

FEATURE

Expressed Emotion, Communication Deviance, and Culture in Families of Patients With Schizophrenia: A Review of the Literature

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The aim of this article is to critically review the literature on expressed emotion (EE), communication deviance (CD), and culture in families of patients with schizophrenia. There is growing evidence that EE and CD are highly linked. Yet the two constructs together predict the development of schizophrenia and the associated symptoms better than either construct alone. In this article, the authors review data indicating that both the expression and the levels of high EE and CD vary by ethnicity. It may be especially difficult for family members to communicate coherently and in a less critical manner when focusing on patients' inability to sustain particular cultural norms and values that are endorsed by their family and ethnic background. The authors propose that more attention to the role of culture in EE and CD and greater focus on the proper assessment of these variables would further enhance our understanding of these constructs.

Keywords: EE, CD, culture, ethnicity, schizophrenia

In this article, we review literature linking the following three expanding areas of research: expressed emotion (EE), communication deviance (CD), and culture. We begin with an overview of the EE and CD constructs. We then move on to describe how these variables are assessed and how they interact with culture and ethnicity. In particular we review research on ethnic communication patterns, independence versus interdependence, family values, and other sociocultural beliefs and behaviors that may assist in developing a theoretical framework to better understand the interplay among these constructs and their associations with prognosis for schizophrenia. The article concludes with a summary of lessons learned, clinical implications, and directions for future research.

Expressed Emotion

EE is a measure of critical, hostile, or emotionally overinvolved (EOI) attitudes held by a key relative toward a mentally or physically ill family member (Kavanagh, 1992). It is an important construct because substantial empirical evidence demonstrates that high EE (high levels of criticism, hostility, and EOI) is associated with poorer illness course for patients with schizophrenia. EE appears to be unrelated to relative's socioeconomic status (Duarte, Weisman de Mamani, Rosales, & Kymalainen, in press) and the EE-relapse link occurs despite no significant differences in symptomatology at the onset of the first illness episode or in premorbid functioning (e.g., academic, social) between patients from high-

and low-EE homes (see Kavanagh, 1992, or Hooley & Hiller, 2002, for a review). At nine months after discharge, the relapse rate for patients returning to high-EE homes is more than twice that of those returning to low-EE homes (Butzlaff & Hooley, 1998; Weisman, 2005). EE is widely considered to be one of the most robust predictors of schizophrenia.

EE is commonly measured with the Camberwell Family Interview (CFI), a semistructured assessment of the emotional climate in the home (Brown, 1985; Vaughn & Leff, 1976). The CFI has demonstrated excellent psychometric properties, with good interrater reliability, and considerable concurrent and predictive validity (Hooley & Parker, 2006; Weisman, Duarte, Koneru, & Wasserman, 2006). A relative is traditionally rated as high EE when there is a high level of criticism (usually six or more comments), high levels of EOI (a global rating of 3 or 4 on 5-point scale), or any amount of hostility (Mueser & Glynn, 1995).

EE has also been measured using the Five-Minute Speech Sample (FMSS). The FMSS is a short, open-ended procedure that requires relatives to speak uninterruptedly for five minutes about the ill family member, including how the two of them get along together. The FMSS has good interrater reliability and adequate concordance with the CFI (Weisman de Mamani, Kymalainen, Rosales, & Armesto, 2007) and has been found to discriminate parents of offspring with psychiatric disorders from parents of those without psychiatric disorders (Miklowitz, 1994). It should be noted, however, that some studies have found the FMSS to have a higher threshold for detecting EE (e.g., Weisman de Mamani et al., 2007), and its ability to predict outcome for serious mental illness is not as strong as that of the CFI (see Hooley & Parker, 2006, for a review).

Communication Deviance

In general, high-EE has been found to be a strong predictor of poor outcome in individuals with serious mental illness. Thus, it is

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important to understand what factors may underlie high-EE attitudes. CD may be one such factor. CD is a measure of the degree to which a relative's communication lacks clarity and causes disruptions in the focus of attention (Singer & Wynne, 1965). The construct has been reliably measured using several different methods, ranging from Rorschach protocols (Wynne, Singer, & Toohey, 1976) to structured interviews (Cole, Kane, Zastowny, Grolnick, & Lehman, 1993) and Five-Minute Speech samples (Kymalainen, Weisman, Rosales, & Armesto, 2006).

The theory behind CD was developed by Wynne, Singer, and Toohey (1976), who noted that patients with schizophrenia, as well as their parents, often use similar odd terms and reasoning and fail to convey a sense of closure in their thought and communication patterns. Wynne and Singer maintain that the failure of parents to communicate effectively likely leads to confusion, distress, and dysfunctional communication patterns in their offspring (Wynne, Singer, & Toohey, 1976).

