BRIEF REPORTS

Parental Expressed Emotion Toward Children: Prediction From Early Family Functioning

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Expressed emotion (EE), an index of family member criticism and emotional overinvolvement, predicts outcome among adults and children with mental disorders. However, limited research exists on factors contributing to EE. Aims of the current study were to (a) examine EE in mothers of young children; (b) assess relationships between demographic factors and EE in a diverse sample; and (c) investigate whether family stress and functioning, including quality of marital relationship, life events, maternal stress, and family environment, predict EE. In the current study, 276 mothers completed questionnaires when their children were between 1 and 3 years of age and a measure of EE when their children were in kindergarten. Results indicated that family expressiveness was the most consistent predictor of EE. Further research seems warranted to better delineate associations between family functioning and EE.

Keywords: predictors of EE in families, family environment expressiveness, expressed emotion and the family environment, family stress and expresed emotion

Expressed emotion (EE), a measure of one family member's attitude toward another, is comprised of ratings of hostility and criticism (critical EE) and emotional overinvolvement (EOI). EE predicts relapse in adult patients with mental disorders, including schizophrenia, bipolar disorder, depression, and eating disorders (Butzlaff & Hooley, 1998). In child populations, studies on maternal EE underscore its association with child psychopathology in general (e.g., Asarnow, Tompson, Woo, & Cantwell, 2001) and its association with a more negative course among youth with mood disorders (e.g., Asarnow, Goldstein, Tompson, & Guthrie, 1993). Much of this research has taken a unidirectional view in which negative family member attitudes lead to poor patient outcomes, ignoring potential bidirectional family processes and the larger social context in which family relationships evolve. However, we theorize that EE develops within a larger family context, characterized by stress, conflict, and poor family communication.

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Few studies highlight associations between EE and aspects of family functioning. For example, high critical EE is associated with lower marital satisfaction (Marks, Wiek, Checkley, & Kumar, 1996), more negative life events (Leff & Vaughn, 1980), higher maternal stress (Baker, Heller, & Henker, 2000), greater family conflict (Schnur, Friedman, Dorman, Redford, & Martin, 1986), and worse overall family functioning (Wamboldt, O'Connor, Wamboldt, Gavin, & Klinnert, 2000). High EOI is associated with lower family expressiveness (Schnur et al., 1986). Although previous studies have not shown significant associations between EE and broader measures of risk, such as socioeconomic status (e.g., Baker et al., 2000), study samples had restricted ranges of socioeconomic status, limiting their power to detect associations.

Existing studies of family context and EE are limited in that they are largely cross-sectional and focus mainly on parents of adult offspring. Specific aims of the current longitudinal study were therefore to examine levels of EE in a socioeconomically and ethnically diverse sample of parents of young children, assess the relationship between demographic factors and EE, and investigate whether early family stress and functioning are predictive of later EE. Only family systems-level variables that have previously shown associations with EE were examined.

Method

Participants

Study participants ($n = 276$) represented a subsample of mothers participating in a larger longitudinal investigation

($N = 1,605$) of social–emotional and behavioral problems and competencies in young children (see Carter, Briggs-Gowan, Jones, & Little, 2003). In this larger study, parents were mailed yearly questionnaires at two time points in early childhood (Times 1 and 2), beginning when their children were ages 12 to 36 months. At a third time point (Early Elementary), when the children were 5 to 7 years of age, a subsample of families ($n = 442$) was invited to participate in direct assessments in which they were administered the Five Minute Speech Sample (FMSS; Magana et al., 1986) along with other study measures. This sample was selected to overrepresent children at elevated risk for emotional and behavioral problems, with 80% meeting one or more criteria: (a) being at or above the subclinical cutpoint of the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2000, 2001) using parent report at Times 1 and 2 or at Early Elementary; (b) being at or above the CBCL subclinical cutpoint using teacher report at Early Elementary; (c) having a score at or above the 90th percentile on the Infant–Toddler Social Emotional Assessment's (ITSEA; Carter et al., 2003) Internalizing, Externalizing, or Dysregulation domains at Times 1 and 2; and (d) exhibiting language delays by scoring below the 10th percentile in ITSEA Expressive and Receptive Language at Time 2.

