

Ethnicity, Expressed Emotion, and Communication Deviance in Family Members of Patients With Schizophrenia

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Abstract: This study examined the relationships among expressed emotion (EE), communication deviance (CD), and ethnicity in a sample of 57 white, Latino, and black relatives of patients with schizophrenia. A new method of assessing CD from the Five Minute Speech Sample was also developed and evaluated against an existing method (the Camberwell Family Interview; CFI). As hypothesized, high expressed emotion rated (from the CFI) was associated with higher levels of CD, and the Five Minute Speech Sample and CFI methods of assessing CD were concordant. CD statements made by white family members focused most on patient behaviors/symptoms that reflected a lack of independent functioning. CD statements of Latino and black relatives, however, focused most on patient behaviors that interfered with the family's interdependent functioning. 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.

Key Words: Expressed emotion, communication deviance, ethnicity.

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Although research has clearly indicated biological influences in schizophrenia, there is also evidence that the disorder is responsive to psychosocial attributes such as the emotional climate of the family (Kavanagh, 1992). One area that has received recent attention is expressed emotion (EE). EE refers to the content and expressive style of communications among family members. A family member is characterized as high EE when he or she expresses high levels of criticism, hostility, or emotional overinvolvement (EOI) toward another identified family member (Kavanagh, 1992).

EE is an important construct in that a substantial body of empirical evidence demonstrates an association between high levels of criticism, hostility, and EOI (high EE) held by a key relative and poorer course of illness for patients with schizophrenia and other mental and physical disorders (see Butzlaff and Hooley, 1998; Kavanagh, 1992, for reviews).

While EE appears to predict course of illness for schizophrenia across diverse cultural groups, 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 with Latino families (Karno et al., 1987). Other interesting cultural patterns have also been found. For example, criticism within white families tends to focus on symptoms that are perceived as personality attributes or volitional factors, such as laziness and apathy (Jenkins and Karno, 1992; Weisman et al., 1998), and on relatives' dissatisfaction with patients' level of productivity. Conversely, criticism within Latino families has been found to focus on aberrant and disruptive symptoms and behaviors that elicit shame in the family or disrupt family harmony (Jenkins and Karno, 1992). No studies that we are aware of have assessed the content of criticism in black families. The expression of criticism may vary across cultures as a function of differences in value systems.

Jenkins and Karno (1992) propose that EE may actually be a measure of the meaning that relatives make of behaviors that are perceived as violating culturally endorsed social norms. In other words, culture may determine which patient behaviors are perceived as warranting criticism. For whites, goal achievement is highly valued, and there is often a strong belief that people are autonomous and responsible for their successes and failures (including suffering from mental illness and having illness-related symptoms and behaviors; Jenkins and Karno, 1992; Jenkins et al., 1986). For Latinos and other traditional groups, there is a stronger value placed on interdependence, and successes and failures are often attributed to the context and to the environment rather than to individual personality attributes (Jenkins and Karno, 1992; Weisman and López, 1997; Weisman et al., 2003). Similar tendencies have been observed in blacks who also tend to emphasize community and collectivism (Allen and Bagozzi, 2001; Markus et al., 1997).

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COMMUNICATION DEVIANCE

Communication problems in the family members of patients with schizophrenia have also been found to be associated with increased risk for poor outcome (Doane, 1991). Much of the research on communication patterns in families with schizophrenia has focused on the family variable of communication deviance (CD). CD is a measure of the degree to which a relative is unable to establish and maintain a shared focus of attention with a listener because of a lack of clarity or disruptions in speech (Singer and Wynne, 1965, 1966). The presence of CD likely impairs the ability of the family to communicate effectively with each other to manage problems, leading to a stressful environment.

Some research indicates that CD may be related to EE. For example, in one study, relatives who were rated as high EE were found to manifest higher levels of CD than those who were designated as low EE (Miklowitz et al., 1986). Family members who are high in CD may have more difficulty expressing their thoughts to patient relatives in a clear and noncritical fashion. CD may thus be an underlying attribute of EE, with unclear communication likely leading to misunderstandings and frustrations that can result in subsequent critical and hostile responses. Examining EE within a cultural framework may improve understanding of the construct (Weisman, 1997, 2005).

