The Meaning of Expressed Emotion: Theoretical Issues Raised by Cross-Cultural Research

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The finding that expressed emotion is associated with the course of psychiatric disorder has generated a great deal of clinical and research interest in expressed emotion as an important risk factor. Theoretical elucidation of the construct of expressed emotion has lagged considerably behind this interest, however. The authors contribute to a dialogue on what is inside the "black box" called expressed emotion. They argue that cross-cultural research can provide an empirical basis for the theoretical grounding of expressed emotion factors. A comparative approach reveals that the construct of expressed emotion is essentially cultural in nature. The constellation of emotions, attitudes, and behaviors that are indexed by the expressed emotion method represent cross-culturally variable features of family response to an ill relative. Questions surrounding the cultural validity of the construct of expressed emotion, the qualitative dimensions of expressed emotion, and statistically significant cross-cultural variations in expressed emotion profiles are discussed. Finally, the authors provide an outline of diverse (cultural, psychobiological, social-ecological) features of expressed emotion. Anthropological analysis of expressed emotion reveals that although expressed emotion indexes a Pandora's box of diverse features, culture provides the context of variation through which these factors are most productively analyzed.

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Expressed emotion is currently among the most thoroughly investigated psychosocial research constructs in psychiatry (1–4). Developed some three decades ago by George Brown and his colleagues in England, the term "expressed emotion" refers to a global index of particular emotions, attitudes, and behaviors expressed by relatives about a family member diagnosed with schizophrenia. The specific factors that make up the construct of expressed emotion are criticism, hostility, and emotional overinvolvement. Several naturalistic studies have demonstrated the association of these factors with clinical relapse (5–8). Patients living in home environments characterized by high levels of expressed emotion are significantly more likely to experience a clinical relapse than are patients residing in households with low levels of expressed emotion. This finding has not surprisingly resulted in a great deal of clinical interest in a construct originally developed for purposes of basic research (9–12).

Theoretical elucidation of this research construct has lagged considerably behind clinical interest in expressed emotion. As Koenigsberg and Handley (13) observed in 1986, the elusive theoretical and empirical bases of the construct have gone unexamined. Precisely what is inside the "black box" called expressed emotion has

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somehow remained mysterious, as has been widely acknowledged (14, 15). In 1989 Vaughn (15), one of the principals of expressed emotion research, highlighted the fact that "substantial questions remain about the nature and meaning of the global expressed emotion index" (p. 2). This theoretical impoverishment provides a formidable research dilemma: *the problem of prediction without understanding* (16). The purpose of this paper is to provide a theoretical elucidation of the construct of expressed emotion, originating at the interface between anthropology and psychiatry. In our view, this analytic perspective is particularly suited to the task, since it is primarily in a cross-cultural, comparative light that the critical questions appear concerning the theoretical status of expressed emotion. Why have such striking differences in expressed emotion been observed across diverse populations and what can these differences tell us about the nature of the construct? What features, if any, do the specific components of expressed emotion have in common?

Any adequate theoretical elucidation must take into account the essentially cultural basis of the construct of expressed emotion. Culture can be defined as a generalized, coherent context of shared symbols and meanings that individuals dynamically create and recreate for themselves in the process of social interaction. In everyday life, culture is something people come to take for granted—their way of feeling, thinking, and being in the world—the unself-conscious medium of experience, interpretation, and action. Culture is thus the most generalized baseline from which individuals may deviate, an invaluable baseline for comparative studies of psychopathology. Specific attitudes and behaviors—recorded in the form of criticism, hostility, and emotional overinvolvement—are cultural dimensions of family response to and interpretation of what is professionally diagnosed as schizophrenic illness (4). In other words, what counts as criticism, hostility, and emotional overinvolvement is a matter of cultural definition.

Psychological anthropologists have shown that emotion can no longer properly be considered a private, intrapsychic, or psychobiological phenomenon. Instead, emotions—no less than other attitudes, beliefs, and behaviors—are substantially mediated by culture (17–20). To be specific, a culture provides its members with an available repertoire of affective and behavioral responses to the human condition, including illness. In addition, it offers models of how people should or might feel and act in response to the serious illness of a loved one. This may involve anger and hostility in one context or sadness and sympathy in another. The expressed emotion index is properly regarded as measuring cultural features because it taps a set of shared meanings and patterns of affective response to the problem of living with schizophrenic illness in a family setting.

Most important is consideration of critical comments, since this component accounts for the vast majority of what is really being measured by the construct of expressed emotion. Hostility and emotional overinvolvement are lesser variables of the expressed emotion triad and have been empirically observed far less frequently. Criticism within Anglo-American family settings, for example, may focus on allegations of faulty personality traits (e.g., laziness) or psychotic symptom behaviors (e.g., strange ideas). However, in other societies, such as those of Latin America, the same behaviors may not be met with criticism (21). Among Mexican-descent families, for example, criticism tends to focus on disrespectful or disruptive behaviors that affect the family but not on psychotic symptom behaviors and individual personality characteristics. Thus, culture plays a role in creating the content or targets of criticism. Perhaps most importantly, culture is influential in determining *whether* criticism is a prominent part of the familial emotional atmosphere.

The cross-cultural validity of the factors of expressed emotion necessarily requires close attention to indigenous definitions and expressions of criticism, hostility, and emotional overinvolvement (4). Are these affective domains observable in social interaction? Are they communicated in generally recognizable ways through language, paralanguage, and actions? Based on data generally available in ethnographic accounts, our own view is that verbal criticism within families is likely to occur in most of the world's cultures. For example, criticism has been noted in such geographically diverse groups as the Pintupi aborigines of Australia (22) and the Inuit Eskimos (23). Nevertheless, we would also expect a great deal of cross-cultural variation in the frequency, intensity, nature, and meaning of criticism within families. In the light of variations in social structure, household organization, and cultural constructions of the self, we might expect emotional overinvolvement to be less common across cultures. However, there appear to be some types of behavior reflecting emotional overinvolvement among the Inuit Eskimos (24), for example. Certainly the basic features of emotional overinvolvement are commonly encountered in clinical practice in Europe, Latin America, Australia, and North America. The cross-cultural applications and likely limitations of the construct of emotional overinvolvement are matters for empirical demonstration.

In the absence of such empirical testing, it would be a mistake to conclude that expressed emotion factors are a priori culture-bound to British or Anglo-American families. The family factors themselves are neither culture-bound nor ethnocentric; it is the cultural validity of their application that must concern us. Evidence for expressed emotion factors has definitively been found —in culturally specific ways—in British, Mexican-descent, and Anglo-American contexts. Further studies of the frequency and distribution of the basic elements of the expressed emotion index—as well as an interpretation of their nature and meaning—are suitably the subject of inquiry. In the absence of adequate data on this subject, it remains to be seen whether societies exist in which a complete absence of these factors can be documented. Given the common context of families living with the difficulties generated by schizophrenic illness, it is reasonable to expect some cross-cultural similari-

ties in the kinds of things relatives might find objectionable and therefore deserving criticism. Given variations in cultural definitions of behavior and emotion, however, it is also reasonable to expect substantial differences in the things family members feel they can appropriately tolerate. Thus, the research domain of criticism clearly requires a cross-cultural perspective.