The participation rate of families in the direct assessment was 78% (442/567). Because of unavailable ($n = 88$) or invalid ($n = 50$) FMSS data, 138 families were excluded, and 28 were excluded because the mother was not the respondent. Excluded and included families did not differ with regard to marital status ($\phi = -0.04$), child sex ($\phi = -0.01$), or child externalizing symptoms, $t(10.37) = 0.57$, ns. However, the excluded group exhibited slightly lower levels of maternal education ($\phi = -0.11$) and higher levels of poverty ($\phi = -.013$), minority status ($\phi = -0.13$), and child internalizing symptoms, $t(9.71) = 2.08$, $p < .05$.

At Early Elementary, the children in the current sample ranged from 5.3 years to 7.6 years ($M = 6.0$), and 52% were female. The sample was 71% Caucasian, 19% African American, 3% Hispanic, 6% biracial, and 1% Asian and was diverse with regard to SES: for example, 20% of the mothers completed high school or less and 46% had a college degree; 5% of mothers were unemployed, and 21% met criteria for borderline poverty by earning less than 185% of Consumer Price Index poverty income guidelines or through receipt of government services.

Measures

Quality of the parents' relationship was assessed with the Quality of Marriage Index (QMI; Norton, 1983). The QMI is highly correlated with other measures of marital satisfaction, such as the Kansas Marital Satisfaction Scale (Schumm et al., 1986). Calculated as the mean of the items, which ranged from 1 to 7, mean QMI scores for the three time points were 5.7 ($SD = 1.3$), 5.8 ($SD = 1.2$), and 5.9 ($SD = 1.3$), and internal consistencies ranged from .96 to .97. For all questionnaires, total scores were deemed missing if more than 20% of items were missing.

A 40-item Life Events Inventory (LEI; Cochrane & Robertson, 1973), derived from the 55-item LEC, was used to assess life stress. Included items had the highest severity weights and greatest applicability to parents of young children. Research has supported the reliability and validity of the original LEC (Robins & Block, 1988). The LEC variable is a sum of endorsed events; score range was 0 to 14, and means were 2.9 ($SD = 2.8$), 2.5 ($SD = 2.3$), and 3.1 ($SD = 2.5$) for the three time points, respectively.

Parenting stress was evaluated with the 36-item Parenting Stress Index—Short Form (PSI–SF; Abidin, 1990). PSI–SF scores have demonstrated high stability over a 1-year period ($r = .75$, $p < .001$; Haskett, Ahern, Ward, & Allaire, 2006). In the current study, the PSI–SF was given at Times 1 and 2 only. Scores ranged from 36 to 176, with mean scores of 57.9 ($SD = 19.8$) and 58.0 ($SD = 19.9$), respectively, and internal consistencies were .90 and .91.

Family environment was assessed using the Expressiveness (FES–E) and Conflict (FES–C) scales of the Family Environment Scale (FES; Moos & Moos, 1983). Internal consistency of the FES varies from .61 to .78, and test–retest reliability ranges from .68 to .86 (Nielsen, 2006). Mean FES–E scores for the three time points were 6.1 ($SD = 1.8$), 6.1 ($SD = 1.7$), and 6.2 ($SD = 1.6$), respectively, and mean scores for the FES–C were 2.0 ($SD = 1.7$), 2.1 ($SD = 1.7$), and 2.0 ($SD = 1.7$), respectively. Internal consistencies ranged from .50 to .53 for the FES–E and from .64 to .65 for the FES–C.

Demographic data included mother's age, relationship status, employment, education, income, household composition, and child's age, birth order, gender, and ethnicity.

EE was assessed using the FMSS (Magana et al., 1986). Although, traditionally, the Camberwell Family Interview (Leff & Vaughn, 1980) has been used to assess EE, studies have indicated high agreement between ratings of EE made using the Camberwell Family Interview and FMSS, $\chi^2(1, N = 40) = 11.429$, $p < .001$ (Magana et al., 1986). EE status was rated from a 5-min monologue in which mothers describe their children and their relationships, with the assumption that samples reflect their general attitudes and feelings toward their children. EE ratings were assigned simultaneously for each protocol by doctoral students in clinical psychology who had completed extensive FMSS training.

