

Longitudinal Study of the Stability of Expressed Emotion in Families of Schizophrenic Patients: A 9-Month Follow-Up

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The goal of this paper is to study attitude stability in schizophrenics' relatives, as reflected in the expressed emotion (EE) construct. For this purpose, the EE of 32 families of schizophrenic patients was assessed by means of the Camberwell Family Interview (CFI, Brown, Birley, & Wing, 1972; Vaughn & Leff, 1976b), both initially and at a 9-month follow-up. The results obtained indicate that EE is stable in fathers, whereas in mothers, high EE seems to be influenced by stressful situations, because, when assessed in crisis, EE was not stable, but in-between crises, it was. These results are discussed, as well as their relevance in family interventions aimed at reducing EE, where clinicians should take into account that mothers' EE may drop because of its instability, and not because of the intervention. On the other hand, clinicians should focus especially on fathers, because their high EE is constant, which is stressful to the patient during the follow-up.
Key words: expressed emotion, stability, schizophrenia, relatives

El objetivo de este trabajo es estudiar la estabilidad de las actitudes de los familiares de esquizofrénicos recogidas en el constructo emoción expresada (EE). Para ello, se evaluó la EE en un grupo de 32 familias de esquizofrénicos mediante la Camberwell Family Interview (CFI; Brown, Birley y Wing, 1972; Vaughn y Leff, 1976b)), repitiendo la evaluación a los 9 meses. Los resultados obtenidos indican que la EE es estable en los padres, mientras que en las madres parece que la alta EE está influida por las situaciones de crisis, ya que si se evalúa la EE en crisis no es estable y en los períodos intercrisis sí lo es. Estos resultados se comentan y valoran en relación con las intervenciones familiares dirigidas a reducir la EE, en las que debería tenerse en cuenta que la EE de las madres puede bajar por su inestabilidad, no por la intervención. Por otro lado, se debería incidir especialmente en los padres dado que la alta EE es constante y por lo tanto provoca estrés al paciente durante el seguimiento.
Palabras clave: emoción expresada, esquizofrenia, estabilidad, familiares

This research was supported by a grant (PS90-0096) from the Spanish Ministry of Education and Culture.

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The attitudes of the relatives toward patients, included in the construct *expressed emotion* (EE), are an important predictor of relapse in schizophrenic patients (Brown, Birley, & Wing, 1972; Brown, Monck, Carstairs, & Wing, 1962; Brown & Rutter, 1966; Rutter & Brown, 1966; Vaughn & Leff, 1976b). Cross-cultural studies have confirmed the association of high EE and relapse in schizophrenic patients (Arévalo & Vizcarro, 1989; Cazzullo, Bressi, Bertrando, Clarici, & Maffei, 1989; Gutiérrez et al., 1988; Hashemi & Cochrane, 1999; Karno et al., 1987; Leff et al., 1987; Moline, Singh, Morris, & Meltzer, 1985; Pellizzer, Barrelet, & Ammann, 1987; Santos, 1995; Vaughn, Snyder, Jones, Freeman, & Falloon, 1984). Bebbington and Kuipers (1994) revised 25 studies of EE as a predictor of relapse in schizophrenics and found that 50% of patients in high EE environments relapsed, compared to 21% in low EE environments.

The temporal stability of EE and the attitudes that conform this construct are one of the problems that, although taken into account in some of the EE projects (Brown et al., 1972; Dulz & Hand, 1986; Hogarty et al., 1986; Leff, Wig, Bedi, & Manon, 1990; McCreadie, Robertson, Hall, & Berry, 1993; Tarrier, Barrowclough, Porceddu, & Watts, 1988), has not been studied in depth. There is a recurring but unsolved issue: Does EE reflect a stable and fixed pattern of relatives' attitudes, or is it a temporary state that appears in association with the patient's mental state?

Brown et al. (1972), in a study of EE at discharge and at the 9-month follow-up, found that Criticism was unstable, whereas Emotional Overinvolvement remained stable. This observation highlights the difficulty of studying the EE stability index, because the attitudes of the subscales (Criticism, Emotional Overinvolvement, and Hostility) are likely to change at different times.