THE CULTURAL AND CLINICAL EXPORT OF EXPRESSED EMOTION

In the last 10 years alone, well over 100 English-language journal articles on expressed emotion have appeared. Popular topics include the role of expressed emotion in the course of schizophrenia (5–8), family treatment (9, 25), correlative or "streamlined" measures of expressed emotion (26–29), and vigorous protests by relatives in the United States who perceive researchers as indicting them for causing or maintaining their family member's illness (30). As an outcome measure associated with the clinical course of illness, expressed emotion has been applied across a variety of cultural and clinical groups. Indeed, the study of expressed emotion has become an international preoccupation traversing five continents. Research is complete or underway in Europe (England [4, 5, 31, 32], Denmark [33], Italy [34], France [35], Spain [unpublished paper by E. Gutierrez], and Germany [36]), North America (among Anglo-Americans [7], those of Mexican descent [8], and African-Americans [37]), Asia (Taiwan [38]), India (33, 39, 40), North Africa (Egypt [personal communication from A. Wilson]), and Australia (41). Moreover, although this work was initially restricted to schizophrenic populations, the study of expressed emotion has assumed new applications in research for both psychiatric and nonpsychiatric conditions. Studies have been conducted on affective disorders such as depression (42) and bipolar illness (43), dementia (44), anorexia nervosa (45), asthma (46), stroke (47), obesity (48), and intractable childhood epilepsy, autism, Parkinson's disease, and inflammatory bowel disease (15). To summarize, studies of expressed emotion have been applied to a variety of both cultural and clinical populations.

It is not our purpose here to review the status of the now numerous expressed emotion replication studies; summaries and critical reviews of these findings are available elsewhere (13, 49). We simply note here that although many investigators found support for the association between expressed emotion and outcome (41), others failed to confirm this relationship. For example, one controlled intervention trial that focused on medication-compliant patients found no association between expressed emotion or controlled dosage and clinical outcome (50). That some of these findings might constitute an empirical challenge to the confirmatory studies is compromised by these investigators' use of divergent, or even flawed, methodological procedures (32–36; unpublished manuscript of E. Gutierrez). For example, Mintz et al. (51) reported that the negative results of a study by MacMillan et al. (32) do not constitute a legitimate challenge to the relationship of expressed emotion to clinical relapse because the statistical analyses used by MacMillan et al. were inappropriate.

As summarized by Vaughn (15), the North American replications of the earlier British studies by Brown and his colleagues were "distinguished by their comparable approaches to diagnosis, expressed emotion assessment, and the definition of relapse as the return or exacerbation of specifically schizophrenic symptoms" (p. 15). Since these studies retained methodological consistency of approach across these different populations, they constitute a first step toward consideration of the cross-cultural relevance of expressed emotion. We proceed on the assumption that the relevance of expressed emotion to the course of illness has satisfactorily been demonstrated and that the relationship between expressed emotion and relapse has been replicated more often than not (52). Therefore, although individual variability and complexity in the salience of the association between expressed emotion and outcome exist, expressed emotion is appropriately regarded as a major risk factor in the course of a psychiatric illness (15, 49, 53).

THE THEORETICAL STATUS OF THE CONSTRUCT OF EXPRESSED EMOTION

It might seem reasonable to assume that the proliferation of expressed emotion research is based on the empirical testing of an articulated set of assumptions concerning the theoretical status and parameters of the construct. Unfortunately, this does not reflect the current situation. We need to know what expressed emotion is measuring or tapping. In the absence of such an understanding, expressed emotion research endeavors are at risk of becoming repetitive and mindless exercises without meaning.

Several factors seem to have contributed to this state of affairs. First, the refined and systematic measurement techniques have focused on specific components of expressed emotion (criticism, hostility, and emotional overinvolvement). This focus is reasonable in the wake of research results implicating expressed emotion in relapse (5–8). The very specificity of this empirically derived global construct seems to have diverted scientific interest in a broader understanding of the nature of expressed emotion.

Second, expressed emotion summarizes a seemingly disparate constellation of family affects, attitudes, and behaviors. It is not immediately obvious just how or why these factors cohere or should be examined together. In fact, these features of family interaction do not necessarily go together conceptually. The perhaps infelicitous coding and labeling of what has come to be known as expressed emotion have happened by empirical accident.

Third, because of the microanalytic rating technique

and highly specific empirical focus of expressed emotion research, attention has been diverted from questions concerning the validity of what is being measured. This shortcoming is by no means unique to expressed emotion research but is true of empirical psychiatric research endeavors more generally. As part of a paradigmatic definition of the pertinent research questions and methods for their investigation, psychiatric research efforts today typically do not prominently concern questions of validity, interpretation, or meaning (54). In the case of expressed emotion research, this presents a problem because explication of expressed emotion, as an empirical index of relatives' subjective experience and response, requires a theoretical bridge from behavior to meaning.

The theoretical issue that has garnered the most attention—the question of how expressed emotion might influence the clinical course of illness—remains largely unelaborated. The working assumption, largely unchanged over the past two decades, is that emotional arousal constitutes a major stressor for persons with schizophrenic illness. Overarousal through exposure to high degrees of negative affects, the theory asserts, may result in relapse or exacerbation of florid symptoms (5, 6). In 1987, Kuipers (2) summarized the physiological evidence for this assertion as inconclusive. An understanding of the physiological aspects of expressed emotion requires further research (17, 49) but is not our principal concern here. Our interest lies instead with the cultural and psychosocial status of the construct of expressed emotion on the grounds that it is insufficient merely to link expressed emotion with relapse.

CLUES TO THE NATURE OF EXPRESSED EMOTION

According to Brown (3), the search for the family factors that ultimately came to be known as the expressed emotion construct originated with an interest in the everyday features of family life. He reported that he and his colleagues assumed that anything of importance was to be found in nonpathological communications rather than in presumed pathological family features. This emphasis on the ordinary was conceptualized as a shift away from psychiatric assumptions, current in the 1950s, that psychopathological family features held etiological significance for schizophrenia.

Despite the shift in emphasis from etiology to course of illness, the British focus on family factors was deeply influenced by the long research tradition in North American psychiatry of studying schizophrenia in relation to family factors and communication. The underlying premise of expressed emotion research—that emotion is an atmosphere that permeates interactive settings—was pioneered by Harry Stack Sullivan (55). The empirical investigation of particular family affects by the British researchers represented further developments of the research traditions initiated by Bateson et al. (56), Wynne et al. (57), and Lidz and Fleck (58). Even so, there are no directly equivalent concepts in the family psychopathology literature for the specific features that make up the construct of expressed emotion. Criticism, a prosaic feature of family communication, is by no means restricted to families of individuals with schizophrenia, and criticism is of a different order than etiological notions such as double-bind, pseudo-mutuality, and schism. The factor of emotional overinvolvement would appear most closely to approximate dimensions of intrusiveness as investigated by Lidz and Fleck (58). Their studies of family relations claimed an inordinate intrusiveness of parents toward their disturbed offspring. In contrast to these researchers' claim that such features typified disturbed families, the emotional overinvolvement factor has not been empirically observed with great frequency in families of individuals with schizophrenia.

Although the etiological framework of these studies was appropriately discarded for lack of empirical evidence, these early family studies served to identify the kind of material out of which the specific expressed emotion factors were formed. Conceived by Brown and his colleagues as variables that might prove important to the course of an established schizophrenic illness, particular family affects that could potentially influence an often sensitive and fragile process of adaptation to the social world were sought. A strength of the expressed emotion research tradition is its contribution toward the reliable operationalization of such factors with greater precision than had previously been established (59; unpublished 1978 manuscript of G. Brown et al.).

Differences between high and low expressed emotion profiles provide clues to the nature of expressed emotion. In general, explanations of such differences have not progressed beyond the basic hypothesis of Brown et al. some two decades ago (5). This general formulation holds that varying levels of expressed emotion are linked to relatives' own personality traits, to degrees of patient psychopathology, or to a combination of these factors. Hooley (14) argued that differences in expressed emotion are linked to the tendency of relatives to attribute blame to either the patient or the illness and that these attributions can serve as indexes of relatives' personality characteristics. The contribution of differing levels of patient psychopathology has been examined through analyses of the relationship between expressed emotion and the severity of patients' symptoms. Levels and types of patient morbidity have been investigated by severity of symptom scores and behavioral disturbances (symptoms of irritability, destructiveness, suicidality, and bizarre behavior) (6). Results of these analyses have shown expressed emotion to be independent of measures of patient psychopathology and behavioral disturbance (5–8). Expressed emotion as a behavioral manifestation of actual ongoing family interaction has also been confirmed (49, 60).

