

FAMILY AFFECT AND SCHIZOPHRENIC RELAPSE:  
AN EXPLORATORY STUDY OF FOUR ASSESSMENT PROCEDURES

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ABSTRACT

Research conducted in England and the United States over the past several decades documents that certain types of stressful family environments are associated with higher relapse rates in schizophrenic populations. These studies, based on the concept of "expressed emotion" (EE) as derived from the Camberwell Family Interview (CFI) schedule (Vaughn & Leff, 1976b), found that remitted schizophrenic patients relapsed at significantly higher rates when their key relative was classified "high EE," which is characterized by affective patterns of excessive criticism and/or emotional overinvolvement. However, the CFI is too cumbersome and time-consuming an assessment instrument for general clinical screening. This pilot study tested four alternative procedures for assessing the familial emotional environment of schizophrenic outpatients to determine if they were useful in identifying patients vulnerable to relapse. All four procedures were more efficient and economical than the CFI. One scale predicted relapse at a significant level  $p < .05$ . The implication of this finding for social work practice will be discussed.

BACKGROUND

In spite of the overwhelming needs of schizophrenic patients and their families, the subject of schizophrenia has generally been neglected by clinicians. Mental health professionals have underserved this patient group partly because treatment expectations are so low and frustration so high. Moreover, there is more disagreement on the nature of schizophrenia than on any other psychiatric disorder. There is a lack of agreement on its diagnosis (Haier, 1980), etiology, treatment, and course. Fromm-Reichmann's (1948) conceptualization of the "schizophrenogenic mother" became the classical model of a noxious maternal style causing schizophrenia in the offspring. Many clinicians and researchers perceived that disordered family relationships were a significant factor in the development of schizophrenia. The family was blamed for creating and/or perpetuating the problem. Yet the family received very little professional help in shouldering the burden of caring for its schizophrenic member (Kreisman & Joy, 1974). This is an especially important consideration in view of the key role played by the family in long-term aftercare of the patient.

Since the widespread use of neuroleptic drugs in the mid-1950s and the emphasis on community-based care in the 1960s, the pattern of treatment for schizophrenic patients has shifted dramatically.

Inpatient stays have been decreased by controlling the acute psychotic phase of the illness, and the patient is discharged to the community, often in a state of only partial remission. Some live independently; others reside in board-and-care homes or other transitional living community placements. However, the vast majority of discharged patients return to live with their families and close relatives (Carpenter, Bartko, Strauss, & Hawk, 1978). This makes the quality of the family environment increasingly important to the overall treatment process.

Schizophrenia is a chronic illness characterized by relapses and remissions. Recidivism of chronic schizophrenic patients and repeated readmissions often result in a downhill clinical progression, with each episode lowering the patient's social and adaptive capacities. Furthermore, the revolving door phenomenon creates a vicious cycle of negative interaction within the patient's social support system.

The expressed emotion construct is central to the present study. In England, Brown and his colleagues (Brown, Birley, & Wing, 1972; Brown, Carstairs, & Topping, 1958) and Vaughn and Leff (1976a, 1976b) found that a high level of EE in a key relative is highly correlated with relapse of schizophrenic patients in the first nine months after discharge. Relapse rates for patients in high EE homes were lowered when one of two protective factors was operative: the patient had fewer than 35 hours direct contact per week with the relative, or the patient was on regular medication maintenance. Most important of all, the EE index was found to be the best single predictor of relapse, independent of any other demographic or clinical factors, including medication maintenance, previous work impairment, and severity of behavioral disturbance. Vaughn and her colleagues (Vaughn et al., 1982) replicated these findings in California.

#### RESEARCH QUESTION

The present research examined the relationship between a schizophrenic outpatient's emotional environment and clinical relapse or sustained remission over a nine-month follow-up period. Specifically, this research was designed to test two hypotheses:

1. Remitted schizophrenic patients in a neutral affective environment would have a lower relapse rate than patients in a negative environment characterized by affective patterns of excessive criticism, hostility, or emotional overinvolvement.

2. Relapse rates of remitted schizophrenics in a negative affective environment would be lower for patients having fewer than 35 hours per week of direct contact with the environment as compared with those having a greater degree of contact.

A goal of this study was to explore whether any of four brief procedures for assessing the family environment could predict relapse.

