The Assessment of Expressed Emotion in a Standardised Family Interview

Matthew Hodes
Imperial College School of Medicine, London, U.K.

Christopher Dare, Elizabeth Dodge, and Ivan Eisler
Institute of Psychiatry, London, U.K.

This study compared the expressed emotion (EE) scores obtained using individual interviews with parents with the scores obtained in whole family interviews. Interviews were carried out with 31 parents of 16 adolescents referred because of an eating disorder. There was moderate correlation of scores between the two interviews regarding critical comments, emotional overinvolvement, and warmth, but it was low for positive remarks. The study suggests that the whole family interview, which is time saving, is useful in assessing expressed emotion. The levels of expressed emotion, particularly the relatively low levels of critical comments and emotional overinvolvement, are similar to those of previous studies.

Keywords: Expressed emotion, eating disorders, family interview, individual interview.

Abbreviations: CC: critical comments; CFI: Camberwell Family Interview; EE: expressed emotion; EOI: emotional overinvolvement; FMSS: Five Minute Speech Sample; SCFI: standardised clinical family interview.

Introduction

There is a vast amount of evidence that the quality of family relationships is closely related to the development, maintenance, and treatment response of many psychiatric and physical disorders (e.g. Bloch, Haffner, Harari, & Szmukler, 1994). In order to investigate these processes it has been necessary to develop measures of family life. Expressed emotion (EE) has become an important index of these relationships, that can be measured reliably and has validity. Numerous studies have indicated its relevance for understanding psychiatric disorders in childhood (Asarnow, Tompson, Hamilton, Goldstein, & Guthrie, 1994; Hibbs et al., 1991), for physical disorders (Fishman-Havstad & Marston, 1984; Hermanns, Florin, Dietrich, Rieger, & Hahlweg, 1987), and for many psychiatric disorders that occur in adolescence and adulthood such as eating disorders (Hodes & Le Grange, 1993), depression (Hooley & Teasdale, 1989), and pre-eminantly for schizophrenia (Kavanagh, 1992; Kuipers & Bebbington, 1988; Leff & Vaughan, 1985). In view of this, the measurement of EE has become a subject of considerable interest in its own right (Kazarian, 1992).

The pioneers in EE (Brown, Birley, & Wing, 1972; Brown, Carstairs, & Topping, 1958) were investigating aspects of family life associated with relapse in schizophrenia. This required the development of measures of family relationships. The research involved interviews with married couples with children, one of whom was a neurotic/depressed patient (Brown & Rutter, 1966; Rutter & Brown, 1966). Long interviews were carried out with the relatives of patients, lasting about 2 to 4 hours, which were audio-recorded using a semistructured interview called the Camberwell Family Interview (CFI). This inquired into many aspects of family life, including desired and undesired behaviours shown by the patient. The interview was rated along five dimensions: criticism, hostility, emotional overinvolvement, warmth, and positive remarks (Brown et al., 1982). The first and last of these were scored on frequency scores and the others used global scores, ranging from 0 to 5 (Brown et al., 1982; Leff & Vaughn, 1985). Although the interview proved to be useful in assessing aspects of family life associated with schizophrenic relapse, its length made it cumbersome even in research settings. The interview was shortened, so it would usually last less than 2 hours, without loss of reliability (Vaughn & Leff, 1976a).

As interest in assessing aspects of family relationships increased so the need for reducing interviewing time was more apparent. This was achieved with the development of the Five Minute Speech Sample (FMSS), (Magana et al., 1986; Malla, Kazarian, Barnes, & Cole, 1991). This interview essentially involves asking the relative to talk for 5 minutes about the index person, and the speech is
family meal—with the ratings from individual parental interviews using the CFI. The findings were that for CC there was a high correlation overall (.80) although it was higher for mothers (.82) than for fathers (.59). For EOI, there was adequate correlation for mothers (.47) but it was low for fathers (.20). There was a similar finding for warmth, the correlation for mothers being .69, but .28 for fathers. In this study the focus on problem behaviours in both the CFI and the family meal may have led to similar levels of expressed dissatisfaction, rated in critical comments.