Only one study thus far has examined the association between ethnicity and CD in schizophrenia. In this study, Doane et al. (1989) found no differences in overall levels of CD between Mexican-American and Anglo-American parents; however, specific cultural patterns such as differences in the cultural content of CD statements were not examined. No studies that we are aware of have examined CD in blacks. However, as discussed above with respect to EE, it also seems plausible that culture might influence when and how CD occurs.

The present study examines the relationship between EE and CD across three ethnic groups with attention to the specific cultural content of family members' CD statements. The following hypotheses are tested. First, we hypothesize that levels of EE and CD will be positively correlated. Second, we test two competing hypotheses with respect to ethnicity and CD. On the one hand, Doane et al. (1989) did not find significant differences in the severity of CD between whites and Latinos. However, because whites have been found to show higher rates of high EE than Latinos (Weisman et al., 2005), and because high EE has been found to be associated with high CD (Miklowitz et al., 1986) we might also expect whites to display greater levels of CD than Latinos. In this study, we will test these competing hypotheses. In addition, we examine how rates of CD in blacks compare with those of Latinos and whites on an exploratory basis. In the present study, we will also conduct a qualitative analysis of the content of CD statements and examine these separately by ethnicity to evaluate for ethnic patterns in topics displayed in CD statements.

Finally, we are interested in developing and examining a new manner of assessing CD using the Five Minute Speech Sample (FMSS). Previous methods have either been highly

structured (Cole et al., 1986; Velligan et al., 1990) or required participants to communicate around ambiguous stimuli (Singer and Wynne, 1965, 1966). They did not give participants much leeway in choosing personally relevant topics. The advantage of the FMSS 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 salient to, the respondent. In this study, we examine the concordance between rating CD from this new method and from the Camberwell Family Interview (CFI; an existing approach; Cole et al., 1986, 1993). A strength of this study is that CD and EE are rated independently, using two separate measures, and a different set of raters codes each construct. Results from this study contribute to better understanding of cultural patterns in EE and CD, two important constructs that strongly predict the course of schizophrenia. Study results may also support the use of a new and convenient method of assessing CD.

METHODS

Participants

Participants consisted of 57 relatives (20 white, 21 Latino, and 16 black) of patients diagnosed as having schizophrenia or schizoaffective disorder (based on criteria of the DSM-IV; American Psychiatric Association, 1994). Forty of the relatives were female, and 17 were male. Family members' ages ranged from 21 to 86 ($M = 54.33$, $SD = 14.43$) for the entire sample. A one-way analysis of variance with age as the dependent variable revealed no significant age differences among whites, Latinos, and blacks ($F [2, 54] = 2.04$; $p > 0.05$). Family members' levels of educational and occupational attainment were also assessed. Educational attainment was rated on a 7-point scale ranging from 1 = advanced degree to 7 = below grade 8. An ANOVA indicated that there were educational differences among ethnic groups ($F [2, 54] = 4.46$; $p < 0.05$). Subsequent post hoc analyses using Tukey HSD revealed that whites ($M = 4.65$; $SD = 1.18$) had significantly higher levels of education than Latinos ($M = 3.33$; $SD = 1.59$; $p < 0.05$).¹ Occupational differences were examined by grouping them into the following five categories: professional/skilled, blue collar unskilled, homemaker, retired, and unemployed or disabled. χ^2 Analysis of the groupings revealed no ethnic differences on relatives current levels of employment ($\chi^2 [8, N = 56] = 15.4$; $p > 0.05$).

To meet eligibility requirements, participants must have had an ongoing relationship with the patient and must have been in regular face-to-face contact with the patient for 1 or more hours per week over the preceding year. An attempt was made to interview the relative most involved in the patient's care (e.g., generally a parent or spouse). In a few cases, this person was unavailable or unwilling to be interviewed, and another relative (who also met the criteria for at least 1 h/wk contact with the patient) was substituted. In 95% of cases, this was a first-degree relative, but in the remaining cases, it was a more distant relative (e.g., uncle) or live-in significant other.

