



DOCTORATE IN CLINICAL AND COMMUNITY PSYCHOLOGY

MAJOR RESEARCH PROJECT

Paternal Depression, Expressed Emotion and Child Emotional and Behavioural Problems

Author name & affiliation: Lucy Butler

Department of Clinical Psychology

College of Life and Environmental Sciences

Washington Singer Laboratories

University of Exeter

Exeter, EX4 4PQ

Supervisor 1: Dr Lamprini Psychogiou

Supervisor 2: Dr Heather O'Mahen

Target Journal: Journal of Child Psychology and Psychiatry

Word count manuscript: 6, 642 (including abstract)

Word count appendices: 5, 915 (including instructions for authors)

Date: 27th July 2012

Submitted in partial fulfilment of requirements for the Doctorate Degree in Clinical Psychology

Contents

Manuscript

Abstract	.....	3
Introduction	.....	4
Hypotheses	.....	9
Methods	.....	9
Results	.....	15
Discussion	.....	17
Conclusion	.....	24
References	.....	26

Extended Appendices

A. Extended method	.....	32
B. Extended results	.....	41
C. Extended discussion	.....	47
D. Extended references	.....	49
E. Instructions for authors	.....	50
F. Dissemination plan	.....	60

Abstract

Few studies currently exist which examine expressed emotion in depressed fathers, despite considerable evidence linking expressed emotion and depression in mothers. These findings are important as they indicate that mothers' depressed mood is associated with an increase in child-directed critical comments and a decrease in positive comments, which have been linked to poorer child emotional and behavioural outcomes. There are limited findings exploring how depressed mood may impact fathers' expressed emotion, and how this in turn may impact upon the child. This paper reports findings from part of a longitudinal study examining fathers with depression in the postnatal period. The aim of this study was to determine whether child emotional and behavioural problems at age 2 years were associated with increased critical comments and decreased positive comments made by fathers (N = 143). It was predicted that fathers who were depressed when their child was 3 months or 12 months old would make more critical comments and fewer positive comments about their children at age 24 months, and that fathers' critical comments would predict child emotional and behavioural problems at 24 months. Fathers' depression at 12 months was found to be significantly related to child emotional and behavioural problems at 24 months. The children of fathers who made more positive comments had fewer reported emotional and behavioural difficulties at 24 months. Fathers' positive comments were found to remain stable from 12 months to 24 months. There were no significant relationships found between fathers' depression and the frequency of positive or critical comments. This study has implications for increasing fathers' child-directed positive comments in order to prevent the development of child emotional and behavioural difficulties.

Keywords: Paternal depression; Expressed emotion; Child emotional and behavioural problems.

Paternal Depression, Expressed Emotion and Child Emotional and Behavioural Problems

Paternal depression increases the risk of the development of emotional and behavioural problems in children (Kane & Garber, 2004; Phares, Duhig & Watkins, 2002). Adverse outcomes for the children of depressed parents have been documented from infancy to adolescence (Ashman & Dawson, 2002). Parents' depression during children's early years has been associated with poorer attachment security, poorer cognitive functioning, heightened emotionality (Goodman, 2007), and higher levels of behavioural problems (Dietz, Jennings, Kelley & Marshal, 2009; Ramchandani et al., 2008b). Infancy and pre-school are particularly salient stages of development in which the child's physiological, affective and cognitive systems are developing rapidly (Goodman & Gotlib, 1999). Problems identified this early in childhood are a significant concern as they are predictive of psychopathology later in life (Goodman, 2007).

Whilst women are twice as likely to experience depression as men, there are indications that between 3.8 and 12.7% of men may also experience a major depressive episode in their lifetime (Kane & Garber, 2004). Men and women may express depression in different ways; for example depressed men are more likely to express anger and irritability than women, as well as eliciting more negative emotions when interacting with their partner (Ramchandani et al., 2011). High rates have been found for the presence of depression in fathers as well as mothers during the pre- and postnatal periods (Field et al., 2006; Paulson, Dauber & Leiferman, 2006); the highest rates of paternal depression (25 %) are thought to occur in the first 3 to 6 months postpartum (Paulson & Bazemore, 2010). There is also evidence of couple morbidity of depression (Areias, Kumar, Barros & Figueiredo, 1996; Goodman 2004), increasing in the first year postpartum (Matthey, Barnett, Ungerer & Waters, 2000).