A second approach to whole-family interviewing to rate EE has been the use of initial family therapy sessions. This was reported by Berkowitz (1987), who also suggested that it was feasible to rate EE from initial therapy sessions (which lasted about 1.5 hours). The sessions involved various kinds of family therapy approaches. The idea of rating family therapy sessions was taken a step further by Vostanis and colleagues (Vostanis, Burnham, & Horris, 1992), who rated sessions during the course of systemic family therapy for 12 families. They showed a reduction in CC and EOI, and an increase in warmth during therapy, while hostility was low initially. EE was scored from the speech of all family members, and the scores were added to obtain a family EE score. It was also found that most of the CC, EOI, and warmth came from the parents.

These studies of family therapy interviews used for rating EE share an important drawback. The length of the sessions and content of speech may be determined more by the therapist than by the family, and this may affect the ratings. The studies of therapeutic family interviews have involved different types of questions and statements as they have followed diverse family therapy approaches, each of which is associated with its own interviewing style (Israelslam, 1988). This limitation is circumvented by structured or semi-structured interviews of family life. Such a study has been reported by Le Grange and colleagues (Le Grange, Eisler, Dare, & Hodes, 1992), who rated EE from video-recorded interviews using the standardised clinical family interview (SCFI), (Kinston & Loader, 1984). This is a semi-structured interview used for non-labelled families i.e. families not containing a referred patient. The interview covers a number of aspects of family life, which all family members are encouraged to discuss.

Important advantages of these approaches are that they are economical in time. From one interview speech from both parents and other family members can be rated. Furthermore, such approaches can also help to bridge the therapy–research divide by showing how responses to clinically relevant questions can be linked to research findings.

However, these studies of family interviews for rating EE have left unresolved a number of issues. First, there is a lack of clarity about how the rules for rating EE, initially developed for individual interviews, are being applied. For example, it is unclear how direct speech from parent to child should be scored. Second, in these studies, as in those that report on the rating of EE using the CFI concerning parental attitudes to children, it is unclear how much adaptation of the rules is needed to take into account the different ages, psychosocial development,
and social circumstances of offspring. This would seem to be a particular problem for rating EOI and specifically for overprotectiveness. For example, it is hard to know how to rate taking children to school and collecting them without a lot of contextual information, whereas adults usually travel to work independently, and a parent who takes them may well be properly rated as overinvolved.

The aims of this study were, first, to compare the rating of EE from parents to their children in whole-family semistructured interviews with the corresponding rating using the CFI. Second, the rating of family interviews was to be used to develop rules for rating EE in that context. Third, both family interviews and individual interviews were studied with a view to elucidating difficulties in rating EE towards children, especially when they suffered from anorexia nervosa, a life-threatening illness.

Methods

Sample

The subjects of this study were parents and families referred to the Maudsley Hospital Adolescent Eating Disorder Service. Referral was made because of the presence of an eating disorder in an adolescent family member, aged 11–17 years. The sample was drawn from 57 consecutive referrals of adolescents with anorexia nervosa or bulimia nervosa made between 1988–1991. These patients were fully assessed with a view to the provision of treatment. Ten of these subjects suffered from bulimia nervosa, and details concerning these patients are available elsewhere (Dodge, Hodes, Dare, & Eisler, 1995). The largest group, 47, had anorexia nervosa, and most of these patients entered a treatment trial involving ongoing assessment (Eisler et al., 1999). Parents and families included in this study were 16 families assessed consecutively, soon after the start of the treatment study, and with whom it was possible to carry out both individual and family assessments of EE.

All but 1 of the 16 adolescents were female, and the mean age was 15.4 (SD 1.76) years. Fourteen of the group had anorexia nervosa, and two had bulimia nervosa (WHO, 1992). The mean illness duration was 13.7 months (SD 8.5). Thirteen of the families were from social class 1 and 2 according to the Hollingshead Classification System, and 3 were from manual and clerical backgrounds (Hollingshead 4–7), based on father's occupation or that of the head of the household (Hollingshead & Redlich, 1958). Thirteen of the families were intact nuclear families, one adolescent was adopted in infancy and seen with the adoptive family, and two families were single-parent families in which the household was headed by the mother.