Prior research suggests that familial deviant communication may be strongly implicated in the onset and course of schizophrenia. For example, significantly higher rates of CD have been found in parents of children with schizophrenia and schizophrenia-spectrum disorders as compared to the parents of children with depressive disorders (Asarnow, Goldstein, & Ben-Meir, 1988). Communication clarity has also been found to discriminate parents of patients with schizophrenia from parents of normal controls (Miklowitz, 1994; Tompson, Asarnow, Goldstein, & Miklowitz, 1990; Docherty, 1993, 1995). In addition, Subotnik, Goldstein, Nuechterlein, Woo, and Mintz (2002) found that CD was associated with a family history of schizophrenia spectrum disorders in the patient's parents and their siblings. CD may inhibit the ability to share a common meaning or reality. The presence of CD also likely impairs the ability of a family to communicate effectively with each other to manage problems, leading to a stressful environment. Research further suggests that consistent exposure to disordered communication throughout development may contribute to deficits in the ability to focus attention and process information. Ultimately, this may increase the likelihood that a vulnerable individual will manifest symptoms of psychopathology (Singer & Wynne, 1965; Velligan, Funderburg, Giesecke, & Miller, 1995).

Distorted communication styles have been found to be characteristic features of families with young adults with schizophrenia in transcripts of Rorschach protocols (Wynne, Singer, & Toohey, 1976). In one study, researchers examined transcripts of Rorschach interaction tasks in which family members were required to pool reasoning and cognitive resources to interpret an inkblot (Wynne, Singer, Bartko, & Toohey, 1977). Their analysis demonstrated different factors of disordered communication among family members, including referent problems, commitment (to a position or idea) problems, language anomalies, contradictory or arbitrary sequences in reasoning, and disruptions.

Subsequent researchers argued that projective measures of CD may not reflect actual family transactions. A subgroup of investigators began to measure CD from situations relevant to everyday family life. Velligan and colleagues examined the reliability and validity of an interactional CD measure (ICD), adapted from Doane and Singer's Family Rorschach coding protocol, in which parents and patients work toward the solution of a real family problem (Velligan, Goldstein, Nuechterlein, Miklowitz, & Ranlett,

1990; Doane & Singer, 1977). The results of their research concluded that CD can be measured reliably in a family problem-solving interaction, and it was related to projective measures of CD, demonstrating convergent validity. The authors purport that this interactional CD measure may be more valid because it reflects actual ongoing family transactions rather than traditional projective CD measures which are based on contrived interactions.

CD has also been measured with less-structured, more conversational speech samples. For example, Docherty (1993) used a semistructured protocol developed by Singer and Wynne (1965) and Doane and Singer (1977) and later modified by Velligan et al. (1990) to evaluate language deviance in parents of schizophrenic patients within everyday speech on standardized pleasant or neutral topics. Parents were asked to describe such things as hobbies, interests, and occupations. Topics that centered on symptoms and psychopathology were avoided.

CD has also been assessed using a semistructured interview. Cole examined the construct by investigating the comprehensibility of the opening passages of the CFI, which, as noted above, has traditionally been used to measure EE (Cole et al., 1993). Kymalainen et al. (2006) also examined a new manner of assessing CD using the FMSS. In this study, CD was coded from FMSS transcripts using an adaptation of Velligan's Communication Deviance Coding Manual for coding family confrontations (Velligan, 1985; Velligan et al., 1990). This manual was designed for use with speech samples. The FMSS-CD measure was found to be reliable and demonstrated convergent validity with Cole et al.'s (1993) CFI-CD measure (Kymalainen et al., 2006).

As noted above, previous methods have typically been highly structured (Velligan et al., 1990; Cole, Grolnick & Perkins, 1986) or required participants to communicate around ambiguous stimuli (Singer & Wynne, 1965, 1966). Participants were not given much flexibility in choosing personally or culturally relevant topics. The advantage of the FMSS-CD measure developed by Kymalainen and colleagues is that it is easy to administer, has highly standardized instructions, and allows for the assessment of CD based on topics that are selected by, and therefore personally meaningful to the family member (Kymalainen et al., 2006). Therefore, it may capture more accurately the ongoing linguistic style of speech. Another advantage of using the FMSS to measure CD is that EE can be assessed independently using the CFI, which is considered the gold standard method of measuring EE.

The Combination of CD and EE in Schizophrenia Research

Research to date indicates that high-CD is related to high-EE. Overall, relatives who were rated as high-EE have been found to manifest higher levels of CD than did relatives rated as low-EE (Miklowitz et al., 1986; Kymalainen et al., 2006). Miklowitz and colleagues (1986) found that relatives who were rated as high in EOI and criticism were also rated as having higher levels of CD than relatives rated as low-EE or high-EE "critical only." This finding held true both for relatives of older, more chronically ill patients as well as for newly diagnosed patients (Miklowitz et al., 1986).

Based on the findings outlined above, in this article we suggest that family members who express high levels of CD may have more difficulty expressing their thoughts to patient relatives in a

clear and noncritical fashion (Miklowitz et al., 1986; Kymalainen et al., 2006). Their comments instead may be expressed in a distorted and overinvolved manner and experienced by independent observers, and perhaps by patients as more critical, hostile, or highly emotionally overinvolved.¹ This, in turn, may cause stress and confusion for patients and may make them more vulnerable to the emergence of schizophrenia symptoms.