A refined qualitative analysis of differences in expressed emotion profiles has been provided by Vaughn (61). She systematically identified four factors that differentiate relatives with low versus high expressed emotion: 1) respect for patients' relationship needs, 2) atti-

tudes toward the legitimacy of the illness, 3) level of expectations for patients' functioning, and 4) emotional reactions to the patient's illness. For instance, a British relative is rated low in expressed emotion if he or she displays respect for the patient's need for interpersonal distance, considers the illness to be outside of the patient's control, maintains few expectations for normal functioning, and manifests a concerned but "cool," "easygoing," or "flexible" response to the problem (62, pp. 117–118). The four domains identified by Vaughn are useful in accounting for observed variations in family response and provide an important step in the development of a broader conceptual model of expressed emotion. However, Leff and Vaughn (62), citing their experience in studies in London and Southern California, claimed that "these differences hold across cultures and across diagnostic groups" (p. 112). This sweeping generalization cannot be sustained on the basis of only two English-speaking cultures.

Although the qualitative factors identified by Vaughn provide valuable guidelines for analysis of intracultural variability in expressed emotion, there are several ways in which we can anticipate that culturally distinct features will also come into play. For example, that such dispassionate traits as remaining "cool" or "easygoing" are highly valued in British culture is well-known; it is nonetheless evident from an anthropological point of view that this culturally specific interpretation of low expressed emotion cannot be expected to apply cross-culturally (4).

Greenley (63) has developed an additional scheme for conceptualizing expressed emotion. He proposed broad parameters for expressed emotion as high-intensity interpersonal social control. In Greenley's formulation, the dominant affects of anxiety and fear on the part of relatives lead them to attempt to control the patient socially through criticism and overinvolvement. Relatives who identify the problem as one of mental illness are hypothesized to have a reduced fear/anxiety reaction and therefore a lesser need for high-intensity interpersonal social control (i.e., expressed emotion). This basically social conceptualization provides us with an interesting but partial explanation. The complex of connections between motivation and action in the form of social control necessarily entails a broad array of cultural, psychological, and contextual levels of explanation. As Greenley's analysis illustrates, anxiety and fear may not be the dominant sentiments that motivate particular relatives. We can suggest many more, such as anger, sadness, despair, shame, and guilt, that may be prominent. Indeed, motivating affects can be expected to vary cross-culturally.

Moreover, sizable numbers of Mexican-descent and Anglo-American relatives feel a range of dysphoric affects—including anxiety and fear—despite their belief that their relative is afflicted with a mental illness. For example, Anglo-American relatives may see the problem as one of schizophrenia or negatively valued personality traits (e.g., laziness). Either of these may be regarded as the sole problem or both may be considered in tandem. These relatives may concede that disease may well be present, but they might also feel that certain negative personality traits are present as well (64). The cultural perception that undesirable personality traits are involved is related to core American values such as responsibility, autonomy, independence, and initiative (21). This suggests a more complicated and contradictory chain of cultural logic for interpreting and responding to the illness.

CROSS-CULTURAL APPROACHES IN EXPRESSED EMOTION RESEARCH

To illustrate the cross-cultural variability of expressed emotion, we examined the results of published studies using comparable methodological techniques. The studies compared are the British studies by Brown et al. (5) and Vaughn and Leff (6), the study of Anglo-Americans in Southern California by Vaughn et al. (7), our group's study of Spanish-speaking subjects of Mexican descent (8, 21), and the study of Hindi-speaking Indians by Wig et al. (33, 39, 40). The latter study was part of the 12-country international World Health Organization (WHO) study of determinants of outcome in schizophrenia. Only two settings in the WHO study were chosen as sites for concurrent expressed emotion studies: Aarhus, Denmark, and Chandigarh, North India. As reported by R. Day (unpublished 1982 paper), logistic and methodological difficulties in carrying out the Danish study apparently render the data problematic for comparative purposes. In this section, we focus on the Indian and Mexican-descent studies because these provide a greater cross-cultural contrast than the English-speaking British and Anglo-American samples.

The following summary points (which apply to the British and Anglo-American studies as well) can be made concerning the Mexican-descent and Indian studies. First, both the Mexican-descent and Indian outcome studies suggest the importance of the family emotional milieu in the course of schizophrenia. Second, analyses of these cross-cultural data establish significant differences in levels of family display of criticism with respect to schizophrenic illness. Third, these data shed light on previous results concerning observed sociocultural variation in schizophrenic outcome, as documented by the WHO International Pilot Study of Schizophrenia (IPSS) (65).

Mexican-Descent Study: Expressed Emotion in Southern California

Although the study of expressed emotion among Anglo-Americans in Southern California (7) constitutes an important replication of the earlier British studies, we believe that the issue of cross-cultural replication could be better addressed through the more culturally and linguistically distinct contrast provided by families of Mexican descent in Southern California (8, 21, 64, 66).

The goals of our study were 1) to examine the cross-cultural validity of expressed emotion among families of Mexican descent, 2) to conduct a replication study of the relation of expressed emotion to schizophrenic outcome, and 3) to examine expressed emotion in relation to family conceptions of the nature and etiology of schizophrenic illness (e.g., *nervios* caused by improper blood circulation) (66). The majority of the immigrant families studied were relatively unacculturated monolingual Spanish-speakers of lower socioeconomic status who identified themselves as *Mexicanos*. The study of expressed emotion among these subjects holds special relevance because the family is typically described as central to the Mexican and Mexican-American sense of self, identity, and well-being (67, 68).

Procedures for the recruitment of patients, the principal methods, sample characteristics, outcome findings, and Spanish-language adaptation of the Camberwell Family Interview have been summarized elsewhere (8). The cross-cultural use of expressed emotion rating scales requires adaptation of the underlying principles of the expressed emotion index and is essential to a culturally meaningful study. To enhance the validity of these scales in the Mexican-descent study, a pilot project was conducted to adapt them in the light of these families' particular cultural context.

The operational definition of criticism was "verbal behavior that is observed through tone of voice or content of speech which clearly conveys dislike, resentment, or disapproval." In the Spanish language, both content and vocal characteristics of speech may communicate criticism, and this approach was therefore deemed linguistically appropriate. The rating criteria for the expressed emotion scales, case studies, and the adaptation of the scales for the Mexican-descent study have been more fully summarized elsewhere (4; unpublished 1978 manuscript of G. Brown et al.).

Although we found that the scale for criticism could be applied with relative facility, the scale for emotional overinvolvement required more adaptation. The basic attitudinal, behavioral, and affective domains measured by the emotional overinvolvement scale were retained for rating purposes, but the content of each of these domains was redefined in the light of the values and norms of the Mexican-descent subjects. It was ethnographically determined that cultural guidelines for kin involvement with an ill relative could be identified and that the families themselves recognized instances when cultural boundaries were surpassed. Indigenous recognition of particular attitudes and behaviors as unusual is crucial to the cross-cultural validity of the concept. For example, among the minority of Mexican-descent relatives with high scores on the emotional overinvolvement scale, several relevant features emerged. These included reports of suffering in relation to *nervios* (an indigenously defined category for distress) and cessation of a family orientation in favor of a relatively exclusive dyadic relationship with the patient. For example, a Mexican mother who stops interacting with all other family members and has suicidal wishes and an extreme problem of *nervios* in relation to the schizophrenic illness of her child is behaving in a culturally unusual manner. (Only 11 [11%] of 109 Mexican-descent relatives were rated high on emotional involvement.) Other family members of the relative with a high emotional overinvolvement score would sometimes describe that person as having "lost it" or going "too far." Also important is the fact that such behaviors were not considered culturally praiseworthy. The matter of cultural definition is crucial to the problem of validity. Behavior reflecting high levels of emotional overinvolvement are culturally unusual, even in the face of serious or long-term family illness.

