An Attributional Analysis of Expressed Emotion in Mexican-American Families With Schizophrenia

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In this study we tested an attributional model of expressed emotion (EE) among Mexican-American families. A sample of 46 key family members of schizophrenic patients were measured on three dimensions: affect toward patient, controllability attributions, and level of EE. Consistent with an attributional model, we found that high EE families (defined on the basis of critical comments) viewed the illness and associated symptoms as residing within the patient's personal control, more so than did low EE families. We also found that attributions held by family members are related to their affective reactions. Specifically, family members who perceived the patient as having control over the symptoms of schizophrenia tended to express greater negative emotions such as anger and annoyance toward the patient than did family members who viewed the symptoms as beyond the patient's personal control. An examination of the types of affects found and their relationship to EE status is discussed, along with implications for this research.

The course of schizophrenia is highly responsive to the influence of the family atmosphere (Vaughn & Leff, 1976a). Over the past two decades, studies using a construct termed expressed emotion (EE) have offered valuable insights into the relationship between family factors and psychopathology (Hooley, 1987). An EE rating is thought to reflect the attitudes of a close relative toward a mentally ill family member, specifically measuring critical and hostile comments and evidence of emotional overinvolvement (e.g., exaggerated affect, overly self-sacrificing behavior; Vaughn & Leff, 1976b). Studies consistently indicate that patients returning from the hospital to live with relatives who talk about them in a critical, hostile, or emotionally over-involved way during a semistructured interview relapse more often than do patients whose relatives do not express these negative attitudes (for a review, see Hooley, 1987). Furthermore, these studies have been replicated across diverse cultural groups (e.g., British, Mexican American, and Indian) and across other mental disorders (e.g., unipolar depression [Hooley, Orley, & Teasdale, 1986]) and recent onset mania (Miklowitz, Goldstein, Nuechterlein, Snyder, & Mintz, 1987). An EE rating is thought to reflect the attitudes of a close relative toward a mentally ill family member, specifically measuring critical and hostile comments and evidence of emotional overinvolvement (e.g., exaggerated affect, overly self-sacrificing behavior; Vaughn & Leff, 1976b). Studies consistently indicate that patients returning from the hospital to live with relatives who talk about them in a critical, hostile, or emotionally over-involved way during a semistructured interview relapse more often than do patients whose relatives do not express these negative attitudes (for a review, see Hooley, 1987). Furthermore, these studies have been replicated across diverse cultural groups (e.g., British, Mexican American, and Indian) and across other mental disorders (e.g., unipolar depression [Hooley, Orley, & Teasdale, 1986]) and recent onset mania (Miklowitz, Goldstein, Nuechterlein, Snyder, & Mintz, 1987).

Despite the strength of the association between EE and relapse and the robustness across cultures and diagnostic groups, the mechanism by which EE might operate to bring about a return of schizophrenic symptoms is still poorly understood.

Jenkins & Karno, 1992; Koenigsberg & Handley, 1986; Hooley, 1987; López & Wolkenstein, 1990). It is still not clear what exactly high EE represents, why it so reliably predicts relapse, and why it is characteristic of certain family members and not of others. What appears to be needed at this point are theoretical models that explain the underlying link between EE and schizophrenic relapse. One theory that may contribute to the development of a conceptual framework of EE is attribution theory (Weiner, 1985, 1986). Specifically, the perception that the relative has of the patient's ability to control symptoms of his or her disorder may be of significance in explaining the relationship between level of EE and schizophrenic relapse.

