British Journal of Psychiatry (1995), **166**, 647–649

Expressed Emotion Trait or State?

JUDITH L. SCHREIBER, ALAN BREIER and DAVID PICKAR

Background. This exploratory study addresses the question of whether expressed emotion (EE) is a response characteristic of the parent (trait) or a parental response to specific circumstances or persons (state).
Method. Seventeen parents participated in two audiotaped interviews, using modified versions of the Camberwell Family Interview. One interview concerned the child with chronic schizophrenia and the other a well sibling. Subsequent ratings of the EE variables of critical comments (CC), emotional overinvolvement (EOI) and warmth were completed and compared.
Results. EE response patterns directed towards patients, as compared with towards siblings, were significantly different on two measures: EOI ($P=0.01$) and warmth ($P=0.02$). The parents showed significantly more emotional overinvolvement with the child with schizophrenia and significantly more warmth towards the well child.
Conclusions. These data suggest that the EE variables of EOI and warmth are related to the state of child, and the lack of a significant difference in CC suggests that this is a parental trait.

Since 1958 the literature has been replete with provocative and interesting studies about the theory and application of the concept of expressed emotion (EE) (Brown, 1985). Earlier studies using the established cut-offs of high and low EE have established the relationship between the parental level of EE and relapse of patients with schizophrenia (Brown *et al*, 1962, 1972; Vaughn & Leff, 1976). Most commonly, high levels of the EE variables of emotional overinvolvement (EOI) and critical comments (CC) have been associated with higher rates of relapse. In an effort to identify the components of the EE response, researchers have been examining parental EE responses to offspring with other medical and psychiatric diagnoses (Hibbs *et al*, 1993; Koenigsberg *et al*, 1993). One aspect of the EE paradigm that has not been resolved is whether EE is a trait of parent communication or a product of the interactions between a parent and ill relative (state). We have approached this issue by comparing ratings of EE responses from parents towards their children who have a diagnosis of schizophrenia with response ratings towards a non-schizophrenic child. If the level of EE response to both children is the same, the trait hypothesis is supported and EE can be further investigated as a general response proclivity of the parent. If the level of EE response is different, there is evidence for the 'state' hypothesis.

Method

Subjects

Parents of patients on the NIMH 4E Clinical Center schizophrenia research unit (Schreiber *et al*, 1990) were invited to participate in this study. Criteria for selection included being the primary caretaker of a child with schizophrenia and having another child without a diagnosis of schizophrenia. 'Primary caretaker' was defined as that parent who negotiated the arrangements for the hospitalisation.

Seventeen primary caretakers (eight fathers and nine mothers) were included in this study. They were interviewed twice, once about their child with schizophrenia and once about a well sibling. The 17 children with schizophrenia comprised 13 males and four females. Demographics (means ± s.d.) for offspring diagnosed as schizophrenic are as follows: age, 30.0 ± 8.2 years; age of initial appearance of symptoms, 18.6 ± 3.5 years; duration of illness, 11.8 ± 6.8 years; number of previous hospitalisations, 7.7 ± 6.0; length of stay prior to the interview, 13.7 ± 13.3 weeks.

The non-schizophrenic siblings were seven males and 10 females. Demographics (means ± s.d.) for this group are as follows: age, 30.8 ± 8.7 years; age at which identified stressor occurred, 25.3 ± 5.7; number of years since stress, 4.4 ± 6.8. Stressors identified by parents were work problems (2), health problems (5), relationship loss (8) and other (2).

https://doi.org/10.1192/bjp.166.5.647 Published online by Cambridge University Press

Measurements and scoring

The Rochester version of the Camberwell Family Interview (CFI; Cole *et al*, 1993) was modified for application to a child with chronic schizophrenia and to a well child. For the child with schizophrenia, questions focused on psychiatric history, irritability, household tension, and general affect directed towards the child. Since this is a research unit for people with chronic schizophrenia, the parents were asked to identify and concentrate on the most severe episode that led to a hospitalisation. This is in contrast to early EE studies in which family members were interviewed shortly after an offspring's hospitalisation for an acute psychotic episode (Vaughn, 1976). Our underlying assumption was that focusing on the most severe episode would be more likely to reawaken parental emotions to an intensity similar to that experienced with an acute episode.

For application to the well child, similar questions focused on irritability, household tension and general affect directed towards the child. However, the parent was asked to identify and focus on a stressful period in the child's life. Proposed stressors were: problems in school or work; significant health problems; legal or criminal difficulties; loss of a significant relationship. The underlying assumption was that a period of intense stress in the life of a well child would be likely to evoke a parental response similar to that to an illness. Each interview was audiotaped for subsequent rating of the variables of EE: critical comments (CC), emotional overinvolvement (EOI), and warmth. Intraclass interrater reliability for all three variables was above 0.93. Statistical analyses consisted of paired *t*-tests of mean (± s.d.) scores on parental responses to offspring pairs. A secondary analysis was conducted using cut-off scores for 'high' and 'low' EE (6 or more CC, 3 or above for EOI, 4 for warmth) with McNemar χ^2.

