

Expressed emotion and interdependence in White and Latino/Hispanic family members of patients with schizophrenia

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Abstract

This study examined associations among ethnicity, expressed emotion (EE) and interdependence in a sample of 41 Latino/Hispanic and White family members of patients with schizophrenia. EE was assessed using both the Camberwell Family Interview (CFI) and the Five Minute Speech Sample (FMSS). These measures were found to be highly concordant for rating EE. However, the CFI appears to identify high EE more often than does the FMSS. Whites were designated as high EE significantly more often than were Latinos/Hispanics, regardless of assessment method. Using the interdependence subscale of the Self-Concept Scale, we found a strong trend for Latino/Hispanics to report a more interdependent self-construal than did Whites. However, contrary to expectations, interdependence was not found to mediate the relationship between ethnicity and EE. EE and interdependence may both play a role in the better course of illness observed for patients from traditional cultures. However, these two constructs may relate to patient functioning through different mechanisms.

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1. Introduction

High expressed emotion (high EE) by close family members towards a mentally ill person (marked by critical, hostile, and/or emotionally over-involved attitudes during a clinical interview) is now widely recognized as a reliable predictor of poor prognosis for patients with schizophrenia (see [Butzlaff and Hooley, 1998](#); or [Kavanagh, 1992](#), for a review). Although the relationship between high EE and poor outcome has been replicated across diverse cultural groups (i.e.,

British, Mexican–American, and Asians from India), cultural research on Expressed Emotion (EE) is beginning to expose the multi-dimensionality and cultural complexity of this construct ([Weisman, 2005](#); [Hashemi and Cochrane, 1999](#)). For example, EE patterns vary significantly across countries. High EE attitudes have been found to be less prevalent in Spain, India, and Italy than in the United States and England ([Kavanagh, 1992](#)). EE patterns have also been found to differ between cultural groups residing within the same general area. For instance, comparing across studies conducted in the Los Angeles area, [Vaughn et al. \(1984\)](#) found rates of high EE in a sample of Whites to be 26% higher than those found by [Karno et al. \(1987\)](#) in a

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sample of Mexican–Americans and 60% higher than those found by Telles et al. (1995) in a very unacculturated sample of Mexican and Central Americans.

In general, international studies indicate more frequent occurrences of high EE in family members from less traditional societies (e.g., US) versus more traditional ones (India; see Weisman, 2005, for a review). In the current paper, we follow Smith (2004) in using the term “traditional” to describe cultures that are tradition oriented. These societies tend to have fairly strict and clear codes for behavior, and to have a worldview that emphasizes harmony and cooperation with others over individual needs and desires.

Cultural differences observed in family members’ EE patterns may shed light on a more generalized observation for schizophrenia made by the World Health Organization (WHO). Based on their multi-site international pilot and later follow-up studies on schizophrenia the WHO (1975, 1992) observed that patients from many nonwestern traditional societies demonstrate a quicker and more complete recovery than do patients from more industrialized societies. This may, in part, be accounted for by less negatively charged home environments for patients in these societies.

Why is it that family members from traditional societies express fewer negatively charged emotions towards their mentally ill loved ones? Some evidence (e.g., Weisman and López, 1997; Weisman et al., 2003) suggests that it may be related to a cultural pattern whereby people from traditional cultures hold more external, less blameworthy, causal attributions towards patients. However, attributions are unlikely to fully account for cultural differences in EE and course of illness.

One important value that may impact reactions towards illness in close relationships is “interdependence” (also referred to as collectivism or socio-centrism) which refers to the degree to which individuals view themselves and their identities as bounded and defined by their close relationships and the extent to which they are willing to sacrifice for other members of their group. A growing body of research indicates that, when compared to people from less traditional societies, people from more traditional cultural groups appear to more strongly endorse interdependent values, and give group goals a higher priority than individual goals (Masset, 2000; Kim et al., 2001). People with more interdependent self-construals have also been found to be less conflictual and more attentive to maintaining group cohesion (Oetzel, 1998; Kim et al., 2001). In contrast, family members who are rated as high EE have

been found to engage in increasingly more argumentative interactions (Hahlweg et al., 1989). In the present study it is proposed that strong collectivistic values including a feeling of interdependence with others may lead individuals from traditional societies to have greater empathy for group members suffering from difficulties including mental illness. In turn, this may lead to a stronger desire to suppress conflictual or critical (high EE) attitudes toward them.