As found in the British and Anglo-American studies, expressed emotion was significantly associated with the course of schizophrenic illness for patients who experienced some degree of symptomatic recovery following hospitalization for an acute psychotic episode. The study also found a significantly lower rate of high levels of expressed emotion among Mexican-descent relatives than among their Anglo-American counterparts. Our group reported that "this documentation of variations in expressed emotion profiles across distinctive cultural contexts provides support for the IPSS WHO hypothesis that intrafamilial behaviors may account for different prognoses for schizophrenic outcome in different cultural settings" (8, p. 151).

Indian Expressed Emotion: The Chandigarh Study

Like the Mexican-descent study, the Chandigarh study was concerned with the transfer of the expressed emotion rating scales to culturally distinct settings and with the observation of variations in the outcome of schizophrenic patients (33, 39, 40). The Chandigarh study found that relatively few (23%) of the Indian households were classed as high in expressed emotion and that none of the relatives had scores on the emotional overinvolvement factor that were considered high in previous studies (33). Also unlike previous studies, the only expressed emotion factor found to be significantly related to outcome of schizophrenic patients was hostility. These results suggest substantial cross-cultural differences not only in the degrees and types of expressed emotion observed for the Chandigarh subjects but also in the particular factor or factors that may mediate outcome in schizophrenia.

Wig et al. have considered methodological factors that bear on their results. These primarily concern issues of interrater reliability. The assessment of the reliability of hostility—the only predictive expressed emotion factor in their study—was difficult to obtain because it was observed so infrequently. Wig et al. (39) reported that because of this they could not be certain about the transferability of ratings of hostility. However, they concluded that "the findings suggest that this assessment is also likely to be transferable across the linguistic frontiers without significant distortion" (p. 158). For emotional overinvolvement, they reported that one rater's tendency to underrate on this scale led

to ambiguities. This difficulty, they asserted, was due to technical training problems rather than the cultural validity and adaptation of these scales as used in the Indian context.

In the light of the need to culturally adapt the rating scales for use in the Mexican-descent study (24), it seems that cultural issues would necessarily be of relevance to an adequate understanding of emotional overinvolvement scores for Indian relatives. The cultural validity of the protocol and rating scales must be established for a meaningful cross-cultural extension of these ratings. Although Wig et al. discussed problems of reliability, the cultural validity of the expressed emotion ratings should also be elaborated. Cultural issues—in terms of normative baselines, rules for familial display of affect, and culturally specific meanings—certainly are important and require careful consideration in the rating process and transfer of the expressed emotion method to Indian culture. The finding that only hostility predicted outcome might signal the necessity of substantial cultural adaptation and interpretation of these scales in the Indian setting. With respect to the negative finding for higher levels of emotional overinvolvement, it may well be that these are virtually absent in the Indian context. It might also be, however, that the findings are related to methodological difficulties related to the cultural validity and adaptation of this scale in Hindi among the Chandigarh relatives. To the limited degree that emotional overinvolvement is present at all, it would undoubtedly be expressed differently in Hindu families than it is in British families.

Another cultural issue raised by the Chandigarh study is interpretation of the finding that expressed emotion profiles among the Chandigarh relatives were surprisingly low or absent and that only hostility was associated with clinical course of illness (40). The finding for hostility is unique. Although the profiles indicative of low expressed emotion in India may substantially account for the good prognosis observed for schizophrenia, it is possible that some other yet unidentified set of sociocultural factors might also account for these results. Another variable in interpreting these results is a clinical factor: unlike the subjects in the other expressed emotion studies, patients in Chandigarh were recruited at the time of their first contact with psychiatric services. Better prognosis is common for first-admission patients.

EXPRESSED EMOTION PROFILES IN CROSS-CULTURAL CONTEXT

Comparison of expressed emotion profiles shows that Indian families scored lowest (23%), followed by the Mexican-descent (41%), British (48%), and Anglo-American (67%) households (5–8, 33). The Indian households were strikingly lower than all others, and our group reported statistically significant differences between Mexican-descent and Anglo-American families (Yates-corrected $\chi^2=7.92$, df=1, $p<0.01$) and between British and Anglo-American families (Yates-corrected $\chi^2=5.84$, df=1, $p<0.02$) (8). The impressive range and significant differences in these expressed emotion profiles make it evident that it is only in cross-cultural perspective that the critical questions come to light: Why are the Indian scores so low? What about the statistically nonsignificant differences between the British and Mexican-descent households? Is it reasonable to conclude, as certainly no British or Mexican-descent relative ever would, that there are no cultural differences in familial emotional climate of their households? How is it that Mexican-descent and Anglo-American families in the same geographic locale (Southern California) differ so significantly? Why do English-speaking Anglo-American households score significantly higher than their British counterparts?

In considering this latter question, Leff and Vaughn (62) commented only that the differences between London and Los Angeles relatives were "interesting, though not unexpected" (p. 184). Completely unelaborated is the pressing issue of how and why these striking differences might be interesting or expected. Curiously, cultural evidence and hypotheses that could account for differences in expressed emotion profiles are unexamined. Leff and Vaughn argued only that it is important to consider noncultural factors, such as number of hospital admissions and social class. They concluded that neither of these factors proved informative for the observed differences.

Another factor considered by Leff and Vaughn is the historical epoch of each of these studies. This is potentially relevant because the American work was conducted in the 1980s and the British research in the 1960s and 1970s. However, the authors did not define the concept of historical epoch, nor did they discuss how or why expressed emotion might have changed historically. Although in our view two decades is far too abbreviated a historical period for major cultural changes in socialization of affect to occur within family settings, this remains a relevant topic for investigation. Another domain, that of fluctuations in the political economy in the West, could also partially mediate attitudes toward deviance in general and mental disorder in particular (69).

A related factor of importance to an understanding of expressed emotion is social class. Drawing on data from the Mexican-descent study, our group conducted an analysis designed to determine the relative influence of ethnicity and social class variables on expressed emotion (21). We compared a matched Anglo-American subgroup incorporating all lower socioeconomic status families available in the study of Vaughn et al. (7) with the first 30 patients entered into the Mexican-descent study. Comparison of subgroups was necessary because the Anglo-American study group included a full range of social class levels but the Mexican-descent study group included only the lower socioeconomic levels. With social class held constant, an even more striking difference was observed between these two ethnic groups: 83% of the Anglo-American patients, compared with only 43% of their Mexican-descent counter-

parts, resided in households rated high in expressed emotion ($p<0.003$, Fisher's exact test). These results revealed that, in addition to a strong main effect for ethnicity, levels of expressed emotion are also independently related to socioeconomic status among Anglo-Americans.

The percentage of households with high levels of expressed emotion in the lower-status Anglo-American subgroup was higher than that in the entire Anglo-American study group of 69 families (83% versus 67%). Analysis of variance and covariance revealed that these differences in expressed emotion were not significantly related to patient characteristics (e.g., age, gender, number of hospitalizations, premorbid functioning), relatives' characteristics, or type of household (parental, marital, sibling). The results of the comparison of Anglo-American and Mexican-descent households matched in socioeconomic status provide strong evidence for major differences in cultural styles of emotional response to schizophrenic illness within the family (6). They also provide evidence for the importance of taking into account intracultural variations in expressed emotion, as evidenced through indexes of social class (21).

In addition to overall differences in expressed emotion profiles, the British, Anglo-American, and Mexican-descent studies also reported significant differences in the distribution and mean scores for criticism, hostility, and emotional overinvolvement. For criticism, a low mean score of 1.8 critical comments was obtained for the Indian sample, compared with 3.3 for the Mexican-descent relatives, 6.9 for the Anglo-American relatives, and 7.5 for the British relatives (8, 62). The cross-cultural differences in the mean scores and reported distributions for critical comments, which ranged from 0 to 61, suggest not only cultural variations in family tolerance of schizophrenic illness but also differences in the upper and lower thresholds of criticism observable within these familial environments (62).