On the other hand, it seems that the issue of EE stability is more evident when EE is assessed in moments of crisis than when the patient is symptomatically stable (Dulz & Hand, 1986; Leff et al., 1990; Tarrier, Barrowclough, Vaughn, et al., 1988). Leff, Kuipers, Berkowitz, Eberlein-Vries, and Sturgeon (1982) observed that 2 out of every 8 relatives changed spontaneously from high to low EE in a 9-month period. The observed change was in Criticism, similarly to the study by Brown et al. (1972). Dulz and Hand (1986) observed that EE shifted from high to low in 50% of the relatives. These authors reported that the variation could be due to a regression effect; however, they showed that only 1 out of 6 people who were at first low in EE, shifted to high 12 months later. Hogarty et al. (1986) found that 11 out of 44 high-EE families became low in a 12-month period. Tarrier, Barrowclough, Porceddu, et al., (1988) observed that 7 out of 16 families changed from high to low EE in 9 months. Fevre, González, and Lendais (1989) found reasonable evidence of stability in EE, because most of the 35 relatives of the 22 schizophrenic patients studied remained stable. These authors reported that very few of

the observed changes were due to the patient's symptomatology. Leff et al. (1990) found that 79% of the relatives changed from high to low EE in a 1-year period.

These results lend weight to Kuipers and Bebbington's (1988) idea that states that relatives could be classified into three groups: Those who are low in EE and who cope adequately with disease; those low in EE and who turn high at times of crisis; those who are high in EE in a stable way. EE stability should also be assessed taking into account the change in relatives' coping strategies, as well as patient's symptomatology and behavior.

McCreadie et al. (1993), in their study of EE stability, outlined three categories: High EE, Low EE, and Fluctuating EE. In a 5-year follow-up, these authors concluded that 63% of the studied relatives were stable in EE. Sczufca and Kuipers (1998) found 63.9% stability at 9 months.

The purpose of this paper is to study EE stability at a 9-month follow-up in a group of families with a schizophrenic son or daughter. We wished to test the following hypotheses: (a) in most cases, EE will remain stable at the 9-month follow-up; and (b) EE will be more stable if the patient is assessed when not in crisis than when in crisis.

Method

Participants

Participants were 32 schizophrenic patients and their relatives. Twenty-eight patients lived with both parents, 3 with only their mothers, and 1 with his father. One of the fathers could not be assessed at the 9-month follow-up. In this study, "family" is defined as the father, the mother, and the schizophrenic son or daughter.

Selection criteria were: (a) individuals with a diagnosis of schizophrenia based on the criteria established by the *Diagnostic and Statistical Manual of Mental Disorders*, 3rd edition, revised (American Psychiatric Association, 1987); (b) age between 15 and 35 years; (c) single persons living with their parents; and (d) not having previously received any family interventions. The patients were recruited from two hospitals and two Mental Health Centers of the Basque Health Service (Osakidetza) during 1997 and 1998. The families were informed that the study was supported by the Ministry of Education and Culture.

The schizophrenic patients studied, 24 men and 8 women, with a mean age of 25 years (range 17-34), usually only possessed a primary educational level or incomplete technical studies, and were mostly unemployed.

The clinical characteristics of the patients were: mean age at onset, 18.9 years ($SD = 3.1$); mean illness duration, 75.2 months ($SD = 45.7$); mean number of hospital admissions, 2.4 ($SD = 3.2$); mean stay in hospital, 3.0 months ($SD = 4.9$). With regard to the characteristics of the schizophrenia, and based on the *DSM-III-R* (1987), 25%

were disorganized, 46.8% paranoid, 15.6% undifferentiated, and 12.5% residual. As for the course of schizophrenia, 87.5% were chronic and 12.5% subchronic. The onset was insidious in 65.6% of the schizophrenics and sudden in 34.3%. Of these patients, 46.8% were not in crisis and 53.2% were in crisis.

Typically, the fathers, whose mean age was 58 years (range 48-84), had only a primary educational level and were blue-collar workers. The mothers, whose mean age was 55 (range 47-64), also had a primary educational level and most of them were housewives. Nearly all of the families (96.9%, $n = 31$) lived in urban areas and 68.8% ($n = 22$) were of average socio-economic level. The mean number of family members was 5.2, and of members who lived at home, 4.3.