1.1. Study aims and hypotheses

The purpose of this study is to examine ethnic differences in EE and interdependence. Specifically, using two methods (the Camberwell Family Interview (CFI) and the Five Minute Speech Sample (FMSS)) this study will directly examine differences in the base rates of high EE between White and Latino/Hispanic¹ relatives of patients with schizophrenia. Improving upon previous studies, we will examine ethnic differences in EE using the same group of raters during the same period of time. This study will also examine cultural patterns in the value of interdependence and will assess whether ethnic differences in interdependence mediate the expected cultural differences in EE.

In summary, the following specific hypotheses will be tested:

- 1) Whites will be rated as high EE significantly more often than will Latinos/Hispanics on both the CFI and the FMSS.
- 2) The CFI and the FMSS will be concordant for rating EE.
- 3) Latinos/Hispanics will endorse higher levels of interdependent values than will Whites.
- 4) Relatives rated as low EE will endorse more interdependent values than will relatives rated as high EE.
- 5) Interdependent values will mediate the expected relationship between EE and ethnicity as depicted below:

Ethnicity → Interdependence → EE

¹ In this article, the terms “Latino” and “Hispanic” are both used (Latino/Hispanic) to refer to individuals in the United States who have come or have ancestry from Mexico, Puerto Rico, the Dominican Republic, Cuba, El Salvador, Nicaragua, Colombia, Venezuela, Ecuador, Honduras, and other Latin American countries. We recognize that neither term is accepted by all groups, and even within subgroups there are differences of opinions. And some individuals prefer no collective term (neither Hispanic nor Latino) but instead prefer to be identified by country of origin or ancestry (e.g., Mexican, or Cuban), as both terms fail to identify significant within group racial and cultural variability and the influence of indigenous people (Sue and Sue, 1990).

2. Methods

2.1. Participants

The study sample consisted of 41 relatives (21 Latino/Hispanic and 20 Caucasian) of patients drawn from a larger project that examined cultural patterns in family member's reactions to schizophrenia. Family members ranged in age from 21 to 86 ($M=53.76$; $S.D.=14.09$) and 68% were female. Patients ranged in age from 19 to 63 ($M=37.88$; $S.D.=11.92$) and 56% were male. All patients were diagnosed with schizophrenia or schizoaffective disorder based on psychiatrist report using DSM-IV criteria. To be eligible for study participation, patients identified a "close" family member with whom they were in at least 1 h per week, face-to-face, contact. Relatives included: 27 parents, 5 siblings, 3 children, 4 spouses and 2 family equivalents (1 long-term significant other and 1 roommate/lifelong friend). Participants were recruited from three cities, Boston, Los Angeles, and Miami. See Table 1 for a breakdown of Latino/Hispanic participants. Refer to Weisman et al. (2005) for a more thorough description of sample characteristics.

2.2. Procedure

Patients who appeared to meet study criteria were informed of the project by their social worker or mental health care worker. The first author of this paper then contacted patients who expressed interest in participating, and gave them a brief phone screening interview to confirm eligibility. Participants were asked a series of questions guided by the DSM-IV to confirm their symptoms and diagnosis. Patients who received a prior diagnosis of schizophrenia or schizoaffective disorder by a qualified mental health practitioner (e.g., licensed psychiatrist, psychologist) and appeared to clearly meet DSM-IV criteria for the illness based on self-report of symptoms during the phone interview were invited to participate in the study. An assessment was scheduled for those who appeared to meet study criteria and had an

eligible family member who was willing to participate. Assessments generally occurred in the home of the patient or relative, but occasionally at an alternative site, including the University of Massachusetts or at the patient's mental health agency, whichever site was most convenient for the family.