Assessment

Parents with the adolescent suffering from the eating disorder and other family members living at home were asked to attend the Maudsley Hospital Adolescent Eating Disorder Service for an assessment. Assessment of the adolescents and families for entry to the treatment trials involved physical, psychiatric, and family evaluation, including the measurement of EE from the whole-family interview, and was carried out by MH. For the 16 families reported here, EE was rated using 2 kinds of interview.

First, the SCFI was carried out (Kinston & Loader, 1984). Significant features of this interview are that all family members are encouraged to respond to questions, for which prompts may be used. The interviewer adopts a neutral style, similar to that used with the CFI. The questions in the SCFI concern a number of areas of family life, which are listed in Table 1 and are not specifically problem areas. The family interviews usually took 45–60 minutes to carry out, and were video-recorded for subsequent rating. The ratings for parental EE were carried out initially by MH, long before the CFI was rated. After the initial rating by MH, the family interviews were rated again by ED.

The CFI was the abbreviated form (Vaughn & Leff, 1976b), carried out with parents individually by MH, and audio-recorded for rating according to the rules set down by Leff and Vaughn (1985). The CFI audio-tapes were rated for expressed emotion by ED.

Comparison of the two interviews (see Table 1) reveals that the CFI is more problem-oriented than the SCFI. It might be expected that in this study population the levels of critical comments not concerned with the eating disorder would show higher correlation between the two interviews than would critical comments regarding symptomatic, eating-related behaviours. All critical comments were categorised according to whether they were about problem behaviours, i.e. eating disorder symptoms, or other aspects of the adolescent’s behaviour.

Rating of EE in the Family Interview

The rating of EE in the family interview was based on the criteria developed by earlier researchers in this field and clearly described by Leff and Vaughn (1985). During this process, it was possible to formalise and agree on new rules required for rating EE in family interviews. Difficulties in rating parental EE, and obtaining consensus scores, due to the adolescents’ age and the significance of their disorder were recorded. Discrepancies in the ratings between MH and ED were dealt with by reviewing the interview to obtain a consensus score. The consensus score was used for comparing the ratings between the CFI and the SCFI.

There were three areas in which difficulties arose, and new rules had to be developed. First, direct speech to the adolescent

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<td>SCFI (family interview)</td>
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<td>A Basic information</td>
<td>Introduction</td>
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<tr>
<td>—time budget</td>
<td>What sort of family</td>
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<td>B History of the problem</td>
<td>Who does what with whom</td>
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<td>C Arguments</td>
<td>Who is like whom</td>
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<td>D Other behaviour problems</td>
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with the eating disorder needed to be rated. It was decided to rate this according to the rules described for the individual interview. This follows the suggestion from a previous study by Szumukler and colleagues (1987). The family interviews included interchanges that led to arguments. In these situations rating of critical comments followed the established rule that only one was scored if the critical comments from the parent were about the same topic. The rules for rating hostility, emotional overinvolvement, and warmth, being global scores, were easily followed in direct speech even when the interchange was affectively loaded.

The second area of difficulty, also mostly apparent in relation to the expression of critical comments, concerned situations in which two parents contributed to that critical comment. In a situation where the first parent makes a critical comment, the other parent may express agreement, or even expand on the comment in a way that could not be rated as a critical comment itself. However, taking into account the overall meaning of the second parent’s speech, it was decided to rate this as a critical comment. Justification for this comes from observing the adolescents’ responses to such interchanges, and it appeared that they regarded them as expressions of disapproval.

A similar difficulty could arise if one family member introduces information about the parent’s way of relating to the patient, as it may be unclear whether this should be taken into account in the rating or not. For example, in one family interview the patient’s brother described parental rules about bed-time for the patient, which might have suggested an overprotective and overinvolved parental style. In this incident the parent concerned made no comment. It was decided not to rate such reports of parental behaviour, but only parental behaviours and speech expressed by them.