Procedure

Patients who were in treatment at various participating hospitals and clinics were informed about this study primarily by their clinical case managers. Patients willing to have their relative participate in the study were contacted, and a brief phone screening interview was conducted to rule out participants who did not appear clearly to meet study criteria. Assessments occurred in the home of the patient or relative, in the hospital or clinic where patients received psychiatric services, or at the University of Massachusetts Boston. Due to concerns about variations in reading ability, all measures were administered in interview format.

Language and Translation of Measures

Three of the four interviewers were fully proficient in Spanish. Latino participants were given a choice of completing the assessments in either English or Spanish. Seventeen of the 21 Latino family members chose to conduct their interview in Spanish. Translation of measures used an editorial board approach, which is considered a more effective alternative to translation-back-translation (Geisinger, 1994). In line with this procedure, the measures were first translated into Spanish by a native Spanish speaker of Cuban descent. The original translator then met with an editorial board, which included a native Spanish speaker of Honduran descent, a native speaker of Mexican descent, and the principal investigator of the project, Amy Weisman, a nonnative Spanish speaker with extended work and personal experience in Spanish-speaking countries (e.g., Cuba, Spain, Mexico) and cities in the United States where Spanish is widely spoken (Los Angeles, New York, Miami). Each member of the board carefully reviewed the Spanish translation and compared it against the English version in private. This was followed by a group meeting in which the panelists and the original translator discussed discrepancies and reconciled all differences and concerns with the translation. An attempt to develop the most language-generic version of the protocol was made. That is, all panelists needed to agree that the language was clear and understandable in their own within-group and that the instruments tapped the intended construct in each Latino subgroup.

Measures

FMSS-CD

Communication deviance was assessed from the FMSS. The FMSS is a brief audiotaped procedure that is frequently used to measure EE. Family members were instructed to speak about the patient for 5 minutes, uninterrupted, describing what kind of person he or she was and how the two of them got along together. CD was coded from the transcripts using an adaptation of Velligan's Communication Deviance Coding Manual for coding family confrontations (1985; Velligan et al., 1990), which is designed for use with speech samples. The following eight deviance codes were rated: (1) abandonment, abruptly ceased, or uncorrected remarks; (2) unintelligible remarks; (3) contradictions, denials, or retractions; (4) ambiguous referents; (5) extraneous questions and remarks; (6) tangential, inappropriate responses or

remarks; (7) odd word usage/odd sentence construction; and (8) reiteration. CD was assessed as a continuous variable using this measure. The total score is based on a frequency count of each time these deviance codes occur.

Three coders were trained to reliably rate CD using Velligan's CD coding system (Velligan et al., 1995). Reliability was assessed on 10 transcripts with the first author, Jennifer Kymalainen (JK), serving as the criterion rater. Using this system, the three coders demonstrated CD intraclass coefficients of .97, .76, and .68 with JK, respectively.

CFI-CD

We also assessed CD using an existing method rated from the CFI to evaluate the construct validity of the new method. This CFI-CD scale (Cole et al., 1986, 1993) measures the presence of CD as a continuous variable on four levels: absent, mild, moderate, and severe. CD is rated from the opening passages of the CFI. The opening passages of the CFI were all transcribed for coding. A low-CD passage (rating of 0) includes clear and understandable responses, a mild-CD passage (rating of 1) is clear but requires some clarification, a moderate-CD passage (rating of 2) is understandable only with substantial clarification, and a high-CD passage (rating of 3) contains highly unclear statements. CD coders were trained for interrater reliability. Separate coders rated the FMSS-CD and the CFI-CD.

Reliability assessments of CFI-CD were conducted across 10 cases with three raters applying the CFI-CD coding system (Cole et al., 1993). Coders demonstrated intraclass coefficients of .96, .92, and .85 with the criterion coder (JK) using this method.