2.3. Language and translation of measures

Three of the four assessors in this study were fully proficient in Spanish. Spanish-speaking participants were given a choice of completing the assessments in either English or Spanish. Seventeen of the family members completed the assessments in Spanish. An editorial board approach (Geisinger, 1994) was used for the translation of measures. This method accounts for the fact that there is often within group language variations, and is therefore considered a more effective alternative to translation back-translation (Geisinger, 1995). In accordance 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 that included a native Spanish speaker of Honduran descent, a Native speaker of Mexican descent, and the first author, a non-native Spanish speaker with extended work and personal experience in Spanish-speaking countries (e.g., Cuba, Spain, Mexico) and cities in the US where Spanish is widely spoken (L.A., New York, Miami). Each member of the board, working separately, carefully reviewed the Spanish translation and compared it against the English version. A group meeting followed in which the panelists and the original translator discussed discrepancies and reconciled all differences and concerns with the translation. An attempt was made to develop the most language generic version of the protocol. That is, all panelists discussed and modified discrepancies until they reached agreement that the language was clear and understandable in their own within group and that the instruments tapped the intended construct in each Latino/Hispanic subgroup.

2.4. Measures

2.4.1. Expressed emotion

EE was rated based on an audiotaped semi-structured interview called the Camberwell Family Interview (CFI). The CFI is currently the most widely used instrument for assessing EE. This interview requires approximately 1.5 h to administer and focuses on the emotional climate of the patient's home during the previous 3 months. Information is gathered regarding the events that occurred during this time and about relative's feelings toward the patient and his or her condition. Following conventional guidelines,

Table 1
Ethnic breakdown of Latino/Hispanic participants

	<i>N</i>
Mexican	5
Dominican	4
Cuban	3
Puerto Rican	2
South American	3
Central American	2
Mixed	2

relatives who made six or more critical comments, expressed any type of hostility, and/or were rated as 4 or above on a 5-point scale of emotional overinvolvement were rated as showing high EE attitudes toward the patient. All other relatives were designated as showing low EE attitudes. Two coders rated EE from the CFI. Both coders attended and successfully completed an intensive training course for scoring the CFI (one in Los Angeles, CA, led by Karen Snyder and the other in London, England, led by Christine Vaughn). Coders demonstrated inter-rater adherence with the gold standard raters above 80% on all EE dimensions. The coders also co-rated 5 of the EE tapes used in this project and had 100% agreement for rating EE (high versus low) with one another.

For convergent validation purposes and to further assess the efficiency of using a briefer method to rate EE, the Five Minute Speech Sample (FMSS) was administered. The FMSS is the second most frequently used measure to assess EE, and has been found to have good inter-rater reliability and convergent validity with the CFI (Magaña et al., 1986). This brief procedure is audiotaped and requires relatives to speak, uninterrupted, for 5 min about his/her family member, discussing what kind of person the patient is, and how the two of them get along together. The tape is then coded for ratings on criticism, emotional overinvolvement and number of positive statements. A person is considered high EE/critical if they make either a negative initial statement; an overall negative rating of the relationship; or one or more critical comments about the patient. High EE emotional overinvolvement (EOI) is based on any of the following: an emotional display during the interview; reports of self-sacrificing/overprotective behaviors; or a combination of two of any of the following: a) excessive detail about the past; b) a statement of extreme positive attitude; c) excessive praise defined as five or more positive remarks. Four coders rated the FMSS. All coders had attended and successfully completed an intensive 5-session FMSS training course for coding EE taught by Martha Tompson at Boston University. At completion of the course, all coders demonstrated an intraclass reliability coefficient with each other and with the trainer at or above 0.89 on all dimensions, including overall rating of EE (high versus low) across five practice tapes.

2.4.2. Interdependence

Interdependence was assessed from the 12-item Interdependence subscale of the Self-Construal Scale (SCS; Singelis, 1994). The SCS is formatted such that respondents are asked to indicate their agreement with scale items in a 7-point Likert-type format (1 = strongly disagree, 7 = strongly agree), with higher scores indicating

a greater interdependent self-construal. Cronbach's alpha reliability coefficient was 0.77 in this study. The Self-Construal Scale was originally designed to be a self-report measure. However, in this study all measures were administered in interview format to address concerns about variations in reading ability. Participants were read the instructions using a standardized format. Interviewers were coached to provide further explanations and examples when participants appeared to have difficulty grasping a scale item. However, interviewers were trained on how to remain neutral and instructed never to steer participants towards any particular response.

