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Examining Patients’ Perceptions of their Relatives’ Expressed Emotion

Martha C. Tompson and Amy G. Weisman

Introduction

Numerous studies have demonstrated that critical or emotionally overinvolved attitudes on the part of family members can be a significant stressor for mentally ill patients (for review, see Butzlaff and Hooley, 1998). High levels of these attitudes, referred to as Expressed Emotion (EE), have been shown to predict both the development of schizophrenia (Goldstein, 1987) and a poorer course of illness in a variety of psychiatric disorders, including schizophrenia (Brown, Birley and Wing, 1972; Vaughn and Leff, 1976a; Vaughn, Snyder and Jones et al., 1984), bipolar disorders (Miklowitz et al., 1988), substance abuse (O’Farrell, Hooley, Fals-Stewart, and Cutter, 1998), unipolar depression (Hooley, Orley and Teasdale, 1986; Vaughn and Leff, 1976a), and eating disorders (LeGrange, Eisler, Dare, and Hodes, 1992; Van Furth et al., 1996). While relatives’ attitudes may be viewed as a potential stressor for patients with psychiatric illnesses, the mechanism by which they exert their influence is still unclear. Measures of EE have traditionally been made by counting the number of criticisms and making ratings of emotional overinvolvement (EOI) based on the Camberwell Family Interview (Vaughn and Leff, 1976b), or more recently, by the Five Minute Speech Sample (Magana et al., 1986). EE has been reliably assessed using the CFI (Hooley, 1998) and the FMSS (Asarnow et al., 1994; Tompson et al., 1995) and is associated with psychiatric outcome using both the CFI (Butzlaff and Hooley, 1998) and the FMSS (Asarnow et al., 1993). It is important to note that these assessments are conducted individually with the relative by an
interviewer and not in the presence of the patient. Thus, while an examiner interviewing the relative and making ratings of EE may view him or her as critical or emotionally overinvolved, it is not clear that the patient’s perception is similar. Family interaction studies indicate that high EE relatives express more criticism and perhaps are more intrusive than low EE relatives during laboratory based family discussion tasks (Miklowitz, Goldstein, Falloon, and Doane, 1984; Strachan, Leff, Goldstein, Doane, and Burtt, 1986), and physiological data suggest that patients react with higher levels of arousal to the presence of high versus low EE relatives (Sturteon et al., 1981; Tarrier et al., 1979; Tarrier et al., 1988). Thus, there is some evidence that patients react to these negative attitudes at least to some degree.

Several studies have also examined the congruence between patients’ views of their family climates and their relatives’ views. These studies demonstrate only modest associations between patients’ and relatives’ perceptions (Lebell et al., 1993; Scott, Fagin and Winter, 1993). In addition several studies indicate that the patients’ perceptions also have an impact on their illness course, with more negative perceptions being associated with a more symptomatic course (Lebell et al., 1993; Scott, Fagin and Winter, 1993; Warner and Atkinson, 1988). Yet measures of patients’ perceptions have often been indirect, measuring the overall family environment using the Family Environment Scale (Moos and Moos, 1981) or some perception of the early parent-child relationship using the Parental Bonding Instrument (Parker, Tupling and Brown, 1979). Tompson and colleagues (1995) have addressed this issue more directly by administering a detailed interview to patients’ about their family relationships, specifically asking them about their interactions with their relatives, those aspects they liked and those they wished to change. Questions were included about critical behavior, nagging, worrying, and overprotective behavior on the part of their relatives. The interview was carefully coded for examples of perceived criticism, nagging, and emotional overinvolvement. Results indicated a significant association between ratings of relatives’ EE and patients’ perceptions of relatives’ behavior, with high EE/Critical relatives perceived as more critical than low EE/Critical relatives but they were not perceived as more nagging or emotionally overinvolved. The small number of relatives rated as high EOI made it difficult to separately examine patients with high EOI relatives. Interestingly, while EE did not predict outcome in this sample, patients’ perceptions of criticism were highly predictive of relapse during the one-year follow-up period.
Psychiatric patients demonstrate a number of interpersonal distortions. Schizophrenic patients have been found to be poor judges of others’ emotional states when compared to normal controls; this may be particularly true when there is some ambiguity in the situation (Cramer, Weegman and O’Neil, 1989). In affective disorders, depressed mood is also believed to be associated with distorted cognitive processes, illogical pessimistic attitudes (Beck, 1979), and perceptions of rejection from others (Dobson, 1989). Thus there may be elements of patients’ psychiatric symptoms that alter their perceptions of their relatives. In other words, patients’ perceptions of their family members may correlate with symptoms of their psychiatric disturbance. This issue of the validity of patients’ perceptions is examined as part of the present study.