Rating Expressed Emotion to Children

In previous reports there is little discussion, with rare exceptions (Sensky, Stevenson, Magrill, & Petty, 1991), about the difficulties in rating EE towards children and modifications of the rules for this age group (Asarnow et al., 1993, 1994; Hibbs et al., 1991; Stubbe, Zahner, Goldstein, & Leckman, 1993; Vostanis, Nicholls, & Harrington, 1994). For a number of areas in the interviews reported here, children’s developmental needs, typically in relation to dependency, affected the rating of overinvolvement. The other dimensions of EE could be rated easily regardless of the children’s age and dependency needs.

EOI is identified by melodramatic speech and intense affective expression in the interview e.g. crying, an account with excessive detail, overprotectiveness and self-sacrificing behaviour. The first of these could usually be rated without much difficulty. However, the need to take into account the adolescents’ physical state could affect the rating of affective expression in the interview. Occasionally it was difficult to balance what would be “normal” parental anxiety and distress with a specified amount of weight loss. This could be complicated by the fact that body size and physical maturation need to be taken into account in estimating the significance of starvation. In order to deal with this, greater emphasis was given to the levels of parental preoccupation with their offspring’s health, rather than expressed concern that might lead to parental behaviour change e.g. watching carefully how much was being eaten.

Overprotectiveness was sometimes difficult to rate because of the need to take into account family and cultural diversity. The most frequent example of this was whether parents let their children travel alone. For North European adults, age and culturally appropriate independence would include travel alone. For children a lot of contextual information is required to assess parental attitudes to whether or not they let their children travel alone. This needs to include factors such as the child’s age, general coping, severity of illness, whether the family is living in an urban or rural area, local dangers from roads, etc. It is striking that there are historical, inter-generational changes for this. For example, many parents reported that they used to travel to school alone, but they would not permit their children to do so because of the dangers, typically from roads. This is the same time period since training in rating EE has become well established, and yet training to establish inter-rater reliability still relies on the use of the original audio-recordings of the CFI made from interviews carried out years ago. In view of this, the approach adopted here is to be very cautious in rating overprotectiveness to children with respect to dangers outside the home, which appeared to be shared by all parents, although to varying degrees.

Self-sacrificing behaviour was also sometimes difficult to rate. In a number of interviews, parents made apparently self-sacrificing comments towards their teenage children. These typically concerned parents who said they would put their children first, and sometimes made explicit that parenting would be put before spousal demands. In one family the mother said she would rather do the housework than let her children do it because of the demands of their homework. In another family the mother indicated that the child’s needs were put before those of the husband, for example in providing his meals. Such attitudes are highly culture-bound, and reflect culturally normative views about family organisation and inter-generational processes (Jenkins & Karno, 1992). It is perhaps for this reason that a high reliability in the rating of EOI in culturally diverse settings is hard to achieve (Wig et al., 1987). In view of this it was decided to give low significance to the kinds of expressed self-sacrificing behaviour described above.

Data Analysis

Correlation used Spearman’s rho for comparison of the scores between the two interviews. In view of the nature of the scales and non-normal distribution of the scores, the differences between scores was analysed using the Wilcoxon signed ranks test. Inter-rater agreement was analysed using an ANOVA intra-class correlation coefficient (Bartko & Carpenter, 1976).

Results

Inter-rater Reliability for Family Interview (SCFI)

Inter-rater agreement (MH and ED) regarding the SCFI gave the following intra-class correlation coefficients: for maternal EE, critical comments .83, hostility 1.0, emotional overinvolvement .05, warmth .66, and positive remarks .84; for paternal EE, critical comments .67, hostility .30, emotional overinvolvement .44, warmth .54, and positive remarks .78; considering parents together, critical comments .76, hostility .71, emotional overinvolvement .30, warmth .67, and positive remarks .80.

Individual (CFI) and Family Interviews (SCFI) Compared

In view of the infrequency of hostility, the correlations between the two kinds of interview for this dimension of EE have been omitted.