Hooley (1987) was among the first to consider the linkage between EE and a relative's perception of the patient's control over his or her disorder. Given that the large majority of high-EE relatives are rated that way because they express critical rather than emotionally overinvolved or hostile attitudes, she suggested that emphasizing the critical component of the EE index would offer the richest understanding of the link between the construct of EE and schizophrenic relapse. She speculated that high levels of EE in family members may be interpreted within an illness framework. High-EE attitudes (defined on the basis of critical comments) are hypothesized to develop when family members perceive that the symptoms are not the result of a legitimate illness and are at least to some degree controllable by the patient. High-EE relatives might thus be inclined to nag and criticize the patient in an attempt to modify undesirable behavior, which in turn could contribute to the increased probability of relapse. In contrast to high-EE relatives, low-EE relatives are hypothesized not to hold patients responsible for their illness behavior, which is perceived as the inevitable side-effect of a genuine illness. These relatives are thus thought to respond to the schizophrenic symptomatology with greater patience and understanding, likely contributing to less stress and a more favorable outcome.

Many qualitative observations offer indirect support for the hypothesized relationships between EE and perceptions of con-
trollability. For example, Leff and Vaughn (1985) and Jenkins, Karno, de la Selva, and Santana (1986) observed that low-EE relatives tended to attribute the cause of the patient’s abnormal behavior to a valid illness, coupled by respect for the patient’s feelings and perceptions when ill. High-EE relatives, on the other hand, frequently questioned or denied that the patient was truly ill (Jenkins et al., 1986). Furthermore, Leff and Vaughn noted that high-EE family members were generally intolerant of complaints of illness and repeatedly engaged in confrontations with the patient.

In another line of research, not specific to families with a schizophrenic member. Weiner, Perry, and Magnusson (1988) found evidence for the relationship between perceived controllability and affective reactions toward people with a wide range of disorders, including mental illness. Weiner et al. found that stigmas having a mental-behavioral genesis were perceived as onset-controllable (could have been prevented before mental illness set in), whereas stigmas having a physical (somatic) origin were perceived as onset-uncontrollable (the cause of the disorder was viewed as not subject to volitional control). Furthermore, Weiner et al. found that subjects responded with negative reactions, such as dislike, anger, and neglect, when presented with scenarios of people with mental-behavioral stigmas. Conversely, when subjects were presented with physically based stigmas, positive reactions, such as liking, pity, and helping judgments, were elicited. When perceptions of controllability were manipulated in a second study, attributional shifts resulted in changes in affective responses and behavioral judgments consistent with an attribution/affect model. This offers strong support for the notion that perceptions of causal controllability for the behaviors and problems of others are markedly influential in determining the type of emotional reaction elicited from observers.

In this study, we tested the applicability of attribution theory to the study of EE. Based on the secondary analysis of data from earlier research (Karno et al., 1987), we tested two hypotheses derived from attribution theory. First, we examined whether attributions regarding the controllability of patient symptoms were related to EE status. Specifically, relative to low-EE family members, we hypothesized that high-EE family members characterized as critical toward their schizophrenic relative would view the illness as more within the patient’s personal control. Such family members were expected to implicate personal characteristics of the patient (e.g., “He is lazy” and “He does not want to get better”) rather than factors relating to a “legitimate” illness. In contrast, relatives rated as low in EE were expected to perceive the illness as valid and outside of the patient’s personal control. Second, we examined whether there is a relationship between controllability attributions and affective reactions toward the patient. That is, on the basis of attribution theory, we expected that the more relatives viewed the patient’s symptomatic behavior as under his or her personal control, the more they would express such feelings as dissatisfaction and anger toward the patient.1

In addition to examining the relationship between perceptions of controllability and affective reactions in schizophrenic families, we evaluated the significance of one methodological factor in the assessment of EE. Low-EE relatives are identified on the basis of reports of little or no evidence of critical comments, hostile feelings, or emotional overinvolvement. In other words, they are identified by the absence of negative feelings. There are two possible interpretations of the lack of negative affective reactions: that fewer negative emotions are reported or that fewer emotions overall are reported. Because positive affect is not typically reported in many studies (and perhaps not typically measured), it is difficult to assess whether low-EE family members are so designated because they report fewer emotional responses overall. By identifying both positive and negative affective reactions in this study, we were in a position to test whether low-EE family members report fewer overall emotions than do high-EE family members or just fewer negative emotions.