This research not only studied alternative methods for assessing the schizophrenic outpatient's current emotional environment but also expanded that environment to include nonfamilial relationships. For purposes of this study, the terms "relative" and "family" refer to biological family, marital relationships, and extended kin as well as to significant others who are not related to the patient but who are psychologically meaningful in the patient's current situation. This expanded concept of family is in accord with the growing clinical recognition that the relevant nonfamilial environment can profoundly influence the patient's mental health (Tolsdorf, 1976).

#### METHOD

##### Procedure and Subjects

Twenty-three male schizophrenic outpatients at a Veterans Administration facility were studied in a prospective, longitudinal design as a subsample of a larger medication dose study. The medication dose study (supported by grant 2P50MH3091103 from the National Institute of Mental Health and Veterans Administration Grant 01) aimed to develop methods for reliably determining optimal dosage of neuroleptic drugs for maintenance therapy. Potential research subjects were screened according to the following inclusion criteria: DSM-III diagnosis of schizophrenic disorder; suitability for maintenance treatment with Fluphenazine Decanoate; age range, 18-55 years; and competency to understand and sign informed consent. Excluded were those with an organic brain disorder and severe alcoholism or substance abuse. Inclusion in the present study further required that the patient designate at least one key relative or significant other to be interviewed and that the designated relative consent to participate in the research study.

After stabilization, patients were randomized to a double-blind trial of 5 or 25 mg Fluphenazine Decanoate injected every two weeks. Subjects were maintained on their assigned dose for as long as their condition was stable. For this study, relapse was defined as an exacerbation of psychotic symptoms sufficiently severe to require an increase in medication dosage and/or hospitalization. The Brief Psychiatric Rating Scale (Overall & Gorham, 1962), a standardized rating scale of clinical psychopathology, was administered to the patients on a regularly scheduled basis and contributed objective data to the assessment of relapse. Outcome was evaluated during the nine months following the interview with family members.

##### Description of Subjects

Demographic characteristics of the twenty-three male schizophrenic outpatients who participated in the study sample were as follows. The racial-ethnic composition of the sample was 13 Blacks (57%), 7 Whites (30%), and 3 Others (13%). The "Others" were two Hispanics and one Filipino. The present sample was 70% non-White. The marital status of

the sample was 14 single (61%), 4 married (17%), and 5 divorced or separated (22%). The mean age of the participants was 37.7 years, with a range of 24 to 53 years. The educational level of the sample showed a mean of 13.1 years of schooling, with a range of 11 to 18 years of education. Completion of 12 years schooling was the most frequent level of education achieved. Almost one-half of the patients (11 out of 23) lived with relatives: 6 (26%) with one or more parents, 4 (17%) with spouses, 1 (4%) with siblings. Six (26%) lived alone, 4 (17%) were in board-and-care facilities, and 2 (9%) shared a living arrangement with non-related persons.

The psychiatric history characteristics presented here are considered gross indicators of chronicity (Kirk, 1976): age of onset, number of hospitalizations, duration of hospitalizations, and total time ill. The mean age of onset was 23.2 years. Fifty-seven percent of the sample had schizophrenic onset by age 21, 30% experienced onset between 22-27 years of age, and the remaining 13% had onset between 31-35 years of age. The mean number of hospitalizations was 5.2; the median number of hospitalizations was 4. Duration of hospitalizations is the cumulative total of all previous periods of hospitalization. Ranging from 1 month to 171 months, the mean duration of hospitalizations was 31 months; the modal duration was 1-5 months; the median was 10-14 months. Total time ill refers to the time period from first onset to the present. Total time ill ranged from 5-31 years. The mean time ill was 14.8 years; the median was 11-15 years. Lapsed time from the last hospitalization until entry in this study was considered an indication of the patient's ability to sustain remission in outpatient status. The sample of 23 outpatients showed a range of 1-172 months on this variable; the mean lapsed time was 46.2 months; the median time interval since last discharge was 31-40 months.

In summary, a majority of this all-male sample was non-White, single, high school-educated, with a mean age of 37.7 years. Almost one-half the patients lived with relatives. The psychiatric history characteristics of the present sample were consistent with a chronic schizophrenic outpatient population.