Indeed, research on the combination of EE and CD suggests that negative affect and deviant communication may be a particularly dangerous predictor of symptom onset and poor course of illness in schizophrenia. In fact, Doane and colleagues found that parents whose protocols evidence high CD as well as high levels of criticism, guilt, and intrusiveness also have offspring with diagnoses within the schizophrenia spectrum (Doane, West, Goldstein, Rodnick & Jones, 1981). On the other hand, they also found that parents whose profiles showed neither of these attributes did not evidence schizophrenia symptoms (Doane et al., 1981). The combination of the two constructs was found to be a better predictor with respect to onset of schizophrenia symptoms than either of them alone. These researchers suggest a theoretical model in which parental CD contributes to the development of schizophrenia symptoms when interacting with the expression of negative affect. Negative affect is understood as a potential mediator of parental CD (Doane et al., 1981).

Others have also theorized about the link between EE, CD, and symptom increases (McFarlane & Lukens, 1994). McFarlane and Lukens (1994) suggest that there may be a cycle operating in which symptoms in the patient induce stress and anxiety in the relative. This, in turn, may lead to more distorted communication and increased difficulty with managing criticism and boundaries, ultimately provoking even greater exacerbation of symptoms in the patient. Thus, rather than purely linear, the connections among EE, CD, and outcome may be more cyclical and transactional in nature, with emotionally charged environments, deviant communication, and symptom exacerbations in patients all intensifying one another.

To reiterate, while related, CD and EE together have been found to predict the development of schizophrenia symptoms significantly better than either construct alone (Goldstein, 1985; Doane et al., 1981). Based on the research to date, in this article we propose that parents with high CD may have more difficulty expressing their attitudes and thoughts in a clear, unfragmented, noncritical, and noninvasive manner. Family members who hold high-EE attitudes may express these attitudes in a verbally confusing manner due to the increased stress associated with experiencing high levels of negative emotion. To already vulnerable patients, it may be unclear what emotional statement the relative is attempting to communicate, thereby increasing their stress and psychopathology. As discussed in the previous paragraph, symptom increases in patients is further likely to result in increased levels of EE and CD in relatives, thereby perpetuating a vicious cycle. Conversely, relatives who are rated as low-EE may themselves experience less stress and therefore have greater clarity of communication and express less negatively charged attitudes leading to lower levels of stress and better course of illness for their loved ones.

Expressed Emotion, Communication Deviance, and Culture

Although EE and CD appear to predict course of illness for schizophrenia across diverse cultural and national groups

(Kavanagh, 1992; Weisman, 2005; Doane et al., 1989), base rates of high-EE have been found to vary across cultures. For example, significantly greater frequencies of high-EE have been found in White families as compared to Latino families (Karno et al., 1987).² Weisman de Mamani et al. (2007) found that Whites were designated as high-EE three times more often than were Latinos using the CFI and five times more often with the FMSS.

Jenkins and Karno (1992) suggest that EE may actually be a measure of the meaning that relatives generate about behaviors that are perceived as violating culturally endorsed social norms. While EE has been found to be reliably assessed and predicts outcome for both White and Mexican Americans, Jenkins and Karno (1992) stress that culture is what defines the kinds of behavior that warrant criticism and that cross-cultural studies of EE may offer a more sophisticated theory of EE. In a description on Mexican and White families with a relative with schizophrenia, Jenkins and Karno (1992) report that Mexican families were critical of behaviors that elicited shame in the family or disrupted the harmony of the family system. Within White families, criticism was found to focus on the wish to see the ill relative engage in more self-actualizing and productive behavior. However, for Mexican families, criticism was motivated in response to the loss of economic support and its impact on the family. Thus, the expression of criticism for a behavior may be motivated by differing cultural factors.

For Whites, the perception that personality attributes are to be blamed for patient symptoms is likely related to core Anglo American cultural values which place a primary emphasis on factors such as independence, autonomy, responsibility, and goal achievement (Jenkins & Karno, 1992). In many Western societies, there is a strong emphasis on remaining autonomous. The sense of self-esteem of such an individual is dependent upon achievements that result from internal attributes, such as one's personality traits, abilities, and intelligence (Matsumoto, 1997). Within this framework, for Whites, attributes that are believed to be stable and inherent to the person may be of the highest importance when assessing oneself and others. For example, high-EE criticisms within a White sample have been found to target stable personality traits (Weisman, Nuechterlein, Goldstein, & Snyder, 1998). On the other hand, many traditional cultural groups emphasize interdependence and a sense of connectedness with others as more important than characteristics that distinguish the self from others (Singelis, 1994).

¹ This is in no way intended to be blaming of relatives with high CD. High CD is very likely to have a genetic component and expressing thoughts in an unclear, fragmented, and critical manner may be largely out of relatives' (with high CD) personal control.

² It should be pointed out that in this article the terms *Latino*, *White*, and *Black* are used to refer to groups of individuals in the United States who may have come from a variety of countries and have different ancestries. For example, we use the term *Latino* to describe individuals from or with heritage from Mexico, Puerto Rico, the Dominican Republic, Cuba, El Salvador, Nicaragua, Colombia, Venezuela, Ecuador, Honduras, and other Latin American countries. We are aware that within ethnic subgroups there are often differences in norms, values, and beliefs depending on country of origin and other factors (e.g., race). However, we believe that there are still some strong commonalities within members of ethnic subgroups that still make broad cultural comparisons useful.