3. Results

Hypothesis 1. Consistent with study hypothesis and with previous research, ethnic differences in base rates of high EE on the CFI were found, $\chi^2(1, N=39)=4.79, P<0.05$. Whites were rated as high EE (47.4%) significantly more often than were Latinos/Hispanics (15%). Similar results were found with the FMSS, $\chi^2(1, N=39)=6.20, P<0.05$. Forty-four percent of Whites were designated as high EE, whereas only 9.5% of Latinos/Hispanics were rated as such.²

Hypothesis 2. A Phi coefficient of 0.54 revealed that the two methods of rating EE were significantly and strongly associated, indicating good concordance between the CFI and the FMSS. However, the CFI does appear to identify high EE more often than does the FMSS.

Hypothesis 3. An independent sample *t*-test using the 12-item Singelis Interdependence measure was marginally significant indicating a strong trend for Latinos/Hispanics ($M=65.40$; $S.D.=12.19$) to endorse more interdependent values than Whites ($M=59.90$; $S.D.=10.41$), $t(38) 1.54$;

² To assess whether Latinos lower levels of high EE might be a function of greater prior exposure to psychotherapy or other support related services, we analyzed data from two questions. One question asked family members whether or not they had ever received any prior family therapy or attended any support groups relating to the patient's illness (responses were recorded in a yes/no format). Eight Latino and 7 White participants responded affirmatively; $\chi^2(1, N=40)=0.11; P>0.05$. Thus, no ethnic differences were found with respect to whether or not participants received prior family treatment/support services. The second question asked about the total number of different family treatments/support groups participants had ever attended. Whites ($M=0.40$; $S.D.=0.60$) and Latinos ($M=0.43$; $S.D.=0.60$) did not differ in number of prior therapy or support services received in response to their relatives' mental illness $t(39)=-0.15; P>0.05$. Thus, it is not likely that Latinos lower rates of high EE are in response to greater exposure to psychological intervention or support services.

$P=0.065$. Cohen's (1988) delta of 0.49 indicates that the strength of this association is in the medium range. Thus, lack of statistical significance is likely a function of a small sample size.

Hypothesis 4. Two separate independent sample *t*-tests were conducted to evaluate the hypotheses that family members rated as high EE would be less interdependent in their self-construals than would family members rated as low EE. Contrary to study hypotheses, relatives rated as high EE from the CFI ($M=36.67$, $S.D.=8.42$) did not differ on interdependent values from relatives rated as low EE on the CFI ($M=36.46$, $S.D.=8.98$), $t(36)=0.07$, $P>0.05$. Similarly, relatives rated as high EE on the FMSS ($M=38.60$; $S.D.=9.00$) also did not differ on interdependent values from relatives rated as low EE on the FMSS ($M=35.68$, $S.D.=8.62$) $t(36)=0.91$, $P>0.05$. Thus, interdependence appears to be unrelated to EE.

Hypothesis 5. To assess whether the relationship between ethnicity and EE is mediated by interdependent values, Baron and Kenny's (1986) guidelines for testing mediational/moderational models were followed. According to Baron and Kenny, the following conditions must be met to demonstrate mediation: (a) variations in the independent variable must account for variations in the mediator variable in the predicted direction, (b) variations in the independent variable must account for variations within the dependent variable in the predicted direction, (c) variations in the mediator variable must account for variations in the dependent variable in the predicted direction, and (d) the relation between the independent variable and the dependent variable must be eliminated when the dependent variable is regressed on both the independent variable and the mediator (for perfect mediation) or at least significantly reduced (for partial mediation).

Baron and Kenny's (1986) first condition was only marginally supported (the independent variable, ethnicity was only marginally associated with the mediator, interdependence). While condition b was supported, Condition c was violated in that a significant relationship between the mediator (interdependence) and the dependent variable (EE), was not found. Thus, findings from this study do not support a model in which interdependence mediates the relationship between ethnicity and EE.