#### Description of the Relatives

The schizophrenic outpatient's affective environment was assessed by an interview with one or more persons he designated as currently significant in his life. A total of 30 relatives participated in the study. Twenty-seven were related to the patient: 11 mothers, 4 wives, 3 fathers, 3 sisters, 2 brothers, 1 adult son, 1 grandmother, 1 aunt, and 1 sister-in-law. Three respondents were not related to the patient: a girlfriend, roommate, and landlady. Where multiple relatives were designated and interviewed, the respondent with the higher affective rating was selected. This is consistent with the approach of Brown et al. (1972) and Vaughn and Leff (1976a). Thus, each patient's affective environment is represented by one relative.

### Instruments

The relative's attitudes and affective responses towards the schizophrenic patient were operationalized by three instruments:

1. Global Judgments of Expressed Emotion Scale (G. E. Hogarty, personal communication, March 19, 1982) are scaled global judgments made by the clinician based on an interview with the relative. This experimental scale attempts to reflect the components of expressed emotion as developed by Vaughn and Leff (1976b) in the Camberwell Family Interview: emotional overinvolvement (EOI), hostility, criticism, warmth, and positive remarks. Each component or subscale is rated separately. Hogarty uses a 9-point scale for rating each component and explicitly defines the guidelines on which clinical judgments are to be based.

2. The Patient Rejection Scale (Kreisman, Simmons, & Joy, 1979) is a self-report questionnaire developed to assess critical, hostile, and rejecting feelings of family members toward their schizophrenic relative. Kreisman's expanded Patient Rejection Scale (PRS) consists of 24 short affective statements and a 7-point range of response. A mean score for each respondent is obtained, with higher scores reflecting a higher rejecting attitude.

3. Five-Minute Speech Samples (Gottschalk & Gleser, 1969) were obtained from relatives according to modifications recommended by Wynne and Gift (1979) which specifically aim at eliciting relatives' spontaneous affect directed towards the schizophrenic patient. The speech samples were scored in two different ways. First, a verbatim typescript of the brief speech sample was rated on the Gottschalk and Gleser (1969) Hostility Outward Scale. Second, an audiotape of the speech sample was rated according to scoring principles adapted from the Camberwell Family Interview.

The three instruments, accordingly, generated four scores for each relative interviewed. These measurements were assumed to reflect specific attitudes and feelings by the interviewee toward the schizophrenic patient. The three procedures were administered by the author during a single interview with the relative which generally required less than one-half hour to complete. In comparison, the Camberwell Family Interview takes 1 to 2 hours to administer, and a lengthy and rigorous training period of several weeks is required to achieve reliability.

Each of the four assessments classified the affective environment as negative or neutral. Except for the CFI-adapted ratings, this classification involved a posteriori dichotomization (inspection of the data to derive cut-off scores that optimize prediction of outcome). This approach is consistent with Vaughn and Leff's (1976a) original expressed emotion studies.

### Statistical Analysis

The hypotheses in this prospective longitudinal pilot study were tested by correlational analyses of the data. The independent variables of the study were the four measurements of family affective environment. Certain patient characteristics were also considered independent variables (i.e., demographic and psychiatric history features, and baseline psychopathology). The dependent variable was relapse. Due to the complexity of the data and the many factors involved, data analyses was conducted by means of a series of correlational analyses between relapse and each independent variable. High and low dosage neuroleptic medication was correlated with both family affect scores and relapse, thus permitting the investigation of alternative interpretations or plausible rival hypotheses.

### RESULTS

The sample of participating patients (originally 23) was reduced to 21 since two patients terminated from this study prematurely. Of the 21 schizophrenic outpatients who completed this study, 6 (29% of the sample population) relapsed within the nine-month follow-up period. The four rating scales assessing the patient's affective environment were related to patient relapse status.

#### Global Judgments of Expressed Emotion

Table 1 shows that each of the five components of expressed emotion--positive remarks, warmth, emotional overinvolvement (EOI), hostility, and criticism--was rated independently. For example, the score of the Criticism Scale is not influenced by the score of the Warmth Scale. Each component scale was related to patient relapse. The one component that related to relapse at nine months at a statistically significant level was a Criticism Scale score of 5 or greater: Fisher's exact test (2-tailed)  $p = .012$ .