Weisman et al. (2006) and Weisman, Gomes, and López (2004) suggest that perceptions of family unity may be one important factor underlying emotional reactions toward schizophrenia and low rates of high-EE among Latinos. Specifically, the cultural value of family unity and a sense of interconnectedness may help Latino family members to attribute less individual blame for symptoms of illness in order to maintain family cohesion. Within this structure, adjusting to accommodate others and maintain interdependence within one's family and cultural group is crucial (Weisman & López, 1996; Weisman et al., 2004). In traditional cultures, unique internal attributes are believed to be somewhat less important in perceptions of self and others (Matsumoto, 1997). Greater compassion for an ill relative's problems may result from this emphasis on interconnectedness with others, leading to more supportive reactions toward the individual and less criticism toward personality attributes (Weisman, 2005). Interdependent cultural values may account for the lower rates of high-EE found in traditional cultural groups. Further, the tendency within Latino families to be more critical of disrespectful behaviors may be related to a strong emphasis on interdependence. These types of behaviors, as opposed to symptoms perceived as personality attributes, are likely to be viewed as violating important cultural norms that emphasize group, over individual, well-being (Jenkins & Karno, 1992).

There is a strong literature linking expressed emotion to attributions of control. For example, in a review article of 13 studies, Barrowclough and Hooley (2003) conclude that high EE/critical relatives are more likely to make blaming attributions and hold patients responsible for their difficulties. Some literature also suggests that Latinos may be less blaming of an ill family member than are their Anglo American counterparts. For example, in an analog study by Weisman and Lopez (1997) White college students living in the United States were much more likely to make blaming attributions toward a hypothetical family member with schizophrenia than were Latino college students living in Mexico. Individuals with strong familistic attitudes, such as Latinos, may understand an ill family member as being less responsible for his or her condition in order to maintain family cohesion (Weisman, 2005). This may lead to less blameworthy attributions, more supportive environments, and lower levels of high-EE in family oriented societies (Weisman, 2005; Weisman & López, 1997). In other words, a sense of interconnectedness may encourage family members to understand symptoms in a more compassionate manner with the goal of preserving the harmony of the family system.

In addition to research on EE in White and Latino families, EE has also been examined in a range of other cultures including Chinese, Asian Indian, and Japanese families to name only a few. In general, EE has been found to be a strong predictor of course of illness in a variety of different countries and ethnic groups. However relatives' experiences of patients' symptoms and patients' experiences of EE and may vary by culture. For example, in a Chinese sample, Yang, Phillips, Licht, and Hooley (2004) also found that high EE positively predicted relapse and that high EE critical and/or hostile relatives attributed patients' negative behaviors to more controllable and personal factors. However, they also found a unique tendency in this ethnic group for relatives to attribute patients symptoms to a construct referred to as "narrow-mindedness," and narrow-minded attributions on the part of relatives appear to have a protective effect on patient relapse.

Three studies have also examined criticism and EE in Black families with schizophrenia. In these studies, researchers failed to find that the observed high-EE attitudes predict the course of schizophrenia in Black patients. First, Moline, Singh, Morris, and Meltzer (1985) assessed schizophrenia and relapse using a sample in which two thirds of the participants were Black. The best predictor of relapse among all participants was high-EE as defined by nine or more critical comments (as opposed to the tradition of six critical comments). A higher cutoff point for criticism was needed to more accurately predict relapse rates between patients living with high-EE families as opposed to low-EE families. However, no cutoff score was effective in predicting outcome in just the Black subjects. Sociocultural factors may account for this difference in the impact of EE (Moline et al., 1985).

Tompson and colleagues found that for Black families, it was not relatives' EE status that predicted relapse, but instead relapse was related to patients' perceptions of their relatives' criticism (Tompson et al., 1995). They suggest that what is considered criticism and the meaning it has for the patient may vary with family ethnicity or race and that there may be a cultural gap between an independent observer's assessment of criticism and hostility in Black families and the actual experience of the ill relative (Tompson et al., 1995). These findings suggest that contrary to White patients, due to differences in ethnic communication patterns, Black patients may not interpret the expression of high-EE attitudes as criticisms directed toward their character attributes, but rather as signs of family concern. For example, Black family members might experience critical and intrusive behavior as a symbol of engagement, caring, and support (Davidson, 2001). Thus, behaviors or communication patterns that have traditionally been viewed as reflecting conflict or overinvolvement by White observers may not be experienced as such by Black patients and their relatives.

Other cultural differences have been found regarding the impact of high-EE attitudes on patient functioning. In fact, for White patients with schizophrenia, high-EE in relatives was found to be associated with high levels of patients' odd or unusual thinking and symptom relapses (Rosenfarb, Goldstein, Mintz, & Nuechterlein, 1995; Rosenfarb, Bellack, & Aziz, 2006); however, these patterns were not associated with symptomatology in African American patients. Rosenfarb, Bellack, Aziz, Kratz, and Sayers, (2004) suggest that cultural factors may be important in predicting stabilization in schizophrenia and psychosocial research should focus on understanding cultural differences in how families help patients return to stable functioning.