One final consideration is that the sample for this study was made up of Mexican Americans. This provided an opportunity to examine the applicability of attribution theory not only to a relatively new domain—expressed emotion—but also to a specific ethnic group in the United States. Attribution theory has been developed in mainstream psychology with some attention to its generalizability across cultures (Betancourt & López, 1993). Overall, its principles are thought to reflect culture-general or universal processes. However, as noted by several researchers (e.g., Jenkins & Karno, 1992; Kleinman, 1988; and López, 1993), reactions to psychopathology are composed of both culture-general and culture-specific factors. Testing mainstream attribution models with specific ethnic populations may help elucidate the cross-cultural relevance of this conceptual framework.

Method

Subjects

Subjects consisted of 23 high- and 23 low-EE key relatives of schizophrenic patients drawn from a previous study of EE (Karno et al., 1987). In approximately half of the families, EE data were available from two relatives. For those cases in which households had two identical EE ratings (either two high EE ratings or two low EE ratings), one rating was randomly dropped from the analyses. When EE status differed, however, the low-EE relative was systematically dropped from the analyses. This is in accordance with Vaughn and Leff’s (1976b) operational guidelines for assessing EE status, which state that a household is defined as being high EE if one or more key relatives is rated as high in EE.

Given that the relationship between the proposed attributional theory and emotional overinvolvement (EOI) is not clearly defined (see Hooley, 1987), and because of the limited number of EOI relatives in Karno et al.’s (1987) sample (n = 6), only relatives designated as high-EE on the basis of critical comments were included. Although a few relatives met the criteria for hostility, all such relatives also met the criteria for high EE based on critical comments. Twenty-three subjects fit our description of high EE. To match the number of high-EE relatives available, we randomly selected 23 low-EE relatives from the original sample of 41 low-EE participants.

1 We acknowledge that this study does not distinguish between causal and noncausal attributions. Nevertheless, we consider the approach to be attributional in nature as it is consistent with other attributional studies that include related noncausal perceptions of responsibility (e.g., Bradbury & Fincham, 1990; Weiner, Perry, & Magnusson, 1988).
Selected sociodemographic and clinical characteristics of the high- and low-EE patients and relatives were similar in many respects (Karno et al., 1987). Nearly all of the families were of lower socioeconomic status according to Hollingshead's (1957) Index of Social Position. High- and low-EE patients did not differ on other clinical or demographic variables, including length of illness, number of hospitalizations, use of street drugs, premorbid functioning, or acuteness of symptoms at onset.

The schizophrenic relatives of subjects recruited for this project were drawn exclusively from public mental health service agencies in the Los Angeles and Ventura counties of California. All patients met the following criteria: (a) they were diagnosed as schizophrenic with the Present State Exam (PSE; Wing, Cooper, & Sartorius, 1974) according to the criteria of the third edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1980); (b) they were of Mexican descent; (c) they were between the ages of 18 and 50; and (d) they were living with a spouse or other close relative for at least one of the 3 months prior to hospital admission. Fifty-seven percent of the patients were men.

**Procedure**

**Expressed emotion**. EE ratings for this sample were previously determined by Karno et al. (1987) with the abbreviated Camberwell Family Interview (CFI). The CFI is a semistructured inquiry about attitudes toward and experiences of the patient’s illness and its influence on the life of the family during the 3 months prior to hospitalization. This instrument has been described in detail by Vaughn and Leff (1976b). The abbreviated version of the CFI requires only 1½ to 2 hr to administer and concentrates on the emotions and attitudes expressed by family members toward the patient and the illness. This interview is audiotaaped for later scoring.

A rating was assigned on the basis of the operational guidelines of Vaughn and Leff (1976b), but the major focus was on the extent to which relatives expressed critical, hostile, or overinvolved attitudes about a schizophrenic patient when discussing the patient’s illness and family life with an interviewer. Rates were trained to attend to both the content and vocal qualities of the patient’s speech during the course of the abbreviated form of the CFI.