EE

Expressed emotion was rated for use in a prior study (Weisman et al., 2005) based on the CFI, which is currently the most widely used instrument for assessing EE (Kavanagh, 1992). Relatives who made six or more critical comments ($N = 10$), who expressed any type of hostility ($N = 10$), or who scored 4 or higher on a scale of EOI ($N = 6$) were rated as high EE. Seven relatives met criteria for high EE based on more than one dimension. All other relatives who did not meet these criteria were designated as low EE ($N = 36$). In the present study, two coders who had successfully completed a CFI training course at UCLA rated EE from the CFI. At the end of the training course, both coders demonstrated interrater reliabilities above .80 with the trainer on five practice tapes across key rating scales (criticism, EOI, hostility, and overall EE). The two raters also corated five CFIs from this study to assess their rater reliability with one another. On these tapes, they achieved interrater reliability above .80 on each of the EE dimensions and had 100% reliability for overall EE (high EE versus low EE) with one another.

RESULTS

EE and CD

In line with hypotheses, a point biserial correlation revealed a significant, albeit modest, association between CD

(as rated from the FMSS) and EE (as rated from the CFI; $r = .25$; $p < 0.05$). Consistent with hypotheses, high levels of CD were associated with high rates of EE.

In this study, we also evaluated the relationship of CD (as rated from the FMSS) to the different subscales of EE (as rated from the CFI). Pearson correlation coefficients revealed a significant correlation between CD and the number of critical comments assessed during the CFI ($r = .31$; $p < 0.05$). No significant correlations were found between the CD and EE-EOI subscale, nor between CD and the hostility subscale ($p > 0.05$ for both).

CD and Ethnicity

To evaluate the relationship between CD and ethnicity, an analysis of covariance was performed, controlling for number of lines of speech. The independent variable, family member ethnicity, included three levels: whites, Latinos, and blacks. Total amount of CD was the dependent variable. Number of lines of speech was added as the covariate. The analysis of covariance revealed ethnic differences in the total level of CD (as rated from the FMSS; $F [3, 54] = 6.84$; $p < 0.01$). Bonferroni-corrected post hoc pairwise comparisons showed that whites ($M = 2.89$; $SD = 2.12$) displayed significantly more CD than did Latinos ($M = 1.27$; $SD = 1.35$; $t = 1.61$; $p < 0.05$); blacks ($M = 3.22$; $SD = 2.18$) were also found to display more CD than Latinos ($t = 1.95$; $p < 0.01$). No significant difference was found between whites and blacks on total amount of CD ($t = .34$; $p > 0.05$).

Assessment of a New CD Measure

As hypothesized, a Pearson correlation coefficient revealed a significant association of CFI-CD with FMSS-CD ($r = .39$; $p < 0.01$). While the measures are significantly correlated, it is important to point out that the association is only moderately strong.

Qualitative Content Analysis

The content analyses reported in this section are based on the verbatim transcripts of the FMSS in which CD occurred. For white family members, there were a total of 18 (out of 20) cases in which CD occurred. In these transcripts, whites tended to demonstrate instances of CD around two primary areas:

(1) Lack of independent functioning. Ninety-four percent of white relatives ($N = 17$) made at least one CD statement addressing issues such as the patient's lack of self-sufficiency, initiative, control over his/her life, autonomy, and achievement and goal-directed behavior. For example, in the following passage, the relative had been complaining about the patient's inability to complete college and get a job, and how this impacted the relative's own ability to function: "I woulda I, I, I work now, I couldn't work before, I had to be here all the time. She did graduate from Lawrence High School last year. And she isn't, she tried going to college at Northern Essex community college" (reiteration, abandoned, abruptly ceased, uncorrected remarks).

(2) Concern/complaint about the troublesome schizophrenia symptoms. Eighty-nine percent of white relatives ($N = 16$) made at least one statement about the troublesome symptoms

of the patient when discussing a topic in which CD occurred. In the following passage, the relative expressed annoyance over the patient's poor hygiene and the burden of constantly needing to remind him to keep himself clean: "Um I have to sometimes keep up on his hygiene. And tell him he has to keep his wash up cause he'll let it go for months and months and even if wears the clothes and uh I tell him when he goes out with me he has to shave" (odd word usage/odd sentence construction).