Considerably less quantitative variability has been found on measures of emotional overinvolvement and hostility. Perhaps the most notable cross-cultural finding with respect to emotional overinvolvement is the relatively small number of relatives who were rated high on this factor. None of the Indian relatives, 11% of the Mexican-descent relatives, 15% of the Anglo-American relatives, and 21% of the British relatives had scores on this item that were considered high. These results are important because, as already noted, they do not provide cross-cultural support for the idea that families of patients with schizophrenia are appropriately characterized as disturbed or pathological in their interpersonal relations. Indeed, for the Indian relatives the entire concept of emotional overinvolvement appears to be of highly limited relevance. The Mexican-descent data, along with data from other investigations, provide evidence that counters clinical and ethnographic stereotypes in the literature characterizing Latin American women as overprotective and self-sacrificing (8, 70). Results for ratings of hostility reveal that only 16% of Indian, 18% of English, and 13% of Mexican-descent relatives were found to be hostile. The higher figure of 28% reported for Anglo-Americans parallels the relatively higher degree of criticism displayed by those family members (62).

These results demonstrate relatively minor quantitative differences in the levels of emotional overinvolvement and hostility but do not address possible differences in content and qualitative features of these factors. This important topic deserves close attention and has been addressed to some extent in the context of individual studies (4, 21, 61, 62). We turn our attention now to consideration of what sorts of qualitative features might be implicated and their meaning for the theoretical grounding of the construct of expressed emotion.

AN ANTHROPOLOGICAL ANALYSIS OF THE EXPRESSED EMOTION CONSTRUCT: DIFFERENCES IN LEVELS OF *WHAT*?

In George Brown's excellent 1985 essay on the discovery of expressed emotion (3), he related that upon commencement of his second study of expressed emotion, he knew that something about family life was important to the course of illness but not what. Brown and his associates developed an array of measures of family factors that included not only criticism, hostility, and emotional overinvolvement but also warmth, positive remarks, dissatisfaction, tension, irritability, and (for marital situations) the quality of marital relations (unpublished 1978 manuscript of G. Brown et al.). Only subsequent empirical research served to specify which expressed emotion components were associated with clinical relapse. In discussing the differences between a causal model (that which relates measures in terms of causal links) and a theory (that which explicates what the measure represents), Brown (3) noted that "just *what* is involved cannot be known unless it is clear what the measure represents theoretically. It is inevitable that model and theory will not keep step, and progress in science can be said to come from the struggle to close the gap between them" (p. 21; emphasis added).

In our view, the unknown and theoretically overarching something or somethings indexed by the global construct of expressed emotion are culturally constituted features of kin response to an ill relative. Culture, as a system of shared meanings and symbols, offers the most powerful explanation for observed variations in expressed emotion in different populations. The culturally constituted features—attitudes, affects, and behavior on the part of family members toward their ill relative—are what is being indexed through measurement of expressed emotion. A theoretical accounting of what is inside the "black box" called expressed emotion must therefore prominently concern the concept of culture.

Other theoretical accounts are also necessary. Relatives' responses to a family member's illness include a complex of features that dynamically interact with one

another. An abbreviated outline of some of these factors follows.

FEATURES OF EXPRESSED EMOTION

1. Cultural interpretations of the nature of the problem. Relatives' interpretations of the problem are their views of its nature, cause, and course (e.g., laziness caused by illicit drug use that would improve if the patient exercised willpower). These interpretations mediate relatives' emotional responses to the problem (64, 66). The works of Edgerton (71) and Kleinman (72) serve as anthropological classics on this topic.

2. Cultural meanings of kin relations. Relatives' responses to an ill family member are formulated in the context of culturally prescribed definitions of family life that suggest appropriate patterns for interpersonal relations among kin. Family relations have sometimes been characterized on a continuum between an individualistic orientation and a family orientation (73).

3. Identification of cultural rule violations. Cultures define what counts as behavior deserving of legitimate criticism. Identification of cultural rule violations (e.g., failure to be independent) varies in relation to the values, norms, and expectations in particular settings and in accord with culturally defined statuses that may legitimately exempt individuals from criticism (74).

4. Vocabularies of emotion. Cultures differentially construct a universe of discourse on emotion, or ethos, within which the relatives' responses to illness are articulated. Emotions that are culturally salient (e.g., sadness as opposed to anger) provide models that may shape how individuals might or should feel in a given situation (22, 75).

5. Relatives' personality traits or predispositions. Although the subject has yet to be explored, variations in individual personality or temperament are common partial explanations for why relatives might display varying degrees of expressed emotion (49). Responses indicative of high levels of expressed emotion may also be partially explained by some degree of shared (and possibly genetic) vulnerability to pathology for relatives and patients alike (76). Variations in relatives' attributional styles have also been explored (14).

6. Degrees and kinds of patients' psychopathology. It is frequently hypothesized that variations in degrees of patients' psychopathology might account for differences in relatives' expressed emotion. This assumption undoubtedly holds merit in some instances (e.g., extremely bizarre schizophrenic behavior); however, empirical examination has repeatedly demonstrated a nonsignificant relationship between severity of patients' symptoms and relatives' expressed emotion (5–8).

7. Family interaction dynamics. Typical family patterns of identification, communication, and separation can also be expected to shape relatives' emotional responses to an ill family member. Displacement of hostility, ridicule, protection, and devotion, for example, may vary in accord with individual family dynamics. In addition, the socialization of particular family dynamics may be culturally mediated. In a study of schizophrenia in rural Ireland, Scheper-Hughes (77) found that the youngest sons were often expected to preserve the family's identity and longevity. Failure to do so typically generated critical and hostile reactions.

8. Attempts to socially control a deviant relative. Expressed emotion can be considered a behavioral intervention strategy of families that is designed to restrict the objectionable activities and actions of a deviant family member (63).

9. Availability and quality of social supports. The compositional features of households, including size and kin type, may influence a relative's expressed emotion. For example, expressed emotion may be higher among parents than spouses (8). In an Australian study (41), expressed emotion more successfully predicted relapse in single-parent households than in two-parent homes. Social supports, like life events, might mediate the impact of expressed emotion (62).

10. Historical and political economic factors. It has been suggested that explanations for differences in expressed emotion profiles may change over time (62). Changing social and economic conditions may influence the emotional climate of a society in general, with repercussions for how families reflect societal attitudes toward individuals identified as deviant (69). There is also evidence for differences in expressed emotion in relation to social class (21).

We will focus on the first four of these features because the emphasis of this paper is on the cultural basis of the construct of expressed emotion and because these factors have been neglected.

Cultural Interpretations of the Problem

Cultural conceptions of mental disorder—indigenous notions of the nature, cause, and course of illness—have long been a focus of anthropological investigation (64, 66, 71, 72). To what extent do cultural conceptions of the illness mediate expressed emotion in families? Can such conceptions create a culturally legitimate status that inhibits high levels of criticism? Is the cultural locus of the problem deemed to be a personality problem, an illness entity, or an external malevolent agency? Several authors (14, 61) have identified this issue as important to the formation of expressed emotion attitudes. The identification of this factor as a specifically cultural issue in psychiatric research has been slow in coming, however.

In our study of the Mexican-descent relatives (64, 66), the concept of *nervios* served as a cultural label for schizophrenic illness. The term *nervios* is in broad cultural use for a wide range of everyday distress (e.g., tension) and severe illness conditions (e.g., schizophrenia, depression). This inclusive use of the term serves to destigmatize such conditions. Since severe cases of *nervios* are not considered blameworthy or under an individual's control, the person who suffers its effects is deserving of sympathy, support, and special treatment. More-

over, severe cases of *nervios* are potentially curable. It is interesting to note that Mexican-descent relatives do not adopt another possible cultural label for craziness, *loco*. As a *loco*, the individual would be much more severely stigmatized and considered to be out of control with little chance for recovery.