Instruments and Procedure

Patients' Clinical State

DSM-III-R (1987). The *DMS-III-R* criteria were assessed by means of an audiotaped interview. These criteria had also been assessed previously by the psychiatrist who referred the patient to us.

Brief Psychiatric Rating Scale-Expanded (BPRS-E; Lukoff, Liberman, & Nuechterlein, 1986). All patients were rated with this scale upon discharge from the hospital. The BPRS-E consists of 24 items. The manual (Lukoff, Nuechterlein, & Ventura, 1986) presents a semistructured interview to gather information on the 24 items, the operationalized definitions of the content of each item, and its score on a 7-point Likert-type scale. A score of 1 indicates that the symptom is not present; 2-3 indicates that the intensity of the symptom is not pathologic (*symptom present to a slight or very slight degree*); and a score of 4-7 reflects pathological intensity of the symptom at four levels (*moderate, moderately severe, severe, and extremely severe*). Ratings were compiled on the basis of brief individual interviews conducted by members of the research group. The raters had been formally trained in the use of the BPRS prior to the study, and inter-rater reliability for BPRS total scores was $r_{xy} = .88$.

Families' Expressed Emotion

Camberwell Family Interview (CFI; Brown et al., 1972; Vaughn & Leff, 1976b). Once the patients had satisfied the *DSM-III-R* criteria for schizophrenia, their parents were contacted and asked to participate in the study. If they agreed, the Camberwell Family Interview was individually administered to them. By means of the CFI, family EE, fathers' EE, and mothers' EE were studied. The CFI is a 1-hour, semistructured, audiotaped interview for use with the patient's key relatives. The content of the interview focuses on the onset and development of the patient's most recent schizophrenic episode and the impact of this episode on the

family environment during the 3 months prior to the patient's hospital admission. The number of critical comments made by the relative, or statements of dislike or resentment of the patient are counted by a trained judge following the interview. In addition, ratings are made on the degree to which the relative expresses emotionally overinvolved or markedly protective and overconcerned attitudes toward the patient, both as they are manifested during the interview and through reports provided by the relative of incidents occurring outside the interview. These ratings are based on a 0 (*absent*) to 5 (*extremely high*) scale.

EE is a construct whose measurement depends not just on content, but on the assessment of vocal attributes: speed, pitch, and emphasis of voice. A variety of ratings can be made, but those found to be predictive of schizophrenia encompass two distinct features of relatives, that of criticism and hostility, and that of emotional overinvolvement.

Criticism (CC) is defined as the dislike or disapproval of a person's behavior or characteristics: "He never stopped smoking and smoking and smoking." Hostility (H) is a more frank expression of these feelings: "I wish he was dead." As hostility is rarely present without criticism, it has relatively little value as an independent predictor. Both these ratings can be observed across the whole range of relatives, and reflect a difficulty in tolerating, and sometimes in understanding, the situation.

Emotional overinvolvement (EOI) comprises aspects of overprotection, self-sacrifice, and emotional upset. It can be compared to treating the patient rather like a child, with consequent inappropriate levels of concern displayed by the relative: "They thought I was the patient." "I'd lost so much weight, I couldn't sleep for worry." The patient is then perceived as less competent and more vulnerable, resulting in a reversal of the process of adult individuation and separation.

Positive Remarks is a quantitative scale to record expressions of value or appreciation: "He is a good boy." Warmth is a global scale that ranges from 0 to 5 and rates displays of affection and interest.

Following administration of the CFI, the parents' taped interviews were rated by four judges who had previously completed a 2-week EE-coding workshop conducted by Christine Vaughn. By the end of the program, the raters had to achieve minimum reliability coefficients of $r_{xy} = .80$ for ratings of number of critical comments and positive remarks and for judgements of high- versus low-EE status and high-versus low-EOI status, EOI and H ($\phi = .80$) and warmth ($r_s = .80$) compared with sample-tape criterion ratings, established prior to the training program. Thus, all of the tapes in the present study were coded by judges who had attained this level of reliability by the end of the training period. Although all team members achieved the reliability required by Vaughn, there were some difficulties referring to specific aspects of the Spanish culture, especially when assessing EOI. Because of this, we performed an interjudge

reliability test on the raters. This analysis was performed on 20 interviews with schizophrenics' relatives, adapting the expressions and their assessment to our culture, especially as regards EOI. The interjudge reliability obtained ranged between .80 and .85 for each subscale. Specific doubts were consulted personally with Vaughn.