Similarly, CD may also be better understood when examined through a cultural lens. Research on the impact of cultural factors on CD in families with schizophrenia is minimal. This is somewhat surprising since attention to culture in the related area of expressed emotion has greatly improved understanding of the EE construct (Weisman & López, 1997; Weisman, Rosales, Kymalainen, & Armesto, 2005). The body of literature linking high levels of parental CD to schizophrenia are mostly based on samples of English-speaking and White subjects. Doane and colleagues (1989) were among the first to compare levels of CD between patients with schizophrenia in two culturally distinct groups. A hypothesis of their study was that CD indexes a subclinical deficit in parents that may be linked to schizophrenia at a biological level. Following, support for this biological view could be demonstrated

if levels of CD and types of CD among parents of patients with schizophrenia do not vary with culture or language (Doane et al., 1989).

Doane and colleagues (1989) administered the Thematic Apperception Test (TAT) to 32 relatively unacculturated Spanish-speaking Mexican parents and to 32 English-speaking White parents of 64 subjects with schizophrenia. They found that the Mexican parents had levels of CD that were nearly identical to those of a carefully matched sample of White parents. These authors suggest this may indicate that CD is not a culture-bound phenomenon but a marker of an underlying cognitive process (Doane et al., 1989). On the other hand, it should be noted that the White participants may have been particularly a low-EE sample. This is suggested because high EE and high CD have been found to co-occur in much of the prior research and because Whites are generally rated as high EE more often than are Latinos (Karno et al., 1987; Weisman et al., 2006).

In an effort to further address the influence of ethnicity and cultural factors on CD and EE, Kymalainen and colleagues (2006) examined the relationships among EE, CD, and ethnicity in a sample of White, Latino, and Black relatives of patients with schizophrenia. These investigators were interested in whether there were differences in the types of patient symptoms and behaviors that elicited high-CD statements from these ethnic groups. They were also interested in examining for ethnic differences in the content of parental speech statements that were designated as high-CD. They hypothesized that cultural values, beliefs, and behaviors would influence the topics that family members were most likely to communicate about. Cultural values and norms may also impact relative's likelihood of expressing high-CD (and likely corresponding high-EE) when cultural values are violated. In other words, Kymalainen et al. (2006) hypothesized that some topics may be more sensitive for relatives from certain cultural groups and may lead to greater anger frustration (high-EE) and greater breakdown in communication (high-CD).

As hypothesized, Kymalainen et al. (2006) found that relatives designated as high-EE were also more likely to express high levels of CD, replicating earlier findings (Miklowitz et al., 1986; Goldstein, 1985). This may suggest that EE reflects a conceptual difficulty in conveying thoughts in a low key, clear, and supportive manner. The findings of Kymalainen and colleagues suggest that family members who express high-EE attitudes are more likely to communicate in an unclear and confusing manner. Contrary to findings from an earlier study of no ethnic differences in CD (Doane et al., 1989), the findings from this study found that White family members had higher levels of both EE and CD as compared to Latinos. Black family members had levels of EE and CD similar to that of Whites.

In the Kymalainen et al. (2006) study, Whites were found to evidence more criticism for lack of independence and autonomous functioning within CD statements as compared to Latinos. In the following passage, Kymalainen et al. (2006) illustrate an example of CD falling into the category of reiteration, abandoned, abruptly ceased, uncorrected remarks taken from one of their White relatives: "I woulda I, I, I work now, I couldn't work before, I had to be here all the time. She did graduate from high school last year. And she isn't, she tried going to college." During this excerpt, this relative had been complaining about the patient's inability to finish

college and get a job and how this impacted the family member's own capacity to function.

As discussed earlier, some research suggests that Whites place a primary emphasis on independence (Jenkins & Karno, 1992). Thus, it is possible that some symptoms of schizophrenia may violate White family members' core values of autonomy and independence. These symptoms may be perceived as reflecting a lack of ambition, self-sufficiency, and motivation on the part of the patient. This violation of culturally sanctioned rules and norms could have a disorganizing effect on relatives who are trying to conceptualize and manage the patient's illness. Due to core cultural values of independence and responsibility in Anglo cultures, this could in turn lead Anglo family members to express more negative affect and disrupted communication patterns when talking about these symptoms. Thus, it might follow that White patients, in comparison to other ethnic groups, would have higher relapse rates, due to the stress associated with being the recipient of high-EE and high-CD.

Interestingly, in the Kymalainen et al. (2006) study, Black family members evidenced the highest amount of criticism for violations of interdependence. This may not be too surprising in that with strong kinship bonds traced back from Africa, even today Black family members and others within their natural support systems often rely powerfully on one another to survive (Hines & Boyd-Franklin, 2005). Thus, it makes sense that patient behaviors that appear to violate this collectivistic spirit may be particularly frustrating and provoke anger among Black family members.