Although such conceptions may be important, other forms of cultural knowledge may also mediate attitudes toward the illness. For example, even Anglo-Americans who believe the problem to be a psychiatric condition called schizophrenia may nonetheless simultaneously believe that their relative is lazy (a culturally based personality attribution), and this might inhibit any possible recovery. That family views often combine broader cultural knowledge with more specific medical explanations points to the fact that these interpretations are complex and sometimes resilient in the face of attempts to modify them through psychoeducational programs offered by psychiatric professionals or advocacy groups (8). Estroff (78) has noted that schizophrenia is typically conceived of as an "I am" disease as opposed to an "I have" illness. The fact that Mexican-descent relatives conceive of schizophrenia as *nervios*, a legitimate illness that is outside the realm of personal control, may have a more salutary impact on personal identity that mediates the course and outcome of illness (21).

Cultural Meanings of Kin Relations

Cultural meanings of family relations may differ along a continuum between a family orientation and an individualistic orientation. In cultures at one end of the continuum individuals may see themselves primarily as members of a larger kin-based social unit, behaving in ways that appear to maximize the family welfare relative to that of the individual. In cultures at the other end, individuals may consider family bonds secondary to the pursuit of their own personal goals and actions. Shweder and Bourne (79) conceptualized such differences in terms of sociocentric as opposed to egocentric definitions of the person. The sense of self in relation to others is important in family settings in outlining cultural preferences for affective and symbolic distancing. Although these formulations must be considered as ideal types, they nonetheless are important to determining different degrees of identification, involvement, and obligation that could in turn affect responses to a relative's illness.

In a study of schizophrenia in Ireland, Scheper-Hughes (77) found that patients were often harshly rejected and extruded from family settings. Ostracism by the family served to delimit the boundaries between self and others by condemning what was considered unacceptably deviant. The criticism and rejection also served to preserve the family identity as morally upstanding. Anglo-American relatives may more sharply delimit boundaries between the normal and the sick family members. For example, some Anglo-American relatives said that they had no personal experience or knowledge of their relative's problem and therefore could not "relate to" or identify with the relative (64). Behaviorally, this sometimes means that relatives feel quite uncomfortable spending much time together. Symbolically, the problem relative comes to be identified as unknown, foreign, and "other." This contrasts sharply with the family processes of identification among Mexican-descent relatives. Defining the problem as *nervios*, a common condition that in its milder forms afflicts nearly everyone, provides them a way of identifying with and minimizing the problem by claiming that the ill relative is "just like me, only more so" (66).

Identification of Cultural Rule Violations

The behavior of individuals with schizophrenic illness can violate a host of cultural norms and proscriptions. This is perhaps why in some societies, such as those of the Javanese or the Pintupi aborigines of Australia, the same term is used for the mentally ill and for young children, indicating that such persons are not fully socialized (22, 75). Edgerton (74) has observed that although societies may allow for acceptable diversity in some human conduct, one knows "when the limits of acceptable variation have been exceeded because the result is 'trouble' in the form of complaints, disputes, accusations, recriminations, and the like" (p. 466). Critical comments may be viewed in this way—as complaints about the perceived violation of rules that people with schizophrenic illness may engage in with disquieting regularity. Shweder (80) underscored Freud's identification of "criticism (and related activities such as accusing and accounting) as the primary activity associated with rules." The criticism component of the expressed emotion research—which empirically makes up the lion's share of the construct—is valid for cross-cultural research if it is grounded in a generalizable definition of criticism as a negative response to cultural rule violations.

A limitation of previous analyses of critical comments is that researchers have considered that only two coding categories—symptom behaviors and enduring personality traits—can adequately inform a qualitative understanding of the nature of critical remarks. This analysis differs markedly from that developed for Mexican-descent and Anglo-American relatives, in which several additional coding categories became essential, and provides an example of the limitations of expressed emotion research in the absence of concern for indigenous perspectives (21). It is also reflective of North American ethnopsychology, since in the British and Anglo-American analysis (62), relatives' preoccupation with personality reflects the broader cultural and ethnopsychological concern about the importance of individual character traits. This analysis is not useful in the case of the Mexican-descent (and we would suspect Indian) relatives, where criticism of relatives on the grounds of personality defects is likely to be a less frequent occurrence.

This point serves to underscore how, in the absence of cross-cultural comparative analysis, science risks reification of our own cultural categories (54). In analyz-

ing the content of critical comments, do we code the data from the perspective of the relatives who are motivated to make the critical comments or from the perspective of the analyst who codes it? The anthropological concern for the importance of perspective (the emic or indigenous categorization of meanings versus the etic or outside analyst's view) is crucial to the identification and interpretation of critical comments. This has yet to receive adequate attention, but we suggest that analysis of critical comments as complaints about cultural rule violations may provide a more productive basis for cross-cultural comparative analyses (4).

Vocabularies of Emotion

Although mental disorder within the family may universally engender painful feelings among close kin, substantial differences exist with respect to the nature, intensity, and meaning of these affects. Relatives necessarily draw upon implicit cultural knowledge of which affects should be expressed and under which conditions they should be inhibited (17–20). Sanctions for and against the expression of certain emotions (such as anger manifest in criticism and hostility) exist as part of the culture's vocabulary of emotion (75). Whereas some societies (such as those of Tahitians or Inuit Eskimos) nearly always censure the expression of anger, others, such as that of the Kaluli of New Guinea, may require such expressions in particular settings (23, 81, 82). Cross-cultural variations in the vocabulary of emotion must play a part in the observed variations in expressed emotion profiles, as recorded for the British, Anglo-American, Mexican-American, and Indian studies.

SUMMARY AND CONCLUSIONS

Attempts to conceptualize expressed emotion have thus far been largely restricted to a relatively microanalytic view of the characteristics of patients and relatives or their interactional qualities. These conceptualizations are based on personality, attributional, psychopathology, or social control factors. We argue here that these provide only partial understandings of expressed emotion and are primarily useful for intracultural analyses differentiating low and high profiles of expressed emotion. Such explanations do not shed sufficient light on the broader theoretical task of specifying the essential nature of the expressed emotion construct. Comparative research is essential for the theoretical grounding of this construct.

We think the general cross-cultural utility of the component elements of the expressed emotion index should be considered in ways similar to any other research construct, including schizophrenia and depression. These research and clinical constructs may be productively used in comparative research but should always be subject to cross-cultural scrutiny. They cannot be assumed to apply universally, but they may be usefully examined as a starting point. Substantial variation in expressed emotion profiles in different cultures and among different social classes is evidence against assumptions of a universally shared, psychobiologically given human response to schizophrenic illness. Instead, variation in expressed emotion profiles is more properly understood within the context of psychocultural and social variation in relatives' responses to a family member who suffers from schizophrenia. This variation is not limitless, however, and there may well be some features of response that are widely shared around the world.

We argue that the nature of expressed emotion (in the form of verbal criticism and emotional overinvolvement) is clearly grounded in cultural conventions; that is, it is culture specific. However, the cross-cultural presence of expressed emotion factors (criticism and emotional overinvolvement) is a matter for empirical investigation. Therefore, we must disagree with those who suggest that expressed emotion is necessarily ethnocentric or culture-bound. Some careful distinctions must be drawn here. Expressed emotion consists of two principal factors: critical comments and emotional overinvolvement. Without a doubt, the nature and meaning of criticism and emotional overinvolvement are culturally specific. However, it is not correct to assert that these basic elements of family interaction—criticism and emotional overinvolvement—are ethnocentric. They have definitively been found—in culturally specific ways—in the British, Mexican, and Anglo-American contexts, for example. It is our view that the main dimension of expressed emotion—verbal criticism—is likely to be found in some form and frequency in most of the world's cultures.