A Criticism Scale score  $\geq 5$  accurately predicted all six relapses. The criticism score predicted outcome for 16 out of 21 patients. In this study, 11 of the 21 relatives scored  $\geq 5$  on the Criticism Scale. The incorrect predictions identified 5 patients as vulnerable to relapse who subsequently did not relapse within nine months.

#### Patient Rejection Scale

Data on the PRS are presented in Table 2. A mean score threshold of 2.60 on the PRS correctly predicted outcome for 13 out of 21 patients but the findings were not significant. The PRS failed to predict only 1 out of 6 relapses. Of the patients who relapsed, 83% had relatives who scored  $>2.60$  on the PRS compared to 17% whose relatives scored  $<2.60$ . When frequency distributions of PRS mean scores were analyzed by race, markedly different patterns emerged. White respondents distributed 50% in the negative (critical) spectrum

of the scale and 50% in the positive (least critical) end of the scale. Black respondents tended to be skewed to the positive end of the scale. The ethnic group referred to as Other showed a distribution skewed to the negative affective end of the scale.

Table 1

Global Judgments of Expressed Emotion and Relapse

Positive Remarks	Warmth	Emotional Overinvolvement	Hostility	Criticism*	Relapse <sup>a</sup>
7	8	3	1	2 <sup>a</sup>	No
2	2	1	9	9	No
2	2	1	7	7 <sup>a</sup>	Yes
9	8	1	1	3 <sup>a</sup>	No
9	8	3	1	3 <sup>a</sup>	No
5	7	5	1	4 <sup>a</sup>	No
8	8	2	1	3 <sup>a</sup>	No
5	7	2	2	2 <sup>a</sup>	No
6	7	3	4	5 <sup>a</sup>	Yes
2	5	2	4	5 <sup>a</sup>	Yes
9	8	1	1	2 <sup>a</sup>	No
7	8	3	4	6	No
5	8	7	4	4 <sup>a</sup>	No
3	5	5	5	7	No
3	3	4	5	7	No
5	6	3	2	4 <sup>a</sup>	No
4	3	1	1	3 <sup>a</sup>	No
3	5	1	7	8 <sup>a</sup>	Yes
5	7	5	4	5	No
6	7	3	2	5 <sup>a</sup>	Yes
7	8	2	2	5 <sup>a</sup>	Yes

<sup>a</sup> Accurate prediction of relapse using criticism score  $\geq 5$ .

\*  $p < .05$ , two-tailed on criticism score  $\geq 5$ .

Hostility Scale and Relapse

Table 2 shows that the relative's scores on the Gottschalk-Gleser Hostility Scale were not significantly related to patient relapse but that the trend was in the expected direction. The cut-off score which optimally discriminated negative and neutral affective environments was a mean score of 2.30. The Hostility Scale failed to predict 2 of the 6 relapses. Although a majority (62%) of relatives scored  $< 2.30$  on the Hostility scale, only 15% of index patients in that subset relapsed

compared to a 50% relapse rate of patients whose relatives scored >2.30 (38% of the sample). Outcome was successfully predicted in 15 out of 21 cases.

Table 2

Patient Rejection Scale and Hostility Scale and Relapse

PRS <sup>a</sup> Mean Score	Hostility Score	Race of Respondent	Relapse
2.13 <sup>b</sup>	1.63 <sup>c</sup>	White	No
3.96	2.56	Other	No
2.67 <sup>b</sup>	2.42 <sup>c</sup>	Black	Yes
1.13 <sup>b</sup>	2.24 <sup>c</sup>	Black	No
1.79 <sup>b</sup>	2.22 <sup>c</sup>	White	No
2.39 <sup>b</sup>	2.57	Black	No
2.17 <sup>b</sup>	.64 <sup>c</sup>	Black	No
2.35 <sup>b</sup>	2.27 <sup>c</sup>	Black	No
3.61 <sup>b</sup>	2.36 <sup>c</sup>	Black	Yes
3.13 <sup>b</sup>	2.50 <sup>c</sup>	White	Yes
1.67 <sup>b</sup>	2.11 <sup>c</sup>	White	No
3.54	2.23 <sup>c</sup>	White	No
3.22	1.27 <sup>c</sup>	White	No
3.75	2.59	Other	No
4.22	2.70	Other	No
3.42	1.45 <sup>c</sup>	Black	No
4.58	2.00 <sup>c</sup>	Black	No
3.78 <sup>b</sup>	2.93 <sup>c</sup>	Black	Yes
2.58 <sup>b</sup>	2.25 <sup>c</sup>	Black	No
1.92	2.07	Black	Yes
2.88 <sup>b</sup>	1.39	Black	Yes

<sup>a</sup>Patient Rejection Scale.