In general, past research has indicated that patients living in high EE families do not appear to differ from those living in low EE families in their premorbid functioning or in their overall level of psychiatric symptoms at the time that EE is assessed (Hooley, 1998; Kavanagh, 1992). However, Glynn and colleagues (1990) examined a full range of psychiatric symptoms on the Brief Psychiatric Rating Scale (BPRS) and the Scale for the Assessment of Negative Symptoms (SANS) among patients with schizophrenia. They found that patients from high EE families had significantly higher ratings of positive symptoms, anxious depression, and overall psychopathology, but not negative symptoms. Thus, specific types of patient symptoms and negative behaviors may contribute to ongoing negative family transactions. By further examining the relationship between patients’ symptoms and EE, we may better understand how patients contribute to the family interactional processes associated with the EE construct.

The current study explored the relationship between family members expressed emotion and both patients’ perceptions of their family members attitudes and their psychiatric symptoms. Assessments of family members’ expressed emotion were made using the Five Minute Speech Sample. While highly critical and emotionally overinvolved (EOI) relatives are both designated as high EE, we combined EOI and low EE groups in these analyses. This is because the types of behaviors and attitudes resulting in the high EOI designation (e.g., overprotective behavior) are quite different then those resulting in the high EE/critical designation (e.g., critical comments about the patient), and because the beliefs and attributions made by high EE/EOI relatives are thought to be more similar
to those made by low EE relatives than those of other high EE (critical and hostile) family members (Hooley, 1987). Patients were administered an interview designed to assess their perceptions of their relatives’ attitudes and their family environments (Tompson et al., 1995). The following three questions were addressed: (1) Do patients perceive their relatives’ EE? Given earlier finding demonstrating an association between high EE/critical attitudes and patients’ perceptions of critical behavior (Tompson et al., 1995), we anticipated replicating these results. (2) Are patients’ perceptions of their family relationships associated with the content and/or severity of their psychiatric symptoms? Given the literature reviewed above suggesting that psychiatric patients demonstrate a number of interpersonal distortions (Beck, 1979; Dobson, 1989; Cramer et al., 1989), we anticipated that patients’ perceptions of their relatives’ attitudes may be associated with their level of psychiatric disturbance. (3) What is the relationship between residual psychiatric symptoms and relatives’ EE? In other words, what role might specific psychiatric symptoms play in the ongoing transactions indexed by the Expressed Emotion construct? Given the findings of Glynn and colleagues (1990), we anticipated that high EE might be associated with certain types of patient symptoms, such as anxious depression and positive symptoms.

Method

Participants

Family members of patients with chronic and persistent mental illness were recruited through a grass-roots organization which offers support and advocacy for family members of individuals with various mental illnesses. At local support group meetings interested family members signed up and agreed to be contacted by the primary investigator. These family members were screened for inclusion criteria over the telephone and, if they met criteria and agreed to participate, subsequently interviewed individually in their homes. Criteria for inclusion in the study were: (a) availability of a close family member who both was diagnosed with schizophrenia or major affective disorder and agreed to be contacted by the primary investigator,
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and (b) ability of both family members to give informed consent.
Potential participants were excluded from the study if the mentally ill
family member had a primary diagnosis of substance abuse or
dependence, was residing in a locked residential facility, or lived out
of the area.

A total of 35 family members were interviewed. Of these
family members 10 had mentally ill relatives who subsequently
refused to participate. Thus, complete data (from both family
member and mentally ill relative) were available for 25 fami-
lies. These family members were on average 60 years of age
(range = 39–75) and had 13.4 (range 4–18) years of education. The
sample was composed primarily of mothers of mentally ill patients
(18, 72%), but four fathers, one sibling, and one spouse also
participated.

The family members had a total of 21 mentally ill relatives
who participated in the study. Although formal diagnostic assess-
ments were not conducted, patients clinical diagnoses were recorded
based on information from both patients and relatives. Of these ten
(48%) had diagnoses of schizophrenia, seven (33%) had schizoaf-
fective diagnoses, and four (19%) had diagnoses of bipolar disorder.
The 15 men and 6 women ranged from 21 to 46 years of age (mean
age = 33.8), and had on average 13.3 years of education. Seventeen
(81%) were single, and four (19%) were married, separated or
divorced. Their ages of onset ranged from 13 to 28 years (mean = 20),
and they had on average a history of 6.2 psychiatric hospitalizations
for an average of 15.5 months total time hospitalized. Sixty-two
percent were Caucasian, and the remainder were Latino.