CFI scores of 6 or more criticisms and/or ratings of 3 (*moderately high*) or higher on EOI and/or presence of H classified a parent as high EE. Parents who did not satisfy these criteria were designated low EE (Vaughn & Leff, 1976a). A family was considered high EE when, in the case of two-parent families, either one or both parents satisfied the criteria for individual high-EE status. In the case of single-parent families, the EE status of the family was that of the individual parent.

In order to study EE stability over time, the EE index was assessed twice (initial assessment and 9-month follow-up) in the 32 families. For this purpose, we used both the total group ($N = 32$) and two separate groups: patients in crisis ($n = 17$) and not in crisis ($n = 15$) at the initial assessment. We considered as being in crisis those patients who, at the initial assessment, scored 6 (*severe*) or 7 (*extremely severe*) in any of the following items of the BPRS: content of abnormal thinking, hallucinations, or conceptual disorganization. None of the patients was in crisis at the 9-month follow-up, except for one whose mother (a widower) was low EE at both assessments.

Statistical analyses

The analyses used were Wilcoxon non-parametrical test for the quantitative variables and McNemar non-parametrical test for paired data. The statistical analyses were carried out by means of the Statistical Package for Social Sciences (Norusis, 1997), Spanish version 7.5 for Windows.

Results

Stability of the Expressed Emotion Status

As seen in Table 1, in the total group, out of the 15 high-EE fathers (60%), 9 remained high in EE at the 9-month follow-up, whereas 6 (40%) shifted to low EE. Out of the 13 low-EE fathers (76.9%), 10 remained low at the follow-up, and 3 (23.1%) changed to high EE. The stability percentage, 67.9% in general, was greater among the low-EE fathers (76.9%) than among the high-EE fathers (60%). The change in the fathers' EE index ($n = 28$) at the initial assessment and at the 9-month follow-up was statistically nonsignificant. That is, EE remained stable in all the households.

Taking into account the EE index of the 31 mothers, we observed that 13 out of 24 who were initially high in EE (77.4%) maintained this status (54.2%), whereas 11 shifted to a low-EE index (45.8%). Four out of 7 mothers who showed an initial low-EE index maintained their status (57.1%), and 3 shifted to high EE (42.9%). The change in the mothers' EE index ($n = 31$) at the initial assessment and at the 9-month follow-up was statistically nonsignificant, indicating that EE remained stable in all households.

In the total group ($n = 32$), families' EE (i.e., mothers' and fathers' EE), along with their subscales, remained more stable, statistically speaking, throughout the 9 months, mostly due to the stability of low EE in the fathers. The mean stability in fathers was 74%, whereas in mothers, it was 54%, revealing mothers to be more unstable, especially those high in EE and in any of its subscales. With regard to the subscale scores, in fathers, high EOI was the most unstable and low EOI the most stable (although statistically nonsignificant). The most unstable subscale score in mothers was EOI, ($p = .01$).