Critical Comments

As can be seen from Table 2, taking all fathers and mothers together, there was moderate correlation (.531),
between the individual and the family interviews. When mothers' scores were considered alone, there is a similar correlation (.548), but it was higher for the fathers (.67). The scores for fathers are available in Table 4. When all 31 parents are considered together, the CFI does elicit more critical comments ($p = .035$).

Further investigation of the content of these critical comments, when divided according to whether or not the parents are mothers or fathers, is included in the next section.
comment concerned the eating disorder (see Table 5), was striking.

There was no significant correlation between the CC in the two kinds of interview when criticism of symptomatic behaviours was considered, but correlation of CC for nonsymptomatic areas was moderately strong (.471). When mothers’ and fathers’ scores were examined separately, correlation was similar regarding nonsymptomatic areas between the two interviews.

Mothers did not make significantly different numbers of symptomatic or nonsymptomatic CC in the two interviews. On the other hand, fathers were more critical about the adolescent in relation to eating disorder symptoms in the individual interview than in the family interview ($p = .050$). There were no significant correlations for CC between the parents in the CFI ($r_s = .128$) or the SCFI ($r_s = .137$). When mothers and fathers are compared, the levels of CC were not significantly different in both individual and family interviews.

**Emotional Overinvolvement**

Taking all parents together, there was moderate correlation of EOI (.451) between the two interviews. For both mothers and fathers there was no significant difference in the EOI score between the two interviews.

There were low correlations for EOI between the parents in the CFI ($r_s = .397$) but moderate correlations during the SCFI ($r_s = .650$). In comparing maternal and paternal EOI mothers were found to be significantly more overinvolved than fathers in the CFI ($p = .004$), but not in the SCFI.

**Warmth**

When mothers and fathers were considered together, warmth showed moderate correlation in the two inter-

views (.508). For mothers there was no significant difference between the ratings for warmth in the two interviews, but fathers were significantly warmer in the individual interview than in the family interview ($p = .017$).

There were low correlations for warmth between the parents in the CFI ($r_s = .195$) and also in the SCFI ($r_s = .194$). Mothers and fathers showed no significant differences in the expression of warmth in the individual and family interviews.

**Positive Remarks**

This dimension of EE showed the lowest correlation between the two settings, only .255 for both parents, and unlike the other dimensions it was higher for mothers (.37) as compared to fathers (.23). Mothers made significantly fewer positive remarks in the family interview compared with the individual interview ($p = .041$), and there was a trend in a similar direction for fathers.

There were low correlations for positive remarks between the parents in the CFI ($r_s = .101$) and also low correlations during the SCFI ($r_s = .159$). When mothers and fathers were compared for the number of positive remarks there was no difference between the individual and family interview.

**Discussion**

The study found moderately high correlation for rating of CC in individual and family interviews. The correlations for warmth were similar to those for CC, but they were lower for EOI and positive remarks. Overall, mothers and fathers had similar EE ratings in both
settings with the exception of overinvolvement, which was scored higher for mothers than fathers in the CFI. It is striking that although each parent would have spoken for longer in the individual interview than in the family interview, no significant difference was demonstrated in the level of CC made by the mothers, although fathers were more critical in the individual interview. It has been suggested previously that interview duration is not an important determinant of EE (Szmukler et al., 1987; Vaughn & Leff, 1976a). Since the CFI specifically probes for difficult and symptomatic behaviours, it is impressive that the differences were not greater. Evidence that the CFI successfully elicits more symptomatic CC comes from data summarised in Table 5. Possibly because the SCFI does not probe for symptomatic behaviours the correlation for CC is less than in the Szmukler et al. (1987) study, which compared the CFI with a family meal, and obtained a correlation of .80. The meal itself may have served as a context that elicited CC, and critical speech would have been rated if it was to the patient or about her.

Other dimensions of EE had slightly lower correlations than CC. This is perhaps expected in view of the previous study by Szmukler et al. (1987), which found a similar trend. In that study the correlation for EOI was only .28, so obtaining a higher correlation here is interesting. The correlation for positive remarks is low here but still better than in the earlier study. Again, it may be that the SCFI facilitates the expression of warmth and positive remarks as compared to the fraught context of a family meal.