Kymalainen et al. (2006) give additional examples of specific cultural patterns found in the topics of speech containing CD statements in a qualitative analysis of their data. White family members of ill relatives tended to exhibit communication disturbances around topics concerning lack of self-sufficiency and goal-directed initiative; whereas, when Latinos tended to exhibit communication disturbances, it occurred around topics concerning harmony in the home and problems with interpersonal aggressiveness. In the following passage excerpted from the Kymalainen et al. (2006) study, a Latino relative expressed distress over the patients drinking, and how this disrupted the usual tranquility in their home: "before he had a drinking problem and now he has a lot of time of not drinking, because when he drank he behaved a bit aggressive, but without drinking he is a very pacified boy, very tranquil, he does not give us problems; only when he drank, but now that he does not drink, he is tranquil and we see that he has recuperated." This example falls under the CD category of reiteration of words/phrases.

Additionally, Black family members tended to exhibit communication disturbances in relation to topics concerning wanting to help the patient more but feeling unsure of how to help or recognize symptoms. Other frequent topics that elicited CD from Blacks included a decline in the patient's social functioning and their ability to interact with others. A specific example showing the CD category of odd word usage in a Black patient, taken from the Kymalainen et al. (2006) study follows: "He used to walk with me and ummm I don't know, he had athletic feet or something and when it got bacterial he didn't want to go back walking anymore." This relative had been discussing distress over an inability of the patient to continue to engage in an enjoyable shared activity.

In sum, family members may have particular difficulty communicating coherently when discussing patients' inability to uphold

important values and behaviors that are sanctioned by their ethnic background. The sociocultural context may shape the pathways by which family processes relate to the course of mental illness (López, Nelson Hipke, & Polo, 2004).

Lessons Learned, Clinical Implications, and Future Directions

In this article we reviewed the literature on EE, CD and culture. We offered a preliminary framework regarding how the stress associated with being the recipient of high levels of EE and CD may be associated with higher relapse rates. We also reviewed literature to shed light on how cultural beliefs, values, and communication patterns may interact with EE and CD, and schizophrenia outcome in different ethnic groups.

What have we learned? To reiterate, high levels of EE have been found to be significantly associated with high levels of CD (Kymalainen et al., 2006; Miklowitz et al., 1986; Goldstein, 1985). This robust finding suggests that EE may reflect a conceptual difficulty in conveying thoughts in an unobtrusive, clear, and supportive manner and that the intensity of negative affective attitudes may be related to difficulties in communicating thoughts coherently. However, at this early stage, this should be regarded as a hypothesis in need of further empirical support.

Evidence to date also indicates that cultural factors play a substantial role in the presentation and level of EE and CD. The violation of core cultural values and norms is likely to be very disorganizing for family members, who then have difficulty relating clearly and calmly to an ill relative. In other words, we believe that family members may become more disorganized in their speech and thus express highly negative attitudes when patients fail to live up to culturally sanctioned behaviors and values, which vary by ethnicity.

From this review, we encourage clinicians to recognize that violations by patients of culturally sanctioned values may be a particular "sore spot" for their relatives. As a result, affective disruptions, critical attitudes, and violations in speech patterns may be more likely to be expressed in family member's communication style when discussing problematic areas. Family interventions may be more beneficial when targeting specific issues around the patient's inability to maintain cultural rules and norms.

This review suggests that clinicians and researchers should be aware that what is experienced as critical (high-EE) or unclear (high-CD) to patients from some ethnic groups may be experienced as nonstressful or even comforting to patients from other backgrounds. Thus, traditional measures of EE and CD may not tap into the actual day-to-day experiences of perceived criticism or perceived confused communication for these ethnic groups. In particular, greater attention to the role of culture in EE and CD is necessary to enhance understanding of these constructs and their link to schizophrenia outcome. In sum, further examination of the ethnic validity of EE and CD and the current assessment tools to measure these constructs are needed.

References

Asarnow, J. R., Goldstein, M. J., & Ben-Meir, S. (1988). Parental communication deviance in childhood onset schizophrenia spectrum and

depressive disorders. *Journal of Child Psychology and Psychiatry*, 29, 825–838.