Table 1
Stability of EE in the Total Group

	STABILITY <i>n</i> (%)	INSTABILITY <i>n</i> (%)	STABILITY <i>n</i> (%)	INSTABILITY <i>n</i> (%)	% STABILITY	<i>n</i>	<i>p</i>
	HIGH EE	HIGH→LOW	LOW EE	LOW→HIGH			
Family EE	18 (72%)	7 (28%)	5 (71.4%)	2 (28.6%)	71.9	32	ns.
Fathers' EE	9 (60%)	6 (40%)	10 (76.9%)	3 (23.1%)	67.9	28	ns.
Fathers' CC	7 (58.3%)	5 (41.7%)	14 (87.5%)	2 (12.5%)	75	28	ns.
Fathers' EOI	2 (33.3%)	4 (66.7%)	21 (95.5%)	1 (4.5%)	82	28	ns.
Fathers' H	5 (41.7%)	7 (58.3%)	15 (93.8%)	1 (6.2%)	71.4	28	ns.
Mothers' EE	13 (54.2%)	11 (45.8%)	4 (57.1%)	3 (42.9%)	54.8	31	ns.
Mothers' CC	5 (38.5%)	8 (61.5%)	12 (66.7%)	6 (33.3%)	54.8	31	ns.
Mothers' EOI	8 (36.4%)	14 (63.6%)	6 (66.7%)	3 (33.3%)	45.2	31	.01
Mothers' H	1 (10%)	9 (90%)	18 (85.7%)	3 (14.3%)	61.3	31	ns.

Note. EE = Expressed emotion; CC = Criticism; EOI = Emotional overinvolvement; H = Hostility.

Table 2
Stability of EE in the Group of Patients in Crisis

	STABILITY n(%)	INSTABILITY n(%)	STABILITY n(%)	INSTABILITY n(%)	% STABILITY	n	p
	HIGH EE	HIGH→LOW	LOW EE	LOW→HIGH			
Family EE	9 (62.2%)	4 (30.8%)	3 (75%)	1 (25%)	70.6	17	ns
Fathers' EE	3 (42.9%)	4 (57.1%)	6 (85.7%)	1 (14.3%)	64.3	14	ns
Fathers' CC	2 (33.3%)	4 (57.1%)	7 (87.5%)	1 (12.5%)	64.3	14	ns
Fathers' EOI	1 (33.3%)	2 (66.7%)	11 (100%)	0 (0%)	85.7	14	ns
Fathers' H	1 (16.7%)	5 (83.3%)	7 (87.5%)	1 (12.5%)	57.1	14	ns
Mothers' EE	5 (38.5%)	8 (61.5%)	3 (75%)	1 (25%)	47.1	17	.03
Mothers' CC	1 (14.3%)	6 (85.7%)	9 (90%)	1 (10%)	58.8	17	ns
Mothers' EOI	4 (30.8%)	9 (69.2%)	3 (75%)	1 (25%)	41.2	17	.02
Mothers' H	0 (0%)	6 (100%)	11 (100%)	0 (0%)	50	17	.03

Note. EE = Expressed emotion; CC = Criticism; EOI = Emotional overinvolvement; H = Hostility.

In families of patients in crisis (see Table 2), we observed 70.6% stability (statistically nonsignificant). Among the fathers of these patients, the change in EE was not statistically significant and the percentage of stability was 64.3%. That is, fathers' EE did not change from the initial evaluation to the follow-up evaluation. However, in mothers, it was unstable (EE, $p = .03$; EOI, $p = .02$; and H, $p = .03$). In general, regarding patients assessed in crisis, the attitudes of fathers and mothers who were low in EE remained stable (90.2% of low-EE fathers and 85% of low-EE mothers).

In parents of patients assessed out of crisis (see Table 3), the percentages of stability were higher than those observed in the total group (80.4% in fathers and 55.4% in mothers). In this group, the absence of H among fathers was the most stable attitude, followed by low EOI, with

CC, both high and low, being the most unstable scale. EE was stable both in fathers and mothers.

Stability of Warmth and Positive Remarks

Stability of warmth. Warmth was recoded as high or low with a cut-off point of 3 (high warmth ≥ 3). Warmth in the fathers of the total group was the most stable. The change in this scale was not statistically significant either in mothers or fathers, both in the group in crisis or out of crisis, taken separately.