Overall EE is rated as high or low; the presence of high critical attitudes (critical EE) or high emotional involvement (EOI) is rated as high overall EE (Magana et al., 1986). Critical EE and EOI are rated as high, borderline, or low. A rating of high critical EE is made in the presence of one or more critical comments, a negative relationship rating, or a negative initial statement. A rating of borderline critical EE is made from evidence of dissatisfaction toward the child. A rating of high EOI is made from an emotional display or an indication of self-sacrificing or overprotective behavior or from two of the following: excessive praise, one or more statements of attitude, or excessive detail about the past.[1] A

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[1] In coding EOI, careful attention was paid to developmental considerations by distinguishing developmentally appropriate parental protection and sacrifice from EOI. These efforts were made because certain parental sacrifices, such as accompanying a young child to most of his or her daily activities or staying home with a sick child, are appropriate and often necessary during this developmental stage.

rating of borderline EOI is made from excessive praise, one or more statements of attitude, or excessive detail about the past. Forty-four FMSS samples were randomly selected for evaluation of interrater reliability. Consistent with the previous studies with children (Asarnow et al., 2001), this process yielded 93% agreement for overall EE (κ = .63), critical EE (κ = .63), and EOI (κ = .84).

Results

Maternal EE in Elevated Risk Sample of Children

Using epidemiological sampling methods, we calculated frequencies, weighted for the probability of initial response and retention, to examine EE in this sample. Most mothers were rated as low in overall EE (raw rate = 73%; weighted rate = 71%). Only a small percentage had borderline critical EE (raw rate = 10%; weighted rate = 9%) or high critical EE ratings (raw rate = 18%; weighted rate = 20%). Many of mothers were low EOI (raw rate = 45%; weighted rate = 46%) or borderline EOI (raw rate = 46%; weighted rate = 44%), with only a few rated high EOI (raw rate = 10%; weighted rate = 11%). Only two families were rated both EOI and critical EE.

Relationship Between Demographic Factors and Maternal EE

We used chi-square analyses to examine the relationship between maternal EE and demographic factors (ethnicity, relationship status, child gender, maternal education, maternal work status, and poverty status). Consistent with previous work, no significant associations were found.

Relationship Between Family Stress and Functioning Variables and EE

Relationships between EE and parents' stress in the domains of parenting, negative life experiences, mothers' romantic relationship, and family environment were examined both cross-sectionally and longitudinally. First, weighted correlations were computed for family stress variables across Times 1 and 2 and Early Elementary EE status (see Table 1). To minimize Type I error, a significance level of .01 was adopted. Of the variables, FES–E showed the most consistent associations with Early Elementary EE. Time 1 and Early Elementary FES–E were each significantly negatively correlated with Early Elementary EE and critical EE, and Time 2 FES–E was negatively correlated with Early Elementary critical EE. In addition, Time 2 QMI was also significantly associated with Early Elementary EE and critical EE.

Second, six weighted multivariate logistic regressions were conducted to evaluate the predictive relationship between family stress variables and (a) total EE and (b) critical EE; EOI was not examined because of its low base rate of occurrence. In each regression, family stress variables (PSI, FES–C, FES–E, and LEC) from the same time point were entered simultaneously as independent variables (with the exception of the QMI, which was not completed by single

Table 1
Correlations Between Family Stress Variables and Early Elementary Expressed Emotion

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. T1 FES-E	—	.61**	.48***	.05	.04	-.08	-.04	-.04	.02	.46***	.40**	.33***	.40**	.22**	-.20**	-.05	-.27***
2. T2 FES-E		—	.48***	-.18***	-.26**	-.30***	-.01	-.04	-.02	.42***	-.34***	.28***	.27***	.22**	-.07	.09	-.18***
3. Elem FES-E			—	.05	-.09	.15*	-.07	.14*	.06	-.21***	.14*	.23***	.28*	.20***	-.26***	.08	-.29***
4. T1 FES-C				—	.57***	.47***	.12	.08	.29***	.21***	.08	.23***	-.14*	-.06	-.03	.04	-.06
5. T2 FES-C					—	.45***	.16**	.22***	.14*	.15*	.26***	-.15*	-.16**	-.12	-.06	-.01	-.07
6. Elem FES-C						—	.21**	-.06	.20***	.24***	-.16*	-.14*	-.24**	-.03	-.05	.07	
7. T1 LEC							—	.44***	.44**	.03	.06	.03	.10	.06	-.07	.01	-.08
8. T2 LEC								—	.37*	.08	.12*	-.01	-.06	-.20**	-.14*	-.08	-.08
9. Elem LEC									—	.15*	.05	-.23***	-.12	-.14*	-.07	.14*	-.10
10. T1 PSI										—	.72***	-.43***	-.46***	-.35***	.10	-.05	.03
11. T2 PSI											—	-.37***	-.44***	-.29***	.10	-.04	.13*
12. T1 QMI												—	.60***	.37***	-.06	.05	-.10
13. T2 QMI													—	.43***	-.20**	.14*	-.26***
14. Elem QMI														—	-.05	.11	-.11
15. Elem EE															—	.14*	.64***
16. Elem EOI																—	.26***
17. Elem CRIT																	—