For blacks, there was a total of 16 (out of 16) cases in which CD occurred. These transcripts indicated that blacks tended to exhibit CD most when talking about two primary areas:

(1) Difficulty accepting and/or distress about not recognizing the patient's mental illness earlier, wanting to have helped more, concern about helping the patient and uncertainty about how to help the patient. Ninety-four percent of the black relatives ($N = 15$) made at least one CD statement falling in this category. In the following passage, the relative expressed distress over wanting to help but being uncertain of how to assist: "And um . . . it was hard at first 'cause you see a person's personality change like that and you don't . . . before she got sick I never knew anything about mental illness so we thought actually at first it might have been drugs or something mixed up with it"; "We did what we could. But it was, seemed like it wasn't nothing we could because we didn't know what to do at that time. And uh, so until she just kept, she just ran away from home 'cause she couldn't accept the fact that she was sick" (e.g., abandoned, abruptly ceased comments, idea fragments).

(2) Concern regarding decline in social functioning and symptoms causing interpersonal difficulty. Eighty-one percent of black relatives ($N = 13$) made at least one such statement. In the following transcript, the relative expressed a lot of concern that the patient could no longer engage in social activities: "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" (e.g., odd word usage).

For Latinos, there were a total of 14 out of 21 cases in which CD occurred within the FMSS. CD statements of Latinos tended to target the following two primary areas:

(1) Concern about symptoms and the prevention of relapse. Ninety-three percent of Latino-American relatives ($N = 13$) made at least one CD statement falling in this category. For example, the following passage reflects the family member's concern over preventing relapse: "What I wish for the most is that he recover, and that he doesn't have another relapse, and that he doesn't have another relapse like the one he just had because when he relapses, he was in the hospital for one month and it hurt me much that relapse that he had, because even I got a little sick over seeing how he relapsed and was in the hospital" (e.g., reiteration of words/phrases).

(2) Concern regarding interpersonal aggressiveness and the desire to maintain harmony in the home. Eighty-six percent of Latino relatives ($N = 12$) made at least one CD statement of this nature. In the following passage, the relative expressed distress over the patient's 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" (e.g., reiteration of words/phrases).

DISCUSSION

This study examined the relationships among EE, CD, and cultural factors in a sample of 57 family members of patients with schizophrenia. As expected, high levels of CD were found to be significantly (though not strongly) associated with high rates of EE. This may suggest that EE, in part, reflects a conceptual difficulty in conveying thoughts in a clear and supportive manner and/or that the intensity of holding high EE affective attitudes results in greater difficulty in communicating thoughts coherently. Longitudinal studies that assess EE and CD over time are necessary to determine the temporal associations linking these constructs.

It is important to note that CD seems most strongly linked to the high EE category of criticism rather than to EOI or to hostility. As Jenkins and Karno (1992) suggest, EE may actually be a measure of the meaning that relatives make of behaviors that are seen as violating culturally endorsed social rules and therefore warranting criticism. Culture may thus play an important role in creating the content or targets of criticism. Following, it may be that family members who are high in CD may have more difficulty expressing their thoughts to patient relatives in an understandable and noncritical manner. CD may thus be an underlying attribute of critical high EE comments, in that disrupted communication may lead to confusing interactions that can result in critical responses particularly around issues of social norm violations.

With regard to ethnic differences in CD, whites showed greater levels of CD as compared with Latinos. We are not sure why our finding of higher levels of CD in whites contradicts the previous finding by Doane et al. (1989) of no ethnic differences in CD between these two ethnic groups. However, this finding is not totally surprising in that high EE has been found to correlate with high CD (Miklowitz et al., 1986), and whites have been found to show greater rates of high EE than have Latinos (Weisman et al., 2005a). Future research is needed to clarify why the finding by Doane et al. (1989) is discrepant with the present study finding. The current study is also the first that we are aware of to examine the rates of CD in black family members. Blacks had rates of CD similar to those of whites, and significantly greater rates than those of Latinos. Furthermore, this is the first study to assess cultural patterns in the content of CD statements, and therefore moves research beyond simple ethnic comparisons in severity of CD.