In Karno et al.'s (1987) study, relatives who made six or more critical comments, who expressed any degree of hostility, or who scored 4 or above on emotional overinvolvement (on a 5-point scale) were designated as high EE. All other relatives were classified as low EE. As indicated earlier, only relatives designated as high EE because of critical comments and hostility were included in this study.

**Controllability**. To rate controllability, one trained coder read a transcribed version of the CFI and recorded all statements that implied perceptions of the patient’s ability to control his or her disorder. This included perceptions about patient control over schizophrenia as a whole, as well as perceptions of control over individual symptoms. The coder then weighed all the evidence and made one global rating of perceived controllability on a 5-point scale (1 = no perceived control and 5 = a great deal of perceived control). An example of no perceived control would be the prevailing belief that the disorder and symptoms are entirely God’s will and the perception that nothing the patient can do will change fate. In contrast, an example of a great deal of perceived control would be the view that all the schizophrenic symptoms are contrived to avoid work, household chores, or other undesirable tasks.

The coder was trained to attend only to perceptions of patient control over the disorder. For example, statements like “His hallucinations could be controlled if only the doctor would give him more medicine” were not entered into the final controllability rating. Although such a statement implies the ability to keep the symptoms in check, it is not reflective specifically of perceived patient control. On the other hand, statements like “He would not have hallucinations if only he would take his medicine” were rated because they reflected the belief that the patient could do something to improve his condition.

**Affect**. From the transcript, two coders identified all affects that directly pertained to the patient. Guided by attribution theory, affects were assigned to one of two domains: positive affects, such as love, warmth, affection, sympathy, and sadness, and negative affects, such as frustration, annoyance, disgust, and hate. It is worth noting that some affects indicated here as positive (sadness and worry) may be considered negative affects in other research. Although these emotions are likely to be experienced as unpleasant by the relative, they are thought to reflect positive sentiments toward the patient in the form of compassion and caring (Jenkins et al., 1986; Leff & Vaughn, 1985; Weiner et al., 1988).

To assess the relationship between EE status and affect, we created positive and negative affect scores by summing the number of positive and negative affects. To assess the relationship between overall affect and perceptions of controllability, we created an affect percentage rating with an I1-point scale (0 = very negative and 10 = very positive). This rating was derived by summing the number of positive affects, dividing this number by the total number of emotions, and multiplying this quotient by 10.

**Reliability**. Four undergraduate students were recruited to serve as coders, two for ratings of affect and two for ratings of controllability. To avoid possible confounds, each coder rated only one scale (either controllability or affect), and all trainees were unaware of the hypotheses. Coders practiced on CFI transcripts from another study of EE and on transcripts from this project that were not incorporated into the final analysis. After trainees began reaching high levels of consistency, 10 transcripts were rated to assess the reliability of the coding system. Reliability was first assessed by comparing the ratings of the coders with each other and then again by comparing coders’ ratings with those of Amy Weisman.

For controllability, Cohen's (1968) weighted χ statistic, which corrects for chance agreement, was used to assess reliability. This scale varies weights ranging from 0 (very positive) to 10 (very negative). In our analyses, controllability scores that were rated as 4 digits apart by coders would represent twice as much disagreement as scores that were rated as 2 digits apart. During training and based on 10 transcripts, a weighted χ of .87 was obtained between the two coders. High agreement was also found between Amy Weisman and the two controllability raters (χ = .87 for one coder and χ = 1.0 for the second).

The reliability of the affect ratings was assessed by comparing the simple percentage of agreement between coders’ total list of affects for each of the 10 training transcripts. An error was considered whenever a particular affect was not documented by both raters or if raters categorized an affect under different clusters. During training, the interrater agreement (based on percentage agreement between the two coders) was 95. For both coders, interrater agreement with Amy Weisman was greater than .95. Although the dependent measure of interest for affect is based on an I1-point rating scale, this scale is directly derived from the proportion of positive affects to total emotions expressed. Thus, the reliability of our dependent measure is as good as the raters’ ability to reliably identify and assess the direction (positive or negative) of all affects.