Stability of positive remarks. The only statistically significant change observed was related to positive remarks in fathers of patients assessed out of crisis, ($z = -2.03$, $p = .04$). In these cases, the number of positive remarks

Table 3
Stability of EE in the Group of Patients Out of Crisis

	STABILITY n(%)	INSTABILITY n(%)	STABILITY n(%)	INSTABILITY n(%)	% STABILITY	n	p
	HIGH EE	HIGH→LOW	LOW EE	LOW→HIGH			
Family EE	9 (75%)	3 (25%)	2 (66.7%)	1 (33.3%)	73.3	15	ns
Fathers' EE	6 (75%)	2 (25%)	4 (66.7%)	2 (33.3%)	71.4	14	ns
Fathers' CC	5 (83.3%)	1 (16.7%)	7 (87.5%)	1 (12.5%)	85.7	14	ns
Fathers' EOI	1 (33.3%)	2 (66.7%)	10 (90.9%)	1 (9.1%)	78.6	14	ns
Fathers' H	4 (66.7%)	2 (33.3%)	8 (100%)	0 (0%)	85.7	14	ns
Mothers' EE	8 (72.7%)	3 (27.3%)	1 (33.3%)	2 (66.7%)	64.3	14	ns
Mothers' CC	4 (66.7%)	2 (33.3%)	3 (37.5%)	5 (62.5%)	50	14	ns
Mothers' EOI	4 (44.4%)	5 (55.6%)	3 (60%)	2 (40%)	50	14	ns
Mothers' H	1 (25%)	3 (75%)	7 (70%)	3 (30%)	57.1	14	ns

Note. EE = Expressed emotion; CC = Criticism; EOI = Emotional overinvolvement; H = Hostility.

decreased at the 9-month follow-up ($M = 2.09$ and 0.78 , respectively, at the initial and at the 9-month assessments).

Discussion

Mothers of patients assessed both in crisis and out of crisis changed their attitude toward their son or daughter. Out of 13 high-EE mothers, only 5 were still high at the 9-month follow-up. This could be due to the fact that, in moments of high stress levels, such as the patient's crisis, mothers respond by showing high-EE attitudes as a way of controlling the youngster's behavior, or of reducing tension. However, if the mothers are assessed out of crisis, their attitude toward their offspring is more stable: 8 out of 11 high-EE mothers maintained their EE status at the 9-month follow-up.

On the other hand, the fathers' attitude toward the patients seems more constant. In fact, we found that EE remained stable during the period between the initial assessment and the 9-month follow-up. Both in the groups assessed in crisis and out of crisis, 60% of the fathers remained high in EE at the 9-month follow-up. These results suggest that, in many cases, high EE in mothers is a reaction to the stress caused by the crisis, whereas in fathers, it seems to be a trait that remains the same throughout time. The fact that the fathers' EE is more stable than the mothers' leads us to conclude that fathers' high EE will act as a stressor for longer periods of time.

The stability of EE when measured out of crisis is an indication of the way parents normally relate to their offspring. At moments of crisis, although EE is a predictor of relapse, it is not stable enough to be considered a chronic stressor. It may be an acute stressor at times when other factors, such as taking medication irregularly or stressing life events, converge.

With regard to mothers' EOI, we found marked changes over time, because 55% of the cases changed at the follow-up, both from high to low level and vice versa. In other studies, it was reported that the change from high to low EE among mothers was more frequent (Brown et al., 1972; Hogarty et al., 1986; Leff et al., 1982; Leff et al., 1990; Tarrar, Barrowclough, Porceddu, et al., 1988). The fact that all the mothers who were hostile at the time of crisis ceased feeling hostile at the follow-up supports our idea that this attitude is related to the stress they suffer during the crisis.

Brown et al. (1972) and Leff et al. (1982) reported that CC changed over time, whereas EOI was stable. Our results are not in accordance with these because we found that EOI changed in a very regular way. At the same time, we found that, considering mothers and fathers separately, EOI dropped in 66% and CC in 57% of the fathers, whereas, among mothers, CC decreased more frequently than EOI (CC dropped in 85% whereas EOI dropped in 69%). This occurred regardless of whether we administered the CFI during crisis or after 9 months. At any rate, the variation

percentages in our group are quite high. Our results are similar to those obtained by Leff et al. (1990), in which they inform that relatives changed from high to low EE in 79% a year later. Scazufca and Kuipers (1998) found 63.9% of stability in EE; 25% changed from high to low and 11% from low to high EE.

McCreadie et al. (1993) found 63% of stability over five years, but they also observed that the CFI may not be sensitive enough to measure EE out of crisis, or, if EE is only evident at times of crisis, then the CFI is not effective to evaluate its influence in the course of the illness. Another explanation is that the quality of the interactions would be different at times of crisis and out of crisis. This is precisely what we found.