<sup>b</sup>Accurate prediction of relapse using PRS mean score >2.60.

<sup>c</sup>Accurate prediction of relapse using Hostility score >2.30.

Camberwell Family Interview Adaptation

The five-minute speech samples were scored on the basis of number of criticisms and emotional overinvolvement. High expressed emotion was defined as one or more criticisms and/or a score of 3 or more on EOI. The relatives' expressed emotion classification related to the patients' nine-month relapse status as follows: 50% of patients with high EE relatives relapsed; 20% of patients with low EE relatives

relapsed. Table 3 shows that high EE correctly predicted outcome 15 out of 21 times. Although the finding did not achieve statistical significance, the data suggest a trend in the expected direction. One-half of the relapses were accurately predicted by this scale.

Only 29% of the relatives in this study were rated high EE compared to 45% high EE ratings in the British studies (Vaughn & Leff, 1976a) and 67% high EE ratings in the California replication (Vaughn et al., 1982). Since the aforementioned British and California studies involved all-white samples, the present data were analyzed by ethnicity. The proportion of relatives classified high EE was markedly different in the three racial groupings: 17% of the Blacks were high EE, 33% of the Whites were high EE, and 67% of the Others were High EE.

Table 3

Camberwell Family Interview Adaptation and Relapse

Criticism	Emotional Overinvolvement	Expressed <sup>a</sup> Emotion	Race	Relapse
0	0	Low <sup>b</sup>	White	No
3	0	High	Other	No
0	0	Low	Black	Yes
0	0	Low <sup>b</sup>	Black	No
0	1	Low <sup>b</sup>	White	No
0	0	Low <sup>b</sup>	Black	No
0	1	Low <sup>b</sup>	Black	No
0	0	Low <sup>b</sup>	Black	No
0	0	Low	Black	Yes
1	0	High <sup>b</sup>	White	Yes
0	0	Low <sup>b</sup>	White	No
0	0	Low <sup>b</sup>	White	No
1	3	High	White	No
3	0	High	Other	No
0	0	Low <sup>b</sup>	Other	No
0	0	Low <sup>b</sup>	Black	No
0	0	Low <sup>b</sup>	Black	No
1	0	High <sup>b</sup>	Black	Yes
0	1	Low <sup>b</sup>	Black	No
2	1	High <sup>b</sup>	Black	Yes
0	0	Low	Black	Yes

<sup>a</sup> EE is rated High with 1 or more criticisms and/or 3 or more EOI.

<sup>b</sup> Accurate prediction of relapse using high EE score.

### Contact and Relapse

The hypothesis that time-limited contact with relatives would reduce relapse rates was not supported by the data. The degree of contact was dichotomized high or low based on  $\geq 35$  hours face-to-face contact per week or  $< 35$  hours, respectively. The degree of contact was related to relapse for each of the four procedures assessing the patient's affective environment. With each instrument, only the score most strongly associated with relapse was used to classify an affective environment as positive or negative. The amount of contact the patient had with his relative did not relate to outcome.

The results indicated that negative affective environment as determined by the Global Criticism Scale and by high EE ratings (CFI-criteria ratings of speech samples) associated with contact in the opposite direction to that expected. Higher relapse rates for high EE patients in low contact with their relatives is a paradoxical finding in view of previous research (Vaughn & Leff, 1976a).

### Other Variables and Relapse

The degree of sickness or severity of psychopathology was evaluated by two instruments. The Brief Psychiatric Rating Scale (BPRS) (Overall & Gorham, 1962) is a clinical assessment of the patient's psychopathology based on a direct interview with the patient. The Symptom Distress Checklist (SCL-90) (Derogatis, Lipman, Covi, Rickels, & Uhlenhuth, 1970) is a self-report clinical rating scale of 90 symptoms completed by the patient. Both instruments were administered at baseline and at regularly scheduled time intervals. No significant differences in levels of psychopathology at baseline were found between patients who sustained remission and those who relapsed in the nine-month follow-up. Neither medication dosage nor demographic characteristics related significantly to relapse. One psychiatric history variable--lapsed time since the patient was last hospitalized--related to relapse at a significant level ( $p < .04$ ).