After high interrater agreement was established during training, the actual transcripts were coded. To assess the reliability of the actual transcripts, we randomly selected five interviews (approximately 10% of our sample). For controllability, a weighted χ correlation coefficient of .86 was attained between coders. Of the five interviews, all but one were rated identically. The remaining interview was rated as a 5 by one coder and as a 4 by the other coder. For affect, interrater reliability was also high; coders attained interrater agreement of .91 for a total of 37 observed affects. Together, the reliability assessment of the five actual
Results and Discussion

Table 1 includes a list of the means for the reported affects, tabulated across high- and low-EE levels. Across both levels of EE, sadness (n = 63) and annoyance (n = 59) were the most commonly reported affects. The next most frequently reported affects were worry (n = 36) and frustration (n = 34). Those least likely to be reported were hatred (n = 1), inability to tolerate (n = 6), and feelings of contentment toward the patient (n = 6).

To assess the relationship between EE status and affect, we used a mixed factorial design. EE status (high versus low) served as the between-group factor, and affect (positive versus negative) served as the within-subjects factor. An analysis of variance revealed a significant main effect for EE. High-EE relatives (M = 8.52) reported significantly more total affects (both positive and negative) than did low-EE relatives (M = 5.78). F(1, 44) = 5.05, p < .05. However, there was also a significant interaction between EE and affect. F(2, 44) = 27.64, p < .0001. Follow-up simple effects tests showed that there was a difference in the frequency with which negative affects were worry (n = 44) and frustration (M = 5.91) reported significantly more negative affects than did low-EE relatives (M = 2.52), F(1, 44) = 20.82, p < .0001. However, when positive affects were examined, high-EE (M = 2.60) and low-EE (M = 3.26) groups did not differ, F(1, 44) = .88, p > .05. Figure 1 depicts the observed relationship between type of affect and EE.

Overall, the data indicate that the types and range of affects expressed by high- and low-EE relatives overlap. For both groups, sadness, worry, annoyance, and frustration were among the most frequently expressed emotions. Thus, like high-EE relatives, low-EE relatives also expressed some negative affects. Similarly, high-EE relatives were found to communicate positive as well as negative affects toward the patient. The critical difference in the expression of emotions between high- and low-EE groups appears to lie in the frequency with which negative emotions were expressed. The findings indicate that low-EE family members are properly designated as having low levels of negative affective responses. This designation does not appear to be an artifact of their simply reporting fewer affective statements. Hence, negative affect appears to be the salient characteristic distinguishing high- and low-EE homes.

For the attributional ratings, a t test revealed that high-EE relatives (M = 3.91) had significantly higher controllability ratings than did low-EE relatives (M = 2.91), t(44) = 3.33, p < .002. This finding is consistent with our expectation that high-EE relatives would view the schizophrenic patient as having more control over the disorder and associated symptoms than would