High-EE behaviors are a chronic stressor for a vulnerable person such as the schizophrenic. The fact that fathers' high EE is more stable suggests that fathers' attitudes are a chronic stressor for the patient. In most mothers, however, it is an attitude that only appears at moments of high stress, such as the patient's crisis. For this reason we consider that, in mothers, interventions aimed at reducing high EE should focus on the way they face the crisis and, in fathers, on the daily routine. Nevertheless, in studies of family interventions to reduce EE, researchers should consider that the decrease in mothers' high EE after the intervention may not be due to the intervention itself, but to the passing of time. Clinicians should also take into account that mothers are more likely than fathers are to attend support groups for relatives. However, because high EE in fathers is more stable, it is important to design interventions aimed at encouraging fathers to attend these groups.

References

- American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., revised). Washington, DC: Author. (Spanish translation, *Manual diagnóstico y estadístico de trastornos mentales*. Barcelona, Masson, 1988).
- Arévalo, J., & Vizcarro, C. (1989). Niveles de 'Emoción Expresada' en familiares de pacientes esquizofrénicos. Datos para una comparación transcultural. *Revista de la Asociación Española de Neuropsiquiatría*, 9, 437-450.
- Bebbington, P., & Kuipers, L. (1994). The clinical utility of expressed emotion in Schizophrenia. *Acta Psychiatrica Scandinavica*, 89, 46-53.
- Brown, G.W., Birley, J.L.T., & Wing, J.K. (1972). Influence of family life on the course of schizophrenic disorders: A replication. *British Journal of Psychiatry*, 121, 241-258.
- Brown, G.W., Monck, E.M., Carstairs, G.M., & Wing, J.K. (1962). Influence of family life on the course of schizophrenic illness. *British Journal of Preventive and Social Medicine*, 16, 55-68.
- Brown, G.W., & Rutter, M. (1966). The measurement of family activities and relationships: A methodological study. *Human Relations*, 19, 241-263.