Note. T1 = Time 1; T2 = Time 2; Elem = Early Elementary; FES–E = Family Environment Scale—Expressiveness; FES–C = Family Environment Scale—Conflict; LEC = Life Events Checklist; PSI = Parenting Stress Index; QMI = Quality of Marriage Index; EOI = emotional overinvolvement; CRIT = Critical EE. n = 276. QMI correlations are based on a smaller n.
* p < .05.   ** p < .01.

parents). Early Elementary critical EE (with borderline and low ratings collapsed) and Early Elementary overall EE were analyzed separately as the dependent variables. The FES–E emerged as the most consistent predictor of overall EE and critical EE. Both Time 1 and Early Elementary FES–E emerged as significant predictors of Early Elementary critical EE ($\beta = -.24$, Wald statistic $= 6.72$, $p < .05$, and $\beta = -.34$, Wald statistic $= 11.89$, $p < .05$, respectively). At Early Elementary, FES–E was a significant predictor of Early Elementary overall EE ($\beta = -.32$, Wald statistic $= 13.06$, $p < .05$); at Time 1, it was a marginally significant predictor of Early Elementary overall EE ($\beta = -.15$, Wald statistic $= 3.37$, $p < .10$). In addition, Time 2 PSI was a significant predictor of Early Elementary critical EE ($\beta = .02$, Wald statistic $= 6.61$, $p < .05$) and overall EE ($\beta = .02$, Wald statistic $= 5.27$, $p < .05$). Finally, Time 2 LEC was a significant predictor of Early Elementary critical EE ($\beta = -.21$, Wald statistic $= 5.86$, $p < .05$).

Discussion

This study examined the association between maternal EE and both early and concurrent family life functioning. Several key findings emerged. First, a relatively low base rate of high EE (27%), critical EE (18%), and EOI (10%) was found in this elevated risk sample, reflecting the generally low levels of EE present during this developmental stage (Wamboldt et al., 2000). Second, no significant associations were found between EE and demographic variables, despite examining an ethnically and socioeconomically diverse sample. Thus, this study supports previous findings and provides validation that EE is not merely a proxy for broader demographic risk. Third, and most important, family expressiveness emerged as the only consistently significant predictor of high EE over time, suggesting that EE may be less related to external characteristics of the family and more to forms of expression within it. In other words, regardless of various outside stressors affecting the family, it seems that communication among family members is most related to parental EE toward the child. Furthermore, lower family expressiveness at all time points was related to higher critical EE in Early Elementary, indicating that this more widely accepted self-report measure of family functioning can predict the critical attitudes expressed during the FMSS. It is important to note that such findings highlight the fact that this more global measure of family functioning is related to the proximal processes indicated by the FMSS.

One study limitation was the low base rate of high EE, which restricted statistical power, particularly for assessing high EOI. We were surprised not to find a higher rate of high EE in a sample of mothers oversampled for having children at elevated levels of risk, and we wonder whether higher rates of high EE might emerge as children get older. Reliance on a single informant for information about family stress and functioning prevented our ability to incorporate the often disparate viewpoints of various family members. To better elucidate the mechanisms involved in the relationship between emotional expressiveness in the family and EE, further research seems warranted using larger samples and multiple informants and incorporating individual- and community-level variables. For example, one might speculate that cultural factors or parent or child functioning moderate relations between family expressiveness and EE.

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