Yet another reason for focusing on the cross-cultural variations in expressed emotion profiles is the importance of addressing the concern of some family advocacy groups that the expressed emotion paradigm, rather than generating scientific knowledge, presumes that there are deficiencies in individual personalities and families. Even though this perception is in some cases apparently based on misunderstanding, individuals nonetheless feel blamed and responsible for their attitudes or actions (83). Expressed emotion, understood in cross-cultural perspective, can contribute toward a reflective understanding based less on an assumption of autonomous sentiments and actions and more on a constellation of shared features (19, 84).

Quite striking from a cross-cultural psychiatric point of view is the neglect on the part of expressed emotion researchers in calling for a systematic examination of the relationship between culture and expressed emotion. Since the anthropological and cross-cultural psychiatric literature of the past several decades has documented substantial cultural differences in conceptions of psychosis, display of emotion, behavioral rules and norms, and family structure and identification, it is reasonable to expect that features such as these are of key relevance to the explication of expressed emotion. In our view, it is these features that go to the very heart of what the construct of expressed emotion embraces.

REFERENCES

1. Kanter J: Expressed emotion in families: a critical review. Hosp Community Psychiatry 1987; 38:374–380
2. Kuipers L: Research in expressed emotion. Soc Psychiatry 1987; 22:216–220
3. Brown GW: The discovery of expressed emotion: induction or deduction? in Expressed Emotion in Families. Edited by Leff J, Vaughn C. New York, Guilford Press, 1985
4. Jenkins JH: The 1990 Stirling Award essay: anthropology, expressed emotion, and schizophrenia. Ethos 1991; 19:387–431
5. Brown G, Birley L, Wing JK: Influence of family life on the course of schizophrenic disorders: a replication. Br J Psychiatry 1972; 121:241–258
6. Vaughn C, Leff J: The influence of family and social factors on the course of psychiatric illness: a comparison of schizophrenic and depressed neurotic patients. Br J Psychiatry 1976; 129:125–137
7. Vaughn CE, Snyder KS, Jones S, Freeman WB, Falloon IR: Family factors in schizophrenic relapse: replication in California of British research on expressed emotion. Arch Gen Psychiatry 1984; 41:1169–1177
8. Karno M, Jenkins JH, de la Selva A, Santana F, Telles C, Lopez S, Mintz J: Expressed emotion and schizophrenic outcome among Mexican-American families. J Nerv Ment Dis 1987; 175: 143–151
9. Falloon IRH, Boyd JL, McGill CW: Family Care of Schizophrenia: A Problem-Solving Approach to the Treatment of Mental Illness. New York, Guilford Press, 1984
10. Lefley H: Training professionals to work with families of chronic patients. Community Ment Health J 1988; 24:338–357
11. Leff J: Family factors in schizophrenia. Psychiatr Annals 1989; 19:542–547
12. Mintz L, Liberman R, Miklowitz DJ, Mintz J: Expressed emotion: a call for partnership among relatives, patients, and professionals. Schizophr Bull 1987; 13:227–235
13. Koenigsberg HW, Handley R: Expressed emotion: from predictive index to clinical construct. Am J Psychiatry 1986; 143: 1361–1373
14. Hooley J: The nature and origins of expressed emotion, in Understanding Major Mental Disorder: The Contribution of Family Interaction Research. Edited by Hahlweg K, Goldstein MJ. New York, Family Process Press, 1987
15. Vaughn C: Annotation: expressed emotion in family relationships. J Child Psychol Psychiatry 1989; 30:13–22
16. Brown G: Meaning, measurement and stress of life events, in Stressful Life Events: Their Nature and Effects. Edited by Dohrenwend BS, Dohrenwend PB. New York, John Wiley & Sons, 1974
17. Shweder RA, LeVine RA (eds): Culture Theory: Essays on Mind, Self, and Emotion. Cambridge, Cambridge University Press, 1984
18. Rosaldo M: Toward an anthropology of self and feeling. Ibid
19. Kleinman A, Good B (eds): Culture and Depression: Studies in the Anthropology and Cross-Cultural Psychiatry of Affect and Disorder. Berkeley, University of California Press, 1985
20. Lutz CA: Unnatural Emotions: Everyday Sentiments on a Micronesian Atoll and Their Challenge to Western Theory. Chicago, University of Chicago Press, 1988
21. Jenkins JH, Karno M, de la Selva A, Santana F: Expressed emotion in cross-cultural context: familial responses to schizophrenic illness among Mexican Americans, in Treatment of Schizophrenia. Edited by Goldstein M, Hand I, Hahlweg K. New York, Springer-Verlag, 1986
22. Myers F: Emotions and the self: a theory of personhood and political order among Pintupi aborigines. Ethos 1979; 7:343–370
23. Briggs J: Never in Anger: Portrait of an Eskimo Family. Cambridge, Mass, Harvard University Press, 1970
24. Briggs J: In search of emotional meaning. Ethos 1987; 15:8–15
25. Tarrier N, Barrowclough C, Vaughn C, Bamrah JS, Porceddu K, Watts S, Freeman H: The community management of schizophrenia: a controlled trial of a behavioural intervention with families to reduce relapse. Br J Psychiatry 1988; 153:532–542
26. Strachan AM, Feingold D, Goldstein JJ, Miklowitz DJ, Nuechterlein KH: Is expressed emotion an index of transactional process? II: patient's coping style. Fam Process 1989; 28:169–181
27. Hubschmid T, Zemp M: Interactions in high- and low-EE families. Soc Psychiatry Psychiatr Epidemiol 1989; 24:113–119
28. Magana AB, Goldstein JM, Karno M, Miklowitz DJ, Jenkins J, Falloon IR: A brief method for assessing expressed emotion in relatives of psychiatric patients. Psychiatry Res 1986; 17:203–212
29. Hahlweg K, Goldstein MJ, Nuechterlein KH, Magana AB, Mintz J, Doane JA, Miklowitz DJ, Snyder KS: Expressed emotion and patient-relative interaction in families of recent onset schizophrenics. J Consult Clin Psychol 1989; 57:11–18
30. Hatfield A, Spaniol L, Zipple A: Expressed emotion: a family perspective. Schizophr Bull 1987; 13:221–226
31. Tarrier N, Barrowclough C, Porceddu K, Watts S: The assessment of psychophysiological reactivity to the expressed emotion of relatives of schizophrenic patients. Br J Psychiatry 1988; 152: 618–624
32. MacMillan JF, Gold A, Crow TJ, Johnson AL, Johnstone EC: Expressed emotion and relapse. Br J Psychiatry 1986; 148:133–143
33. Wig NN, Menon DK, Bedi H, Leff J, Kuipers L, Ghosh A, Day R, Korten A, Ernberg G, Sartorius N, Jablensky A: Expressed emotion and schizophrenia in north India, II: distribution of expressed emotion components among relatives of schizophrenic patients in Aarhus and Chandigarh. Br J Psychiatry 1987; 151:160–165; correction, 151:870
34. Cazzullo CL, Bressi C, Bertrando P, Clerici M, Maffei C: [Schizophrenia and family expressed emotions: study of an Italian population]. Encephale 1989; 15:1–6
35. Barrelet L, Pellizzer G, Ammann L: Family expressed emotion and outcome of schizophrenics: a study in a French cultural environment. Schweiz Arch Neurol Psychiatr 1988; 139:27–34
36. Kottgen C, Sonnichsen I, Mollenhauser K, Jurth R: The family relations of young schizophrenic patients: results of the Hamburg Camberwell Family Interview Study, I. Int J Fam Psychiatry 1984; 5:61–70
37. Moline RA, Singh S, Morris A, Meltzer HY: Family expressed emotion and relapse in schizophrenia in 24 urban American patients. Am J Psychiatry 1985; 142:1078–1081
38. Jou S-Y, Wen J-K, Kleinman A, Kleinman J, Wu Y, Chiu C, Schiller M: Pilot study of expressed emotion of relatives of patients with schizophrenia in Taiwan. Chinese Psychiatry 1989; 3:124–137
39. Wig N, Menon DK, Bedi H, Ghosh A, Kuipers L, Leff J, Korten A, Day R, Sartorius N, Ernberg G, Jablensky A: Expressed emotion and schizophrenia in north India, I: cross-cultural transfer of ratings of relatives' expressed emotion. Br J Psychiatry 1987; 151:156–160
40. Leff J, Wig NN, Ghosh A, Bedi H, Menon DK, Kuipers L, Korten A, Ernberg G, Day R, Sartorius N, Jablensky A: Expressed emotion and schizophrenia in north India, III: influence of relatives' expressed emotion on the course of schizophrenia in Chandigarh. Br J Psychiatry 1987; 151:166–173
41. Parker G, Johnston P, Hayward L: Parental "expressed emotion" as a predictor of schizophrenic relapse. Arch Gen Psychiatry 1988; 45:806–813
42. Hooley J, Orley J, Teasdale JD: Levels of expressed emotion and relapse in depressed patients. Br J Psychiatry 1986; 148:642–647
43. Miklowitz D, Goldstein MJ, Nuechterlein KH, Snyder KS, Mintz J: Family factors and the course of bipolar affective disorder. Arch Gen Psychiatry 1988; 45:225–231
44. Orford J, O'Reilly P, Goonatilieke A: Expressed emotion and perceived family interaction in the key relatives of elderly patients with dementia. Psychol Med 1987; 17:963–970
45. Szmukler GI, Berkowitz R, Eisler I, Leff J, Dare C: Expressed emotion in individual and family settings: a comparative study. Br J Psychiatry 1987; 151:174–178
46. Hollaender J, Florin I: Expressed emotion and airway conductance in children with bronchial asthma. J Psychosom Res 1983; 27:307–311
47. Weddell R: Social, functional, and neuropsychological determinants of the psychiatric symptoms of stroke patients receiving