Procedure

Family members were interviewed in a session lasting approxi-
mately one and one half hours. This session included administra-
tion of the Five Minute Speech Sample (FMSS), a coping
questionnaire, and a demographic questionnaire. Their mentally ill
relatives participated in a one-hour individual interview. During this
session they were administered the FMSS about their relative, the
Patients’ Interview for Assessing Patient Perceptions of Family
Relationships, the Brief Psychiatric Rating Scale, and a demographic
questionnaire.
Measures

Five Minute Speech Sample
All participants were administered the FMSS, which is a brief measure of Expressed Emotion (Maganas et al., 1986). During the FMSS the examinee speaks for five minutes about his/her relative, discussing what kind of person he/she is and how they get along together. (For additional information on the administration of the FMSS see Magana et al., 1986). All FMSS protocols were audiorecorded for coding purposes.

The FMSS ratings of EE were made using criteria developed by Magana et al. (1986). As with the Camberwell Family Interview, a relative is given a high EE rating on the basis of criticism or emotional overinvolvement. **High EE/Critical** – the criteria for a rating of high EE based on criticism are any of the following:
(a) a negative initial statement,
(b) on overall negative rating for the patient-relatives relationship, or
(c) one or more critical comments about the patient.

**High EE/Emotionally overinvolved** – the criterion for a rating of high EE based on emotional overinvolvement (EOI) include any of the following:
(a) a report of self-sacrificing/overprotective behavior,
(b) an emotional display during the interview,
or (c) a combination of two of the following: excessive detail about the past, one or more statements of positive attitude, and excessive praise (five or more positive remarks).

An individual can be rated as high EE for both criticism and EOI. All FMSS ratings were completed by a trained rater. Ten protocols, not included in the present analyses, were taken from a related study to examine interrater reliability. The kappa statistics reflected complete agreement between raters for overall FMSS-EE ($k = 1.00$, $p < 0.01$) FMSS-EE/critical ($k = 1.00$, $p < 0.01$), and FMSS-EE/EOI ($k = 1.00$, $p < 0.01$).

The Patients’ Interview for Assessing Patient Perceptions of Family Relationships (PPI; Tompson et al., 1995)
This interview was designed to elicit psychiatric patients’ perceptions of their family members’ emotional attitudes towards them and how they cope with family stress when it occurs. The PPI consists of questions about the relationship in nine areas and focuses on eliciting descriptions of the patients’ perceptions about the behavior
of their relatives. The nine areas include four groups of questions about the relatives’ criticism, four about EOI, and one group about how much the relative nags the patient. Each time patients endorse a problem area, they are queried as to how they coped with the situation (for additional information on the content of the interview, see Tompson et al., 1995).

The Manual for Coding Patients’ Perceptions of their Relatives’ EE was used to assess the amount of criticism, EOI, and nagging that patients perceive and their coping strategies for dealing with stressful family situations (for further information on coding see Tompson et al., 1995). There are three perceptions categories, each reflecting the number of statements the patient made in that category. The three perception categories included (a) perceived Criticism, (b) perceived Nagging and (c) perceived Emotional Overinvolvement. Twenty-one of the interviews were coded by an additional rater and Pearson correlation coefficients between the raters reflected adequate reliability for perceived criticism \(r = 0.88\), perceived nagging \(r = 0.96\), and perceived emotional overinvolvement \(r = 0.87\). Patients’ perceptions of criticism were further categorized into five content groups which reflected the topic of the criticism. These included harsh or generalized criticisms, criticisms of personal goals, criticisms of day to day habits, criticisms about medication and treatment management, and criticisms about symptoms and illness related issues. Raters demonstrated complete agreement on the content codes.

**Brief Psychiatric Rating Scale**

The Brief Psychiatric Rating Scale (BPRS; Lukoff, Nuechterlein, and Ventura, 1986) was administered to all patients to assess psychiatric symptomatology. Based on the BPRS items, four conceptually-defined cluster scores were calculated:

(a) anxiety/depression – anxiety, guilt, and depressed mood,
(b) paranoia – hostility, suspiciousness, and uncooperativeness,
(c) schizophrenia – conceptual disorganization, unusual thought content, and hallucinatory behavior, and
(d) residual symptoms – emotional withdrawal, blunted affect, and motor retardation.