<table>
<thead>
<tr>
<th>Affect</th>
<th>High-EE relatives</th>
<th>Low-EE relatives</th>
<th>Total sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sadness [tristeza]</td>
<td>0.96</td>
<td>1.78</td>
<td>1.37</td>
</tr>
<tr>
<td>Worry about</td>
<td>0.83</td>
<td>0.74</td>
<td>0.78</td>
</tr>
<tr>
<td>Feel sorry for, pity</td>
<td>0.43</td>
<td>0.48</td>
<td>0.46</td>
</tr>
<tr>
<td>Feel love, affection</td>
<td>0.17</td>
<td>0.22</td>
<td>0.20</td>
</tr>
<tr>
<td>Be happy with</td>
<td>0.22</td>
<td>0.04</td>
<td>0.13</td>
</tr>
<tr>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annoyed, bothered, etc.</td>
<td>1.70</td>
<td>0.87</td>
<td>1.28</td>
</tr>
<tr>
<td>Frustrated, irritated</td>
<td>1.17</td>
<td>0.30</td>
<td>0.74</td>
</tr>
<tr>
<td>I don't like him or her</td>
<td>0.74</td>
<td>0.35</td>
<td>0.54</td>
</tr>
<tr>
<td>Fear [miedo]</td>
<td>0.70</td>
<td>0.26</td>
<td>0.48</td>
</tr>
<tr>
<td>Desperation [desesperación]</td>
<td>0.52</td>
<td>0.26</td>
<td>0.39</td>
</tr>
<tr>
<td>Ashamed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[vergüenza]</td>
<td>0.52</td>
<td>0.09</td>
<td>0.30</td>
</tr>
<tr>
<td>Mad at [furioso con]</td>
<td>0.34</td>
<td>0.04</td>
<td>0.20</td>
</tr>
<tr>
<td>Upset [perturbado]</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
</tr>
<tr>
<td>Can't bear it [no aguantar]</td>
<td>0.09</td>
<td>0.17</td>
<td>0.13</td>
</tr>
<tr>
<td>Hate [sentir odio]</td>
<td>0.00</td>
<td>0.04</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Note. The Spanish equivalents of the English affective terms are included because several of the relatives were interviewed in Spanish. EE = expressed emotion.
low-EE relatives. Also as expected, affect was significantly correlated with perceptions of controllability ($r = -0.31$, $p < 0.01$). That is, relatives with a tendency to perceive the disorder and its associated symptoms as lying under the patient's volitional control emitted proportionately more negatively charged statements regarding the patient than did relatives who viewed the symptoms as less controllable.  

These findings support an attributional model of EE. Specifically, high-EE relatives tended to view the symptoms of schizophrenia, and the disorder as a whole, as being under the patients' volitional control. For example, high-EE relatives frequently blamed patients' symptomatic behavior on their noncompliance with treatment factors, and many high-EE relatives accused patients of acting out to avoid work or other household chores. This is likely associated with the belief that patients can and ought to govern their odd or disruptive behavior.

One plausible explanation for the difference in perception of control and affective reactions is that the degree of disturbance might differ between patients from high- and low-EE families. However, in this sample, as in other EE studies (e.g., Vaughn, Snyder, Jones, Freeman, & Falloon, 1984) total PSE schizophrenic symptom scores were not significantly correlated with EE ratings. In addition, the type of symptomatology (i.e., positive and negative symptomatology) did not differ between the two types of families in this study. We calculated positive and negative symptoms scores from the PSE by using the sums of the 35 items reflective of positive symptoms (e.g., specific types of hallucinations and delusions) and the 7 items reflective of negative symptoms (e.g., social withdrawal and blunted affect). No mean symptom differences were found between patients from high- and low-EE families with regard to either positive symptomatology (high-EE $M = 12.90$, low-EE $M = 13.70$), $t(44) = 0.36$, $p > 0.05$, or negative symptomatology (high-EE $M = 1.10$, low-EE $M = 0.78$), $t(41) = 0.77$, $p > 0.05$. Moreover, important demographic and clinical characteristics, such as socioeconomic status, use of street drugs, premorbid functioning, and length of illness, did not differ between the two EE groups. Therefore, EE is not likely to be explained simply as family members' responses to varying levels in the severity or type of schizophrenic symptomatology and related factors. However, this does not rule out the possibility that high-EE relatives may target the negative symptoms when making attributions about the disorder whereas low-EE relatives may focus on the positive symptoms. Additional studies addressing the types of behavior targeted by high- and low-EE relatives are needed.

In interpreting the results, one must also consider the possible influence of the patient's behavior. Strachan, Feingold, Goldstein, Miklowitz, and Nuechterlein (1989) found that, although differences in psychiatric symptoms between patients from high- and low-EE families did not appear to differ, some interpersonal behaviors did. In particular, they found that patients interacting with low-EE relatives exhibited significantly fewer critical and more autonomous statements than did patients interacting with high-EE relatives. These findings suggest a reciprocal interaction between the patient's behavior and the relative's attitudes and reactions. Future studies of EE that include an assessment of the patient's interpersonal behavior would contribute to assessing this plausible transactional process.