- Barrowclough, C., & Hooley, J. M. (2003). Attributions and expressed emotion: A review. *Clinical Psychology Review*, 23, 849–880.
- Butzlaff, R. L., & Hooley, J. M. (1998). Expressed emotion and psychiatric relapse: A meta-analysis. *Archives of General Psychiatry*, 55, 547–552.
- Brown, G. W. (1985). The discovery of expressed emotion and its measurement. In J. Leff & C. Vaughn (Eds.), *Expressed emotion in families: Its significance for mental illness*. (pp. 7–25). New York, NY: The Guilford Press.
- Cole, R. E., Grolnick, W., & Perkins, P. (1986). Manual for coding communication and problem-solving in family interaction. *Unpublished manuscript*, University of Rochester: New York.
- Cole, R. E., Kane, C. F., Zastowny, T., Grolnick, W., & Lehman, A. (1993). Expressed emotion, communication, and problem solving in the families of chronic schizophrenic young adults. In R. Cole & R. D. Reiss (Eds.), *How do families cope with chronic illness?* (pp. 141–172). Hillsdale: Erlbaum.
- Davidson, M. N. (2001). Know thine adversary: The impact of race on styles of dealing with conflict. *Sex Roles: A Journal of Research*, 45, 259–276.
- Doane, J. A., Miklowitz, D. J., Oranchak, E., de Apodaca, R. F., Karno, M., Strachan, A. M., et al. (1989). Parental communication deviance and schizophrenia: A cross-cultural comparison of Mexican and Anglo-Americans. *Journal of Abnormal Psychology*, 98, 487–490.
- Doane, J. A., & Singer, M. (1977). Communication deviance scoring manual for use with the consensus Rorschach. *Unpublished manuscript*. University of Rochester, New York.
- Doane, J. A., West, K. L., Goldstein, M. J., Rodnick, E. H., & Jones, J. E. (1981). Parental communication deviance and affective style. *Archives of General Psychiatry*, 38, 679–685.
- Docherty, N. M. (1993). Communication deviance, attention, and schizotypy in parents of schizophrenic patients. *Journal of Nervous & Mental Disease*, 181, 750–756.
- Docherty, N. M. (1995). Linguistic reference performance in parents of schizophrenic patients. *Psychiatry*, 58, 20–27.
- Duarte, E., Weisman de Mamani, A., Rosales, G., & Kymalainen, J. (in press). Educational attainment as a predictor of attributions and expressed emotion in a tri-ethnic sample of relatives of patients with schizophrenia. *Interamerican Journal of Psychology*.
- Goldstein, M. J. (1985). Family factors that antedate the onset of schizophrenia and related disorders: The results of a fifteen year prospective longitudinal study. *Acta Psychiatrica Scandinavica Supplementum*, 319, 7–18.
- Hines, P. M., & Boyd-Franklin, N. (2005). African American families. In M. McGoldrick, J. Giordano, & N. Garcia-Preto (Eds.), *Ethnicity and family therapy*. (3rd ed., pp. 66–84). New York: Guilford Press.
- Hooley, J., & Hiller, J. B. (2000). Personality and expressed emotion. *Journal of Abnormal Psychology*, 95, 60–66.
- Hooley, J. M., & Parker, H. A. (2006). Measuring expressed emotion: An evaluation of the shortcuts. *Journal of Family Psychology*, 20, 386–396.
- Jenkins, J. H., & Karno, M. (1992). The meaning of expressed emotion: Theoretical issues raised by cross-cultural research. *American Journal of Psychiatry*, 149, 9–21.
- Karno, M., Jenkins, J. E., de la Selva, A., Santana, F., Telles, C., Lopez, S., et al. (1987). Expressed emotion and schizophrenic outcome among Mexican-American families. *Journal of Nervous and Mental Disease*, 175, 143–151.
- Kavanagh, D. J. (1992). Recent developments in expressed emotion and schizophrenia. *British Journal of Psychiatry*, 160, 601–620.
- Kymalainen, J. A., Weisman, A. G., Rosales, G. A., & Armesto, J. C. (2006). Ethnicity, expressed emotion, and communication deviance in family members of patients with schizophrenia. *Journal of Nervous & Mental Disease*, 194, 391–396.

