M., & Welsh, J.D. (1987). Resolutions of control episodes between well and affectively ill mothers and their young children. *Journal of Abnormal Child Psychology* 15: 441-456.
- Lewis, J.M., Rodnick, E.H., & Goldstein, M.J. (1981). Intrafamilial interactive behavior, parental communication deviance, and risk for schizophrenia. *Journal of Abnormal Psychology* 90: 448-457.
- Lyons-Ruth, K., Zoll, D., Connell, D., & Grunebaum, H.U. (1986). The depressed mother and her one-year-old infant: Environment, interaction, attachment, and infant development (pp. 61-82). In E. Tronick & T. Field (eds.), *Maternal depression and infant disturbance*. San Francisco: Jossey-Bass.
- Miklowitz, D.J., Goldstein, M.J., Falloon, I.R.H., & Doane, J.A. (1984). Interactional correlates of expressed emotion in the families of schizophrenics. *British Journal of Psychiatry* 144: 482-487.
- \_\_\_\_\_, Goldstein, M.J., Neuchterlein, K.H., Snyder, K.S., & Mintz, J. (1988). Family factors and the course of bipolar affective disorder. *Archives of General Psychiatry* 45: 225-231.
- Parker, G., & Johnston, P. (1987). Parenting and schizophrenia: An Australian study of expressed emotion. *Australian and New Zealand Journal of Psychiatry* 21: 60-66.
- \_\_\_\_\_, Tennant, C., & Blignault, I. (1985). Predicting improvement in patients with non-endogenous depression. *British Journal of Psychiatry* 146: 132-139.
- Richters, J.E. (1987). Chronic versus episodic stress and the adjustment of high-risk offspring (pp. 74-90). In K. Hahlweg & M.J. Goldstein (eds.), *Understanding major mental disorder: The contribution of family interaction research*. New York: Family Process Press.
- Rutter, M. (1986). The developmental psychopathology of depression: Issues and perspectives (pp. 3-30). In M. Rutter, C.E. Izard, & P.B. Read (eds.), *Depression in young people*. New York: Guilford Press.
- \_\_\_\_\_, & Quinton, D. (1984). Parental psychiatric disorder: Effects on children. *Psychological Medicine* 14: 853-880.
- Schwartz, C.E., Dorer, D.J., Beardslee, W.R., Lavori, P.W., & Keller, M.B. (1990). Maternal expressed emotion and parental affective disorder: Risk for childhood depressive disorder, substance abuse, or conduct disorder. *Journal of Psychosocial Research* 24: 231-250.
- Singer, M.T., & Wynne, L.C. (1965a). Thought disorder and family relations of schizophrenics: III. Methodology using projective techniques. *Archives of General Psychiatry* 12: 187-200.
- \_\_\_\_\_, & Wynne, L.C. (1965b). Thought disorder and family relations of schizophrenics: IV. Results and implications. *Archives of General Psychiatry* 12: 201-212.
- Tompson, M.C., Asarnow, J.R., Goldstein, M.J., & Miklowitz, D. (1990). Thought disorder and communication problems in children with schizophrenia spectrum and depressive disorders and their parents. *Journal of Clinical Child Psychology* 19: 159-168.
- Vaughn, C.E. (1986). Patterns of emotional response in the families of schizophrenic patients (pp. 97-106). In M.J. Goldstein, I. Hand, & K. Hahlweg (eds.), *Treatment of schizophrenia: Family assessment and intervention*. Heidelberg: Springer-Verlag.
- \_\_\_\_\_, Snyder, K.S., Jones, S., Freeman, W., & Falloon, I.R.H. (1984). Family factors in schizophrenic relapse: Replication in California of British research on expressed emotion. *Archives of General Psychiatry* 41: 1169-1177.
- Velligan, D. (1985). Communication deviance coding manual for coding family confrontations. Unpublished manuscript, University of California, Los Angeles.
- Whalen, C., Henker, B., Collings, B., McAuliffe, S., & Vaux, A. (1979). Peer interaction in a structured communication task: Comparisons of normal and hyperactive boys and of methyl phenidate (ritalin) and placebo effects. *Child Development* 50: 388-401.
- Wild, C., Singer, M., Rosman, B., Ricci, J., & Lidz, T. (1965). Measuring disordered styles of thinking: Using the Object Sorting Test on parents of schizophrenic patients. *Archives of General Psychiatry* 13: 471-476.

Wynne, L.C., & Cole, R.E. (1983). The Rochester risk research program: A new look at parental diagnoses and family relationships (pp. 35-48). In H. Stierlin, L.C. Wynne, & M. Wirsching (eds.), *Psychosocial intervention in schizophrenia: An international view*. Berlin: Springer-Verlag.

\_\_\_\_\_, Singer, M.T., Bartko, J.J., & Toohey, M.L. (1977). Schizophrenics and their fami-

lies: Research on parental communication (pp. 254-286). In J.M. Tanner (ed.), *Developments in psychiatric research*. London: Hodder & Stoughton.

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