### DISCUSSION

The hypothesis that a higher relapse rate would be associated with negative family environment was supported by the data. Specifically, the Global Judgments Criticism Scale significantly predicted relapse at nine months: Fisher's exact test (2-tailed)  $p = .012$ . The association between the other three assessment procedures and relapse failed to reach statistical significance, although the relationship was in the expected direction.

The findings support the conceptualization of relapse as a complex interactional phenomenon. This study attempted to systematically investigate the association between numerous interrelated variables and relapse. However, it is recognized that psychosocial variables cannot be held constant in laboratory-like conditions. To the extent that was

appropriate and practicable, multi-factorial analyses were conducted, permitting testing of several hypotheses simultaneously, studying the interaction among multiple factors and statistically controlling for variables.

It should be noted that statistically significant relationships do not automatically indicate causal relations. Correlations describe a mutual interaction; they do not explain the causal direction of the interaction. In other words, these findings do not constitute evidence for the causal influence of the patient's affective environment on the outcome of schizophrenia. For example, a critical home environment can contribute to the patient's stress, just as a patient's behavior can evoke a critical response by his relative. Each influences and interacts with the other. Furthermore, it is important to recognize that factors which influence the course and outcome of schizophrenia (or any illness) are not necessarily the same factors as those that predispose the patient to the illness or cause it.

#### Discussion of the Findings

The Global Judgments Criticism Scale related to relapse at a significant level. The Criticism Scale was a potent predictor in that it correctly predicted all 6 relapses--a relatively rare event in this study. It suggests that this scale would be particularly valuable for the clinician whose priority is the prevention of schizophrenic relapse and who is therefore willing to accept occasional false positives at the expense of very few false negatives. The other three assessment procedures did not significantly relate to relapse but did relate in excess of a chance occurrence. The PRS and the Hostility Scale failed to predict only 1 and 2 relapses respectively. This pilot study provided preliminary empirical evidence to support the search for briefer, more efficient assessments of family affective environment. Furthermore, this study demonstrated that a relatively brief assessment procedure could predict relapse in a multiracial outpatient population. In contrast, the previous research on EE in Britain (Brown et al., 1972; Vaughn & Leff, 1976a) and in California (Vaughn et al., 1982) predicted outcome nine months post-discharge in a currently hospitalized all-White schizophrenic population. In view of the small sample, the results must be interpreted with caution. Future research involving a larger sample is needed to replicate these findings.

Analysis of the data revealed that no demographics or baseline psychopathology variable significantly related to relapse. Only one pre-entry psychiatric history variable--lapsed time since last hospitalization--related to relapse at a statistically significant level ( $p < .04$ ). The longer the lapsed time since the last hospital discharge, the less likely the patients were to relapse. This finding is in accordance with previous studies which found that the risk of relapse declined substantially over time for drug-treated patients (Hogarty & Ulrich, 1977).

Multiple discriminant analysis to account for the interaction between the two independent variables which significantly predicted relapse revealed the following. The lapsed time variable no longer was significantly associated with relapse, whereas the criticism variable remained significant at the .05 level. This finding indicated that the lapsed time since last hospitalization was associated with relapse only because of its association with the relative's level of criticism. A possible interpretation is that a shorter lapsed time since the last hospitalization reflects a less stable phase in the course of the patient's illness to which the relative responds in a critical or intrusive style. It is an interactional effect.

Medication dose was the only other assessed variable that came close to statistical significance in association with relapse (Fisher's exact test [2-tailed]  $p = .06$ ). In the present study, 29% of the patients relapsed. This closely parallels other research findings that approximately 33% of neuroleptic-treated patients relapse (Hartmann, Kind, Meyer, Muller, & Steuber, 1980). Patients in this double-blind study were randomly assigned to a conventional dose (25mg) or low dose (5mg) of Fuphenazine Decanoate. Drug compliance was guaranteed through the use of injectable neuroleptics at both doses. Medication dose had a strong (but non-significant) relationship to both relapse and high Global Judgments Criticism Score ratings. Multivariate analysis showed that the criticism level remained a significant predictor of relapse when medication dose was statistically controlled. But the strong association of medication dose to relapse was diminished when high criticism was statistically controlled. However, an expansion of this study (Marder, Van Putten, Mintz, Lebell, & McKenzie, 1987) with a larger sample revealed significantly better survival on the 25 mg dose (64%) than the 5 mg dose (31%) at two years ( $p < .05$ ).