Results

The EE response patterns, based on individual variable scores, directed towards patients as compared with siblings were significantly different on two measures of EE: emotional overinvolvement ($t = 2.95$, d.f. = 16, $P = 0.01$) and warmth ($t = 2.78$, d.f. = 16, $P = 0.02$) (Fig. 1). The parent showed significantly more overinvolvement with, and less warmth towards, the child with schizophrenia. The mean ± s.d. score for critical comments was higher towards the ill child (4.1 ± 2.1) than the well child (3.2 ± 3.7), but not at a significant level ($t = 1.15$, d.f. = 16, $P = 0.27$). Analyses dichotomising subjects into 'high' v. 'low' on each of the EE categories revealed: 4/17 parents were high for CC towards the well sibling and three towards the ill sibling (McNemar $\chi^2 = 0$, $P = 1.0$); 10/17 parents were high for EOI towards the well child and 14 towards the ill sibling (McNemar $\chi^2 = 1.5$, $P = 0.22$); 10/17 parents were high on the warmth scale towards the well child and three towards the ill child (McNemar $\chi^2 = 4.0$, $P = 0.05$).

Discussion

This exploratory study was designed to assess and compare parental emotional responses towards their children who had, and had not, been diagnosed as schizophrenic. These data suggest that the EE variables of emotional overinvolvement and warmth are state-related. There were no significant differences in critical comments.

Several methodological issues need to be addressed before interpreting the differences in the response patterns. In contrast to most EE research, this study used two data-analytic procedures, one involving total scores, the other using the more traditional cut-offs. Analysis using high v. low EE dichotomisation did support the finding for warmth and critical comments. The overinvolvement finding was in general agreement with the primary analysis at the trend level.

Another methodological issue is blind ratings. Blind ratings of the audiotaped interviews were not possible because each interview focused on slightly different material and was therefore identifiable. However interrater reliability was obtained with a trained EE rater and interviewer who was not

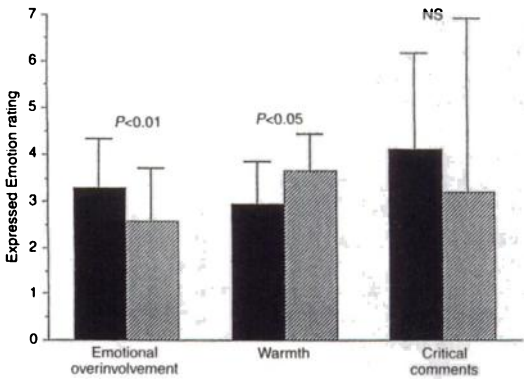


Fig. 1 Parental expressed emotion responses to their children with and without schizophrenia ($n = 17$). ■, child with schizophrenia; ▨, sibling without schizophrenia.

https://doi.org/10.1192/bjp.166.5.647 Published online by Cambridge University Press

involved in the design or hypotheses of this study. Another concern is whether the impact of a chronic illness in one child can be compared to the impact of a period of stress in the well sibling. This was addressed by asking the parent to focus on the most severe past episode of illness, and the most severe period of stress. It was reasoned that the response differences would be minimised by concentrating on past (although dissimilar) events.

Patients were diagnosed using the SADS (Schedule for Affective Disorders and Schizophrenia; Spitzer & Endicott, 1975) interview and blind consensus meetings. In describing the siblings as 'well', we mean that, according to parental reports, they had no major mental illness. As future EE studies expand the diagnoses to be studied with this paradigm, it will be important for the siblings to be formally diagnosed in order to rule out unknown diagnoses as confounding variables.

Finally, the design of this study cannot establish whether the differences in response patterns preceded or postdated the onset of the illness in the child with schizophrenia. This study can only establish that these differences exist.

Are the three variables, critical comments, emotional overinvolvement and warmth, which generate the EE rating, evolving or enduring phenomena? We interpret the significantly higher ratings of EOI towards the child with schizophrenia and of warmth towards the well child to be parental responses evolving in response to the needs of the situation of each child. The earlier EE literature suggests that the higher rating of EOI towards the child with schizophrenia may interfere with the autonomy of that child. Another possible interpretation would be that the higher rating of EOI to the child with schizophrenia might be a response to the chronic disabling aspects of this illness, and a belief by the parent that increased involvement would facilitate increased functioning of the child. The increased rating of warmth towards the well child may indicate that the particular event recalled, although stressful, was perceived as temporary by the parent and did not interrupt those parent–child interactions which characterise the 'warmth' rating. Contrasting these data on EOI and warmth suggests that the presence of illness generates a response of EOI, while stress in an offspring generates a response of warmth on the part of the parent.

It is difficult to interpret the data on criticism. The fact that the interview did not focus on acute events in the life of either child might account for the non-significant differences in, and low level of, critical comments. Additional investigations comparing the numbers of CC about an acutely psychotic child and a well sibling would be necessary to substantiate this interpretation. It is also possible that the lack of a significant difference in numbers of CC indicates that this response is a trait of the parent.

Further research elucidating trait/state issues needs to be conducted in order to augment the existing body of knowledge pertaining to the determinants of the EE responses.

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Judith L. Schreiber, Alan Breier, David Pickar, National Institute of Mental Health, Bethesda, MD, USA

Correspondence: Judith L. Schreiber, LCSW, National Institute of Mental Health, NIH 10/4N212, 9000 Rockville Pike, Bethesda, MD 20892, USA

(First received 18 October 1993, final revision 21 March 1994, accepted 26 April 1994)

https://doi.org/10.1192/bjp.166.5.647 Published online by Cambridge University Press