- Cazzullo, C.L., Bressi, C., Bertrando, P., Clerici, M., & Maffei, C. (1989). Schizophrenie et expression emotionnelle familiale. Etude d'une population italienne. *L'Encéphale*, 15, 1-6.
- Dulz, B., & Hand, I. (1986). Short-term relapse in young schizophrenics: Can it be predicted and affected by family (CFI), patients, and treatment variables? An experimental study. In M.J. Goldstein, I. Hand, & K. Hahlweg (Eds.), *Treatment of schizophrenia*. Berlin: Springer-Verlag.
- Fevre, S., González, C., & Lendais, G. (1989). *Expressed emotion of schizophrenics' relatives*. Paper presented at the VII World Psychiatry Congress. Athens, Greece.
- Gutiérrez, E., Escudero, V., Valero, J.A., Vázquez, M.C., Castro, J.A., Álvarez, L.C., Baltar, M., Blanco, J., González, I., & Gómez, I. (1988). Expresión de emociones y curso de la esquizofrenia: II. Expresión de emociones y curso de la esquizofrenia en pacientes en remisión. *Análisis y Modificación de Conducta*, 15, 275-316.
- Hashemi, A.H., & Cochrane, R. (1999). Expressed emotion and schizophrenia: A review of studies across cultures. *International Review of Psychiatry*, 11, 219-224.
- Hogarty, G.E., Anderson, C.M., Reiss, D.J., Kornblith, S.J., Grenwald, D.P., Javna, C.D., & Madonia, M.J. (1986). Environmental/personal indicators in the course of schizophrenia research group: Family psychoeducation, social skills training, and maintenance chemotherapy in the aftercare treatment of schizophrenia. I: One year effects of a controlled study on relapse and expressed emotion. *Archives of General Psychiatry*, 43, 633-642.
- Karno, M., Jenkins, J., Selva, A., Santana, F., Telles, C., López, S., & Mintz, J. (1987). Expressed emotion and schizophrenia outcome among Mexican-American families. *The Journal of Nervous and Mental Disease*, 175, 143-151.
- Kuipers, L., & Bebbington, P. (1988). Expressed emotion research in schizophrenia: Theoretical and clinical implications. *Psychological Medicine*, 18, 893-909.
- Leff, J.P., Kuipers, L., Berkowitz, R., Eberlein-Vries, R., & Sturgeon, D. (1982). A controlled trial of social intervention in the families of the schizophrenic patients. *British Journal of Psychiatry*, 141, 121-134.
- Leff, J.P., Wig, N.N., Bedi, H., & Manon, D.K. (1990). Relatives' expressed emotion and the course of schizophrenia in Chandigarh: A two-year follow-up of a first contact sample. Cross-cultural psychiatry. [Special Issue]. *British Journal of Psychiatry*, 156, 351-356.
- Leff, J., Wig, N., Ghosh, A., Bedi, H., Menon, D., Kuipers, L., Korten, A., Ernberg, G., Day, R., Sartorius, N., & Jablensky, A. (1987). Influence of relatives' expressed emotion on the course of schizophrenia in Chandigarh. *British Journal of Psychiatry*, 151, 166-173.
- Lukoff, D., Liberman, R.P., & Nuechterlein, K.H. (1986). Symptom monitoring in the rehabilitation of schizophrenic patients. *Schizophrenia Bulletin*, 12, 578-593.
- Lukoff, D., Nuechterlein, K.H., & Ventura, J. (1986). Appendix A: Manual for the Expanded Brief Psychiatric Rating Scale (BPRS). *Schizophrenia Bulletin*, 12, 594-602.
- McCreadie, R.G., Robertson, L.J., Hall, D.J., & Berry, I. (1993). The Nithsdale Schizophrenia Survey XI: Relatives' expressed emotion. Stability over five years and its relation to relapse. *British Journal of Psychiatry*, 162, 393-397.
- Moline, R.A., Singh, S., Morris, A., & Meltzer, H. (1985). Family expressed emotion and relapse in schizophrenia in 24 urban American patients. *American Journal of Psychiatry*, 142, 1078-1081.
- Norusis, M. J. (1997). *SPSS, base 7.5 for Windows user's guide*. Chicago, IL: SPSS.
- Pellizzer, G., Barrelet, L., & Ammann, E. (1987). 'Emotion exprimée' par la famille et évolution d'un group de patients schizophrènes en milieu francophone. *Revue Suisse de Psychologie*, 46, 33-40.
- Rutter, M., & Brown, G.W. (1966). The reliability and validity of measures of family life and relationships in families containing a psychiatric patient. *Social Psychiatry*, 1, 38-53.
- Santos, A. (1995). *Factores familiares (emoción expresada) y su incidencia en la tasa de recaídas de pacientes esquizofrénicos*. Unpublished doctoral dissertation, University of Basque Country, Spain.
- Scazufca, M., & Kuipers, E. (1998). Stability of expressed emotion in relatives of those with schizophrenia and its relationship with burden of care and perception of patients' social functioning. *Psychological Medicine*, 28, 453-461.
- Tarrier, N., Barrowclough, C., Porceddu, K., & Watts, S. (1988). The assessment of psychophysiological reactivity to the expressed emotion of the relatives of schizophrenic patients. *British Journal of Psychiatry*, 152, 618-624.
- Tarrier, N., Barrowclough, C., Vaughn, C., Bamrah, J.S., Porceddu, K., Watts, S., & Freeman, H. (1988). The community management of schizophrenia. A controlled trial of a behavioural intervention with families to reduce relapse. *British Journal of Psychiatry*, 153, 532-542.
- Vaughn, C., & Leff, J. (1976a). 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.
- Vaughn, C., & Leff, J. (1976b). The measurement of expressed emotion in the families of psychiatric patients. *British Journal of Social and Clinical Psychology*, 15, 157-165.
- Vaughn, C., Snyder, K.S., Jones, S., Freeman, W.B., & Falloon, I.R.H. (1984). Family factors in schizophrenia relapse. Replication in California of British research of expressed emotion. *Archives General of Psychiatry*, 41, 1169-1177.

Received October 27, 1999

Revision received July 12, 2000

Accepted November 30, 2000