The most surprising finding in the present study was that low contact (<35 hours per week) with relatives scoring high on the Global Judgments Criticism Scale and the CFI-criteria ratings of the speech samples was associated with higher relapse rates. Although this association was not significant, it was opposite to the hypothesized mediating influence of contact on outcome.

Data on psychopathology provided clues that may help elucidate this paradoxical finding. Contact related negatively at a significant level (Pearson's  $r = .04$ ) with the Positive Symptom Total Index on the SCL-90. This finding indicated that patients in less contact with their relatives experienced greater subjective symptomatic distress. A plausible interpretation of this finding is that patients derived some type of support and comfort from close contact with the relative and that this reduced the patient's subjective symptomatic distress. Furthermore, this supportive factor was operative independently of whether the patient's affective environment was neutral or negative.

There is ample evidence that schizophrenic individuals' social networks are restricted and heavily dominated by family members

(Tolsdorf, 1976). For many schizophrenic patients, the alternative to reduced contact with family is not increased contact with a non-familial social network. The alternative frequently is no contact with anyone. The contemporary life for many schizophrenic individuals in the community is characterized by Klerman (1977) as one of social isolation, personal loneliness, and anomie.

A possible interpretation of this paradoxical finding is related to cultural differences. Both the British (Vaughn & Leff, 1976a) and the California (Vaughn et al., 1982) EE studies involved all-white samples. In contrast, 71% of the present sample was non-White and represented a multiracial and multicultural population. Individual and family behavior need to be understood within a cultural context. It is beyond the scope of this study to evaluate the different cultural backgrounds of the participants in the sample. However, some particularly relevant factors are noted: normative family roles and patterns of interaction, value and belief systems, perceptions and tolerance of psychopathology. Family expectations of autonomous functioning and the degree that individuation is encouraged and tolerated vary considerably in different cultures. Cultural factors influence family response styles in terms of expressiveness of feelings and tolerance of anger.

The data showed that Black relatives tended to be overrepresented at the least critical end of the Patient Rejection Scale and at low EE on the CFI-criteria ratings of speech samples. In contrast, the racial-ethnic respondents classified Other were consistently overrepresented at the most critical end of each scale. These findings might be associated with distinctive family structures and patterns of relating. The family assessments might be measuring an especially supportive, non-critical family structure and style of interaction in Black families. Highly emotive and critical expressiveness might not have a noxious connotation in certain Hispanic and Filipino families and might not be perceived by the patient as negative. It should be emphasized that these interpretations are speculative and tentative; no conclusions can be inferred from the present data. Future research needs to address some of the complex cultural issues raised.

#### Implications for Social Work Practice

There are several important implications for social work practice to be gained from this study. Historically, the problem of schizophrenic patients has been one of social work's primary clinical obligations. These findings suggest that brief interview procedures are available for assessing familial environment and may help to identify schizophrenic patients vulnerable to relapse. Identification of patients at risk of relapse can lead to initiation of therapeutic interventions in time to prevent relapse.

This study highlights the importance of clinicians working with the patient in the context of his family and his cultural background. A

psychosocial perspective is central to social work. The findings do not suggest a new approach but rather an emphasis which appears to have been neglected or incompletely appreciated in recent decades. This research supports the need for clinicians to be pluralistic in their conceptualization of human behavior and their therapeutic interventions.

The current trend toward deinstitutionalization has reinstated the family as the primary long-term caretaker. The clinician's ability to prevent relapse for many schizophrenic patients will not be greatly improved unless professional attention is paid to the influence of post-discharge environmental factors. This study suggests that enlisting the family in the therapeutic process is essential to the dual goals of reducing relapse and enhancing the patient's social functioning. The family's sensitivity to blame and to demands by the schizophrenic member (as well as by the treatment team) is an important clinical issue that needs to be addressed by the social worker. Mental health workers can no longer afford to ignore the family's justifiable pleas for help in dealing with its awesome responsibility.

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