A content analysis revealed that white family members thought processes tended to break down most when discussing issues related to a lack of autonomy, self-sufficiency, and/or the deterioration of goal-directed initiative and traits. These symptoms/behaviors may be stressful to white relatives and cause communication breakdowns, because they violate

the Anglo-American value of independence and are believed to reflect a lack of ambition, self-sufficiency, and motivation on the part of the patient.

Latino family members tended to exhibit lower levels of CD, in general, compared with blacks and whites. However, when Latino family members did display CD, a content analysis indicated that criticism/concerns tended to focus on distress over interpersonal aggressiveness on the part of the patient as well as concerns over not feeling in tune with one another, or not working effectively together. In other words, while Latino family members did not express high levels of CD, when breakdowns in thought processes and speech patterns did occur, Latino participants tended to be discussing patient behaviors that disrupted family relations and functioning. Latinos tend to be very interdependent and family-oriented (Weisman et al., 2005b); thus, these topics may cause stress to family members, which may in turn impair their thought processes and speech.

For blacks, the qualitative analysis revealed that family members' thought processes broke down most often when discussing issues surrounding the deterioration of social functioning of the ill relative. Blacks also tended to exhibit a considerable amount of concern or distress around not having recognized signs of the illness sooner. Furthermore, black family members expressed the wish that they had done more to help when symptoms first emerged, even if the family did not recognize symptoms of illness at the onset. This may be due to the fact that in many African and African-American societies, the concept of self is embedded in collectives and reflects clear participation in the social order and communalism (Allen and Bagozzi, 2001; Markus et al., 1997). Collectivist cultures place a great deal of emphasis on the goals and well-being of the group or community. It is likely that black family members become distraught and disorganized in their speech when ill family members engage in behaviors that violate the family's interdependent functioning.

Results of this study suggest that the FMSS may be a new, easy-to-administer, and valid method of assessing CD. As hypothesized, this method demonstrated a moderately strong association with the CFI (an already established CD rating system). However, while the measures are significantly correlated, it is important to point out that the association is only moderately strong. Thus, while the FMSS and the CFI are both likely measuring aspects of CD, the two measures also appear to each be tapping somewhat distinct elements of this construct.

CONCLUSION

In summary, findings from this study suggest that family members who express high-EE attitudes are more likely to communicate in an unclear and confusing manner. Family members may also have more difficulty in communicating coherently when discussing behaviors that violate important culturally sanctioned values and norms. Finally, our results demonstrate that the FMSS may offer a valid, new, and efficient method of assessing CD. However, given the relatively modest association between the FMSS and the CFI methods of assessing CD, it will be necessary in future

research to clarify specifically how these two measures overlap and whether each method offers unique information about relatives' thought processes.

Given our small sample sizes when subdividing the participants by ethnicity, we see this mainly as a pilot study and, until replicated, the results should be viewed tentatively. It is also important to point out that in this study, no differentiations were made among Latinos from diverse cultural backgrounds. Despite historical and cultural ties with one another, Latinos do represent a heterogeneous group of people who come from different countries with different cultural and sociopolitical histories. Thus, some variability in beliefs, values, and reactions to mental illness among family members from different Latino groups (e.g., Cuban-Americans, Puerto Rican-Americans, Dominican-Americans) may be expected to occur. Future studies that include larger samples of Latinos from different countries are needed to allow for the exploration of differences in EE and CD patterns within Latinos. Similarly, studies that examine EE and CD patterns in Asians and other ethnic groups are needed.

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END NOTE

¹Education was not found to relate to EE ($r = -.173$) nor CD, regardless of rating method (FMSS-CD/ $r = .066$; $p > 0.05$; CFI-CD/ $r = .096$; $p > 0.05$). Thus, education is excluded from further analyses.