rehabilitation and living at home. Scand J Rehabil Med 1987; 19: 93–98
48. Fischmann-Havstad L, Marson R: Weight loss maintenance as an aspect of family emotion and process. Br J Clin Psychol 1984; 23:265–271
49. Kuipers L: Expressed emotion: a review. Br J Soc Clin Psychol 1979; 18:237–243
50. Hogarty GE, McEvoy JP, Munetz M, DiBarry AL, Bartone P, Cather R, Cooley SJ, Ulrich RF, Carter M, Madonia MJ: Dose of fluphenazine, familial expressed emotion, and outcome in schizophrenia: results of a two-year controlled study. Arch Gen Psychiatry 1988; 45:797–805
51. Mintz J, Mintz L, Goldstein M: Expressed emotion and relapse in the first episodes of schizophrenia: a rejoinder to MacMillan et al (1986). Br J Psychiatry 1987; 151:314–320
52. Goldstein MJ: Psychosocial issues. Schizophr Bull 1987; 13:157–171
53. Falloon IRH: Expressed emotion: current status. Psychol Med 1988; 18:269–274
54. Kleinman A: Rethinking Psychiatry. New York, Free Press, 1988
55. Sullivan HS: Conceptions of Modern Psychiatry. Washington, DC, William Alanson White Psychiatric Foundation, 1947
56. Bateson G, Jackson D, Haley J, Weakland J: Toward a theory of schizophrenia. Behav Sci 1956; 1:253–254
57. Wynne LC, Ryckoff IM, Day J, Hirsch SI: Pseudo-mutuality in the family relations of schizophrenics. Psychiatry 1958; 21:205–220
58. Lidz T, Fleck S: Schizophrenia, human integration, and the role of the family, in The Etiology of Schizophrenia. Edited by Jackson D. New York, Basic Books, 1960
59. Vaughn C, Leff J: The measurement of expressed emotion in the families of psychiatric patients. Br J Psychiatry 1976; 129:125–137
60. Miklowitz DJ, Goldstein MJ, Doane JA, Nuechterlein KH, Strachan AM, Snyder KS, Magana Amato A: Is expressed emotion an index of a transactional process? I: parents' affective style. Fam Process 1989; 28:153–167
61. Vaughn C: Patterns of emotional response in the families of schizophrenic patients, in Treatment of Schizophrenia. Edited by Goldstein M, Hand I, Hahlweg K. New York, Springer-Verlag, 1986
62. Leff J, Vaughn C (eds): Expressed Emotion in Families. New York, Guilford Press, 1985
63. Greenley J: Social control and expressed emotion. J Nerv Ment Dis 1986; 174:24–30
64. Jenkins JH: Conceptions of schizophrenia as a problem of nerves: a cross-cultural comparison of Mexican-Americans and Anglo-Americans. Soc Sci Med 1988; 26:1233–1244
65. World Health Organization: Schizophrenia: An International Follow-Up Study. New York, John Wiley & Sons, 1979
66. Jenkins JH: Ethnopsychiatric interpretations of schizophrenic illness: the problem of *nervios* within Mexican-American families. Cult Med Psychiatry 1988; 12:301–329
67. Gaviria M, Arana J (eds): Health and Behavior: Research Agenda for Hispanics. Chicago, Hispanic American Family Center, 1987
68. Ramirez D, Arce C: The contemporary Chicano family, in Explorations in Chicano Psychology. Edited by Baron A. New York, Praeger, 1982
69. Warner R: Recovery From Schizophrenia: Psychiatry and Political Economy. London, Routledge & Kegan Paul, 1985
70. Canino G: The Hispanic woman: sociocultural influences on diagnoses and treatment, in Mental Health and Hispanic Americans: Clinical Perspectives. Edited by Becerra R, Karno M, Escobar J. New York, Grune & Stratton, 1982
71. Edgerton RB: Conceptions of psychosis in four East African societies. Am Anthropologist 1966; 68:408–425
72. Kleinman A: Patients and Healers in the Context of Culture: An Exploration on the Borderland Between Anthropology, Medicine, and Psychiatry. Berkeley, University of California Press, 1980
73. Murillo N: The Mexican-American family, in Chicanos: Social and Psychological Perspectives. Edited by Hernandez CA, Haug MJ, Wagner N. St Louis, CV Mosby, 1976
74. Edgerton RB: Rules, Exceptions, and Social Order. Berkeley, University of California Press, 1985
75. Geertz H: The vocabulary of emotion: a study of Javanese socialization processes. Psychiatry 1959; 22:225–237
76. Goldstein MJ, Talovic SA, Nuechterlein KH: Family interactions vs individual psychopathology. Schizophr Res 1991; 4:303–304
77. Scheper-Hughes N: Saints, Scholars, and Schizophrenics: Mental Illness in Rural Ireland. Berkeley, University of California Press, 1979
78. Estroff SE: Self, identity, and subjective experience of schizophrenia: in search of the subject. Schizophr Bull 1989; 15:189–186
79. Shweder R, Bourne E: Does the concept of the person vary cross-culturally? in Culture Theory: Essays on Mind, Self, and Emotion. Edited by Shweder R, LeVine R. New York, Cambridge University Press, 1984
80. Shweder RA: Rethinking culture and personality theory, part III: from genesis and typology to hermeneutics and dynamics. Ethos 1980; 8:60–94
81. Levy R: Tahitians: Mind and Experience in the Society Islands. Chicago, University of Chicago Press, 1973
82. Schieffelin EL: Anger and shame in the tropical forest: on affect as a cultural system in Papua New Guinea. Ethos 1983; 11:181–191
83. Hatfield AB: Families as caregivers: a historical perspective, in Families of Mentally Ill: Coping and Adaptation. Edited by Hatfield AB, Lefley HP. New York, Guilford Press, 1987
84. Lefley HP: Culture and mental illness: the family role. Ibid