As this article was being written, Brewin, MacCarthy, Duda, and Vaughn (1991) published findings that paralleled our own. They found that low-EE relatives made less controllable and less personal (rather than universal) attributions to their relatives' behavior than did high-EE relatives designated by levels of criticism and hostility. Furthermore, the relationship between EE and attributions of control and personal causation were generally unaltered by potential confounds, such as length of interview and an index of disturbed behavior. However, Brewin et al. did not examine the range of affective reactions and their relationship to attributions.

Thus, the findings of Brewin et al. (1991), in conjunction with those of the present study, have important implications for both research and intervention. First, they extend Weiner et al.'s (1988) attributional (controllability) affect theory to the study of EE. Hence, this perspective may provide a needed theoretical framework to further understanding of the EE construct and its link to schizophrenic relapse. Measures of perceived controllability, in conjunction with EE measures, may contribute to a more thorough assessment of the emotional climate of the household beyond EE measures alone (especially with regard to negatively charged affects) and may serve as a useful diagnostic tool for schizophrenic prognosis and the identification of high-risk patients. In addition, these findings (obtained with a Mexican-American sample) together with the findings of Brewin et al. (obtained with a British and U.S. Anglo-American sample) suggest that the attributional model may have cross-cultural relevance in understanding the EE construct. We do not mean to imply that EE is invariant to cultural influences. Jenkins and Karno (1992) provided ample data to indicate that EE and related processes are indeed influenced by cultural forces. Our point, however, is that relatives' perceptions of the patient's control over his or her illness may be a central factor in

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2 When negative and positive affects were examined separately, the relationship between controllability and negative affect approached statistical significance ($r = -0.27$, $p = 0.07$), and the relationship between controllability and positive affect, although in the expected direction, was not statistically significant ($r = -0.14$, $p > 0.10$).
understanding families’ responses to schizophrenia across cultures.

Finally, we do not mean to suggest that family members should conceive of their disordered relatives as having absolutely no control over their schizophrenia-related behavior. For example, taking oral medication usually is within the patient’s personal control. Our clinical impression is that the family members who effectively deal with their relatives with schizophrenia are those who hold reasonable social expectations (perceive some controllability) and encourage their relatives to achieve certain goals. However, when patients fail to realize these goals, such family members are more likely to attribute it to uncontrollable aspects of the illness, thus responding with sympathy and understanding rather than criticism and annoyance. Our data are consistent with the notion that it is excessive perception of controllability that is harmful, not any perception of controllability whatsoever. Low-EE individuals certainly ascribed their relative’s behaviors to controllable factors. Those families who cope well with their disturbed relatives may be those who maintain a delicate balance between perceiving some control while recognizing that some of the odd or disruptive behavior is an inevitable side effect of a genuine illness.

One limitation of our findings is that they are not generalizable to high-EE families identified on the basis of emotional overinvolvement, despite past findings that high-EE ratings on these scales are also associated with elevated patient relapse. Further research is needed to explore possible relationships between familial attributions or other factors (e.g., poorer premorbid adjustment) that may underlie emotional overinvolvement in families (see Hooley, 1987, and López & Wölkenstein, 1990).

A second limitation of this study is that it is unclear whether the perceptions of controllability are causes or consequences of the relative’s emotions toward the patient. Although there is considerable theory and research to indicate that attributions lead to emotional consequences, it is possible that the family members’ emotions lead to their perceptions of controllability. For example, relatives who feel primarily sympathetic and warm toward a family member who is engaging in disruptive behavior is an inevitable side effect of a genuine illness. A response such as “The patient’s illness has rendered her unable to control her behavior” may produce the explanation necessary to account for positive emotions toward the patient, thereby reducing surprise. Longitudinal and experimental designs could contribute to assessing further the causal relationship between family members’ perceptions of controllability and their emotional responses.

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