- López, S. R., Nelson Hipke, N., & Polo, A. J. (2004). Ethnicity, Expressed Emotion, Attributions, and course of schizophrenia: Family warmth matters. *Journal of Abnormal Psychology, 113*, 428–439.
- Matsumoto, D. (1997). *Culture and modern life*. Pacific Grove, CA: Brooks/Cole Publishing Co.
- McFarlane, W. R., & Lukens, E. (1994). Systems theory revisited: Research on family expressed emotion and communication deviance. In H. Lefley & M. Wasow (Eds.), *Helping families cope with mental illness*. (pp. 79–103). Switzerland: Harwood Academic Press.
- Miklowitz, D. J. (1994). Family risk indicators in schizophrenia. *Schizophrenia Bulletin, 20*, 137–149.
- Miklowitz, D. J., Strachan, A. M., Goldstein, M. J., Doane, J. A., Snyder, K. S., Hogarty, G. E., et al. (1986). Expressed emotion and communication deviance in the families of schizophrenics.
- Moline, R. A., Singh, S., Morris, A., & Meltzer, H. Y. (1985). Family expressed emotion and relapse in schizophrenia in 24 urban American patients. *American Journal of Psychiatry, 142*, 1078–1081.
- Mueser, K. T., & Glynn, S. M. (1995). *Behavioral family therapy for psychiatric disorders*. Needham Heights, MA: Allyn & Bacon.
- Rosenfarb, I. S., Bellack, A. S., & Aziz, N. (2006). Family interactions and the course of schizophrenia in African American and White patients. *Journal of Abnormal Psychology, 115*, 112–120.
- Rosenfarb, I. S., Bellack, A. S., Aziz, N., Kratz, K. M., & Sayers, S. L. (2004). Race, family transactions, and patient stabilization in schizophrenia. *Journal of Abnormal Psychology, 113*, 109–115.
- Rosenfarb, I. S., Goldstein, M. J., Mintz, J., & Nuechterlein, K. H. (1995). Expressed emotion and subclinical psychopathology observable within the transactions between schizophrenic patients and their family members. *Journal of Abnormal Psychology, 104*, 259–267.
- Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality & Social Psychology Bulletin, 20*, 580–591.
- Singer, M. T., & Wynne, L. C. (1965). Thought disorder and family relations of schizophrenics: IV. Results and implications. *Archives of General Psychiatry, 12*, 201–206.
- Singer, M. T., & Wynne, L. C. (1966). Principles for scoring communication defects and deviances in parents of schizophrenics: Rorschach and TAT scoring manuals. *Psychiatry, 29*, 260–288.
- Subotnik, K. L., Goldstein, M. J., Nuechterlein, K. H., Woo, S. M., & Mintz, J. (2002). Are communication deviance and expressed emotion related to family history of psychiatric disorders in schizophrenia? *Schizophrenia Bulletin, 28*, 719–729.
- Tompson, M. C., Asarnow, J. R., Goldstein, M. J., & Miklowitz, D. J. (1990). Thought disorder and communication problems in children with schizophrenia spectrum and depressive disorders and their parents. *Journal of Clinical Child Psychology, 2*, 159–168.
- Tompson, M. C., Goldstein, M. J., Lebell, M. B., Mintz, L. I., Marder, S. R., & Mintz, J. (1995). Schizophrenic patients' perceptions of their relatives' attitudes. *Psychiatry Research, 57*, 155–167.
- Vaughn, C. E., & Leff, J. P. (1976). The influence of family and social factors on the course of psychiatric illness: A comparison of schizophrenic and depressed neurotic patients. *British Journal of Psychiatry, 129*, 125–137.
- Velligan, D. (1985). Communication deviance coding manual for coding family confrontations. *Unpublished manuscript*, University of California, Los Angeles.
- Velligan, D. I., Funderburg, L. G., Giesecke, S. L., & Miller, A. L. (1995). Longitudinal analysis of communication deviance in the families of schizophrenic patients. *Psychiatry, 58*, 6–18.
- Velligan, D. I., Goldstein, M. J., Nuechterlein, K. H., Miklowitz, D. J., & Ranlett, G. (1990). Can communication deviance be measured in a family problem solving interaction? *Family Process, 29*, 213–226.
- Weisman, A. (2005). Integrating culturally-based approaches with existing interventions for Hispanic/Latino families coping with schizophrenia. *Psychotherapy: Theory, Research, Practice, Training, 42*, 178–197.
- Weisman, A., Nuechterlein, K., Goldstein, M. J., & Snyder, K. (1998). Expressed emotion, attributions, and schizophrenia symptom dimensions. *Journal of Abnormal Psychology, 107*, 355–359.
- Weisman, A. G., Duarte, E., Koneru, V., & Wasserman, S. (2006). The development of a culturally informed, family focused, intervention for schizophrenia. *Family Process, 45*, 171–186. [Invited paper].
- Weisman, A. G., Gomes, L., & López, S. R. (2004). Shifting blame away from ill relatives: Latino families reactions to schizophrenia. *Journal of Nervous & Mental Disease, 191*, 574–581.
- Weisman, A. G., & López, S. R. (1996). Family values, religiosity, and emotional reactions to schizophrenia in Mexican and Anglo-American cultures. *Family Process, 35*, 227–237.
- Weisman, A. G., & López, S. R. (1997). An attributional analysis of emotional reactions to schizophrenia in Mexican and Anglo American cultures. *Journal of Applied Social Psychology, 27*, 223–244.
- Weisman, A. G., Rosales, G., Kymalainen, J., & Armesto, J. (2005). Ethnicity, family cohesion, religiosity and general emotional distress in patients with schizophrenia and their relatives. *Journal of Nervous & Mental Disease, 193*, 359–368.
- Weisman de Mamani, A. G., Kymalainen, J., Rosales, G., & Armesto, J. (2007). Expressed emotion and interdependence in White and Latino/Hispanic family members of patients with schizophrenia. *Psychiatry Research, 151*, 107–113.
- Wynne, L., Singer, M., & Toohey, M. (1976). Communication of the adoptive parents of schizophrenics. In J. Jorstad & E. Ugelstad (Eds.), *Schizophrenia 75: Psychotherapy, family studies, research*. (pp. 413–452). Oslo: Norway.
- Wynne, L. C., Singer, M. T., Bartko, J. J., & Toohey, M. (1977). Schizophrenics and their families: Recent research on parental communication. In J. M. Tanner (Ed.), *Developments in psychiatric research* (pp. 254–286). Seven Oaks, Kent, England: Hodder, & Stoughton.
- Yang, L. H., Phillips, M. R., Licht, D. M., & Hooley, J. M. (2004). Causal attributions about schizophrenia in families in China: Expressed emotion and patient relapse. *Abnormal Psychology, 109*, 40–44.