The rules for rating EE in the family interview were mostly applied without much difficulty. As far as CC is concerned they would have tended to increase this score in the SCFI, e.g. by including direct speech, so it is unlikely that the way they were developed could explain the fact that fewer CC were scored in this interview.

As far as the issue of rating EE to younger subjects is concerned, this was achieved by only giving a score if the speech style and reported behaviours were unequivocal. For EOI, relatively greater emphasis was given to parents’ expressed affect, distress, and preoccupation in discussing their youngster. Thus, for adolescent girls a statement that the parent drives the adolescent home from a party, or that a younger adolescent who lived outside London was not allowed to visit the capital city with friends, would not increase the score for EOI.

The findings that there was moderate correlation between the key dimensions of EE indicate that this measure of family relationships is not wholly context dependent. Parental critical comments, overinvolvement, and warmth are manifest even when parents speak only for a short time. This finding also explains the success of very brief interview measures of EE such as the FMSS (Magana et al., 1986; Malla et al., 1991).

The apparent feasibility of rating EE in the family interview makes family interviewing attractive as a combined clinical research practice. Many of the questions in the SCFI are suitable for clinical interviewing. Furthermore, this interview can be used with families who do not have problems that lead to medical help-seeking. This would be a distinct advantage in research studies where “normal” comparison families need to be included to understand psychopathology and disturb-
patients having bulimia nervosa. A large study carried out in the Netherlands involving 84 parents of 46 patients with eating disorders, 18 of whom had bulimia nervosa, found a low level of CC, with a mean of 2.24 (SD 2.93) (Van Furth et al., 1993). The mean age of the patients was 17.1, and mean illness duration was 1.9 years. A previous study carried out by the authors used the SCFI (Le Grange et al., 1992) and involved parents of 18 adolescents with eating disorders, mean age 15.3 years and mean illness duration 13.7 months. This study found a mean parental CC of 1.46 (SD 1.92). These findings are rather similar, and consistent with this current study.

Comparison of scores for EOI between studies reveals that it is low, consistent with the findings here. Szmukler et al. (1985) found maternal EOI to be 1.30 and paternal EOI to be 0.43, and Szmukler et al. (1987) found maternal EOI to be 1.05 and paternal EOI to be 0.15. Van Furth et al. (1993), also using the CFI, found combined parental EOI to be 1.41. The only previous study using the SCFI found parental EOI to be 1.39 (Le Grange et al., 1992). These results are fairly similar, and all fall well within the normal range. The work of Minuchin, Rosman, and Baker (1978) is widely quoted as supporting the idea that the so-called “psychosomatic family”, characterised by high levels of enmeshment and conflict avoidance, is implicated in the development of anorexia nervosa. Our study raises doubts about this notion and suggests that the concept of the “psychosomatic family” needs to be revised or even abandoned (Dare, Le Grange, Eisler, & Rutherford, 1994; Eisler, 1995).

There are a number of weaknesses in this current study. First the sample is small, and its representativeness could be an important limitation. This is particularly relevant as the families were referred from a wide area, as the centre provides a national service. In addition, one of the raters, ED, rated the CFI and also participated in obtaining the consensus ratings of the SCFI. It might have been advantageous to use a separate rater for each stage of the study, but resource limitations made this impossible.

In conclusion, this study has demonstrated the feasibility of rating expressed emotion in a semi-structured family interview. Such a method would be very economical in interviewing time and in the time required for rating the tapes. Moderately high correlations have been found between the family interview and the Camberwell Family Interview, especially for criticism. Future studies could consider the use of the family interview for other disorders. It would also be important to investigate whether the family interview predicts the course of the eating disorder and treatment response as well as the Camberwell Family Interview.

Acknowledgements—Matthew Hodes was supported by the Medical Research Council (U.K.) during part of this study.

References


ASSSESSMENT OF EXPRESSED EMOTION


Manuscript accepted 19 August 1998