A total BPRS score was also obtained by summing patients’ scores on all items. An interclass correlation coefficient for the BPRS ratings
calculated based on 9 interviews demonstrated high reliability (ICC = 0.93).

Results

The first question addressed in this study was: Do patients with psychiatric disorders perceive their relatives’ Expressed Emotion? Three t-tests were conducted to compare patients with high EE/critical relatives to those with low EE or high EOI (combined) relatives on perceived criticism, perceived EOI and perceived nagging. The findings, which are displayed in Table 1, replicated previous research (Tompson et al., 1995) in demonstrating that patients with high EE/critical relatives perceived these relatives as more critical than patients with low EE or high EOI relatives ($t = 4.37$, $p < 0.05$). However, patients whose relatives were high EE/critical did not differ from patients with low EE or high EOI relatives in their perceptions of emotionally overinvolved behavior or nagging. To further examine differences in the content of patients’ perceptions we conducted five chi-square tests on the association between relatives criticism (from the EE ratings) and patients perceptions of critical content, including criticisms about personal goals, daily living issues, medication and treatment management issues, symptoms, and global/harsh criticisms. Interestingly, patients with high EE/critical relatives did not differ from patients with low EE or high EOI relatives on any of these content categories, except harsh criticisms. Indeed, 80% of patients with high EE/Critical relatives reported at least one harsh criticism; whereas only 12% of patients

<table>
<thead>
<tr>
<th>Relatives’ expressed emotion</th>
<th>Low EE/EOI ($n = 16$)</th>
<th>High EE/critical ($n = 5$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived criticism*</td>
<td>1.37 (1.15)</td>
<td>3.00 (2.45)</td>
</tr>
<tr>
<td>Perceived emotional overinvolvement</td>
<td>1.81 (1.51)</td>
<td>2.40 (2.19)</td>
</tr>
<tr>
<td>Perceived nagging</td>
<td>2.69 (1.81)</td>
<td>4.60 (3.05)</td>
</tr>
</tbody>
</table>

* $p < 0.05$
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Table 2. Relatives' EE and patients' symptoms (n = 21)

<table>
<thead>
<tr>
<th>Relative's expressed emotion</th>
<th>Low EE/High EOI (n = 16)</th>
<th>High EE/Critical (n = 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total BPRS</td>
<td>41.50 (11.67)</td>
<td>52.80 (8.23)</td>
</tr>
<tr>
<td>Anxiety/Depression</td>
<td>7.18 (2.71)</td>
<td>7.60 (3.78)</td>
</tr>
<tr>
<td>Paranoia*</td>
<td>4.81 (2.07)</td>
<td>8.40 (2.88)</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>5.63 (3.81)</td>
<td>6.80 (3.11)</td>
</tr>
<tr>
<td>Residual</td>
<td>4.75 (2.79)</td>
<td>6.60 (3.91)</td>
</tr>
</tbody>
</table>

*p < 0.05

with low EE or high EOI relatives reported a harsh criticism ($X^2 = 8.51, p < 0.01$).

The second question addressed in the study was: Are patients' perceptions of their relatives' criticism a reflection of their psychiatric symptoms? Our results indicated no significant association between patients' reports of criticism by their relatives and their overall BPRS score ($r = 0.16$) or their scores on the thinking disturbance ($r = -0.11$), hostility/suspiciousness ($r = -0.04$), anxiety/depression ($r = 0.15$) or residual symptoms ($r = -0.28$) clusters of the BPRS. Thus, patients who perceived high levels of criticism did not appear to be more symptomatic than those who reported low levels.

The third question addressed in the study was: What is the relationship between current psychiatric symptoms and relatives' Criticism on the EE measures? Analyses revealed a trend for patients with high EE/Critical relatives to have slightly higher total BPRS scores than patients with low EE or high EOI relatives ($t = 3.99, p < 0.06$). A closer examination of the BPRS data revealed that patients with high EE/critical relatives did not differ from patients with low EE/high EOI relatives on anxiety/depression, thinking disturbance and residual symptoms scores. However, patients with high EE relatives had significantly higher scores on hostility/suspiciousness than did patients with low EE or high EOI relatives ($t = 9.54, p < 0.01$).