4. Discussion

This study replicated earlier findings (Vaughn et al., 1984; Karno et al., 1987; Telles et al., 1995) indicating

that Whites appear to have higher base rates of high EE as compared to Hispanics/Latinos. This finding occurred when rating EE using both of the two most widely used instruments for assessing this construct (CFI and FMSS). The advantage of this study over prior research is that ratings were made by the same research team and during the same time frame. Thus, ethnic differences in the base rates of high EE are unlikely to be a function of methodological differences in assessment procedures or in scoring. Nor can differences be attributed to cohort effects because White and Latino/Hispanic participants were all sampled at roughly the same point in time. Given the strong link between EE and outcome, our findings in conjunction of those of colleagues (Vaughn et al., 1984; Karno et al., 1987; Telles et al., 1995) suggest that the more benign course of schizophrenia in traditional societies may be a function of relatives holding more favorable attitudes and expressing fewer negatively charged emotions towards their mentally ill loved ones.

Consistent with Magaña et al. (1986), our results indicate good concordance between the CFI and the FMSS methods of evaluating EE. However, the CFI appears to capture high EE more often than the FMSS. Unfortunately, with this cross-sectional study we are unable to determine whether one method is more valid than the other (e.g., yields more true positives or true negatives). However, our data may suggest that, when sample sizes are large, the FMSS may be a more efficient and cost effective method for assessing EE. However, with small sample sizes, particularly in Hispanics or other ethnic groups who tend to have lower base rates of high EE, the CFI may yield more useful data, by offering a greater range of high and low EE scores.

In this study there was a strong trend for Latinos/Hispanics to endorse more interdependent values than did Whites. That is, while not significant, compared to Whites, Latinos/Hispanics seem to put the needs of close others above their own needs more often, and they appear more likely to strive to maintain harmony with others, even when their own personal attitudes and beliefs are inconsistent with that of the group. However, contrary to expectations, interdependent values did not account for ethnic differences in the base rates of high EE. In other words, while interdependent values may relate to the better course of illness observed from patients from traditional cultures, these values do not appear to mediate the link observed between ethnicity and EE.

EE and interdependence may both play a role in the better course of illness observed for patients from traditional cultures. However, these two constructs may relate to patient functioning through different mechanisms. For

example, for Whites, being the frequent recipient of critical, hostile, or overly enmeshed attitudes/behaviors from close relatives may serve as a significant stressor, thereby exacerbating symptoms and illness course in White patients with schizophrenia. On the other hand, strong interdependent values in Hispanic/Latino families (and in families from other traditional cultures) may serve as a protective force for patients, by offering them a meaningful role and place in the family. Interdependent values in the family may also result in better functioning for Latino/Hispanic patients because family members may be more willing to make personal sacrifices in ways that directly help the patients to better manage his/her illness (e.g., driving the patient to mental health appointments, reminding him/her to take his medication). This point should be taken with some caution however. While the association between ethnicity and interdependence was moderately strong, the relationship only approached significance in this study.

4.1. Study limitations and future directions

This study has several shortcomings. For example, the sample size is relatively small and the design is cross-sectional, with no assessment of patient psychiatric functioning over time. Thus, the results should only be viewed as preliminary. In future research, it will be important to replicate study findings with larger samples and to directly assess the link between relatives' interdependent values and course of illness for patients with schizophrenia.

Another limitation is that we did not conduct a formal entrance interview with patients to verify their psychiatrists' report of schizophrenia. Fortunately, however, schizophrenia is one of the Axis I DSM-IV mental disorders with the strongest inter-rater consensus among professionals, with reliability of diagnoses comparable to many medical disorders (Owens, 2000; Bertelsen, 2002). Thus, we feel reasonably confident that all of our participants met the study criteria. Nonetheless, the methodology of future studies in schizophrenia will be strengthened by screening study participants with a psychometrically validated diagnostic entrance interview, such as the Present State Exam (PSE; Wing et al. 1974) or the Psychosis section of the Structured Clinical Interview for the DSM-IV (SCID-IV patient interview; First et al. 1995).

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