**Discussion**

This small study revealed that (1) patients with highly critical relatives (compared with those with low EE or EOI relatives)
perceived more criticisms on the part of their family members, particularly harsh, generalized criticisms; (2) these perceptions are unrelated to patients’ levels of current psychopathology; and (3) patients’ with high EE relatives may be more symptomatic, particularly demonstrating hostility and suspiciousness.

These findings replicate previous work (Tompson et al., 1995) indicating that relatives who are rated high in criticism on measures of Expressed Emotion are perceived by patients as more critical than relatives who are rated low in criticism. These results are consistent with studies indicating that in laboratory-based family discussion tasks, high EE/critical family members make more critical comments than family members who are either high EOI or low EE (Miklowitz, Goldstein, Falloon, and Doane, 1984; Strachan, Leff, Goldstein, Doane and Burtt, 1986). Interestingly, patients with high EE relatives perceived more generalized/harsh types of criticisms than patients with low EE relatives, but there were no differences in perceptions of other types of criticisms. Perhaps these global types of criticism represent particularly destructive forms of interpersonal communication which are quiet salient to those patients who experience them and are indices of more disturbed family relationships.

Second, in this study patients’ perceptions of the amount of criticism, nagging and emotionally overinvolved behavior which their family members directed toward them were not associated with their psychiatric symptoms. This finding supports the validity of examining patients’ perceptions of their family environments. However, it should be noted that the patients in this study had clinical diagnoses within the psychotic-spectrum and demonstrated relatively low levels of residual symptomatology. Thus, these findings may not generalize to patients in other diagnostic groups or those experiencing high levels of symptoms. Indeed, the stability and the validity of patients’ perceptions may be somewhat dependent on current clinical state, with patients in relative symptom remission able to provide valid information on their typical reactions to their family members.

In this study we found no overall differences in psychiatric symptoms between patients in high versus low EE families; however, one cluster of symptoms, specifically hostility/suspiciousness, did distinguish between the two groups. Patients with high EE relatives displayed significantly higher scores on these symptoms than did patients with low EE relatives. Although not within the clinical range
of severity, certain subclinical symptoms or other nonsymptomatic behaviors may elicit high EE attitudes, as well as result from them. These results may be viewed as supporting a family transactional model and appear consistent with the findings of Rosenfarb and colleagues (1995). In the Rosenfarb study (Rosenfarb et al., 1995) investigators found that during a laboratory-based family interaction task schizophrenic patients with high EE relatives demonstrated more subtle “subclinical” manifestations of odd and disruptive behavior; in these families the appearance of these subclinical behaviors was predictive of subsequent critical comments by relatives; and relatives’ criticisms increased the probability of additional “subclinical” odd/disruptive behaviors. In a parallel study Woo (1997) examined patients’ nonverbal behavior during the family interaction task and its relationship to family member EE. Results indicated that odd or hostile nonverbal behaviors were more common in the interactional behavior of patients with high EE relatives than those with low EE relatives. It should be noted that in both of these studies, as well as in the present study, the measures of patient symptoms/behavior are clearly “subclinical” and may represent nonsymptomatic behaviors or personality characteristics. Our findings in conjunction with Rosenfarb (1995) and Woo and colleagues (1997) support a transactional model in which odd and/or hostile patient behaviors may lead to negative familial attitudes (or EE), which are perceived by patients and might lead to negative/hostile patient behaviors toward family members, and in turn increase negative familial attitudes and behaviors (Goldstein, Rosenfarb, Woo, and Nuechterlein, 1997). This escalating cycle may elevate levels of stress for both patients and family members, leading to symptom exacerbation and increased family burden.

The current study was limited by the small sample size, the lack of diagnostic verification, and the combination of patients with various psychiatric disorders. However, the results underscore the need to examine both the role of patients’ perceptions and behaviors in family transactions and their relationship to Expressed Emotion measures. By understanding the patient’s role in such transactions, we can further identify the contributions of all involved, examine strategies for disrupting these patterns and specify family

\[1\] Scores of 4 or above on individual items on the BPRS are considered clinically meaningful (Ventura, Green, Shaner, and Liberman, 1993).
treatment strategies which will be more effective for helping high EE families.

Acknowledgements

This chapter is dedicated to the memory of Michael J. Goldstein, Ph.D., whose work has improved understanding of both family processes and family treatment for individuals with serious mental disorders.

References

Goldstein, M.J., Rosenfarb, L., Woo, S., and Nuechterlein, K. (1997): Transactional processes which can function as risk or protective factors in the