The growing evidence base highlighting the prevalence of depression in fathers during the postnatal period is concerning given the extent of infant development occurring at this time. There are also indications that infants' secure attachment at 1 year to both parents has been associated with more positive parent-child interactions occurring at 3 months (Cox, Owen, Henderson, & Margand, 1992). In a study of paternal depression in the postnatal period, child behavioural problems at age 3 years were found to be independent of whether fathers continued to be depressed beyond the postnatal period, highlighting the potential risk of fathers' depression occurring in these early stages of development (Ramchandani et al, 2008a). As prenatal paternal depression has been found to predict later depression, it is possible that children continue to develop within a depressive family environment that is entrenched and stable over time (Goodman, 2004; Wee, Skouteris, Pier, Richardson & Milgrom, 2011).

Not all children with depressed parents become depressed themselves, suggesting that there are particular risk factors, protective factors, and mechanisms through which children are affected. Fathers have been identified as playing a role in influencing the genetic and environmental mechanisms through which parental depression may contribute to child emotional and behavioural difficulties (Ramchandani & Psychogiou, 2009). As well as increasing genetic susceptibility, paternal depression increases risk directly through impaired paternal care-giving and decreased positive father-child interactions (Ramchandani et al, 2008a). Fathers have been found to be more involved in parenting older children and boys (Connell & Goodman, 2002; Ramchandani & Psychogiou, 2009; Rouyer, Frascarolo, Zaouche-Gaudrom & Lavanchy, 2007; Wood & Repetti, 2004), suggesting that not all children will be affected by a depressed father in a direct way. They may also be indirectly affected through the impact of paternal depression on maternal psychological problems, increased levels of marital conflict (Ramchandani & Psychogiou, 2009) and increased

criticism between partners (Ramchandani et al., 2011). Depression in one parent may also impair interactions between the other parent and their child (Malmberg & Flouri, 2011), further reducing positive parent-child interactions.

Maladaptive relationships between family members within families in which there are mental health problems have been studied using measures of expressed emotion (EE). EE refers to the emotional quality of a relationship, and is measured by observing the criticism and / or emotional over-involvement one family member expresses towards a target family member, originating in research exploring relapse in adults with schizophrenia (Barrowclough & Hooley, 2003). Individuals scoring highly for critical EE show more criticism and intrusiveness and are less warm, tolerant and sensitive towards the target family member. EE in the partners or family members of adults with psychological disorders has been found to predict greater relapse rates and is associated with generally poorer outcome (McCarty & Weisz, 2002). EE has more recently been applied to child samples, in which associations have been found between parental EE and childhood depression and behavioural problems (McCarty & Weisz, 2002). Whilst higher rates of some aspects of EE, particularly criticism, have been found to be predictive of parent depression (Bolton et al., 2003; Psychogiou, Netsi, Sethna & Ramchandani, in press), research indicates that the presence of EE increases the risk for child psychological problems beyond the impact of parental depression; this suggests that EE may mediate the relationship between parents' depression and child emotional and behavioural difficulties (Rogosch, Cicchetti & Toth, 2004).

A recent study of parents of children aged 12 months found mothers' depression predicted EE, but no association between fathers' depression and EE was found (Psychogiou et al., in press). Little other research exists regarding paternal EE which directly involves fathers, however studies of depression in fathers indicate that paternal depression not only increases negative parenting but decreases positive father-child interactions (Jacob &

Johnson, 2001; Schact, Cummings & Davies, 2009). Aspects of father-child interactions targeted in measures of EE, such as lack of warmth and high levels of criticism and hostility, have been associated with poorer child outcomes. For example, negative paternal discipline has been associated with child referral to psychological services (DeKlyen, Biernbaum, Speltz & Greenberg, 1998; Frosch & Mangelsdorf, 2001). For adolescents, correlations have been found in girls' depressive symptoms and their perception of their father as critical and hostile (Chen, Johnstone, Sheeber & Leve, 2009; Kane & Garber, 2004; Reeb & Conger, 2009).

The role of negative affect as a trait has been explored as a contributing factor to EE, as it reflects subjective distress inherent to aversive mood states, and so may be heightened in depressed individuals (Rogosch et al., 2004). A small number of studies have found EE to be stable over time, which also implies that EE reflects a trait or interpersonal style rather than occurring as a situation-dependent response; for example, moderate findings in a study of children aged 4 indicated that mothers' EE remained stable across a 2 year follow-up, and was predictive of child externalising problems (Peris & Baker, 2000). A study of parents of preschool children found reciprocity of criticism between parents; whilst fathers were not directly critical towards their child, they were more critical of themselves and their partner (Rogosch et al., 2004). In this way, EE is thought to reflect disturbances in the wider family system (Tompson et al., 2010). These studies highlight the importance of studying EE in the parents of infants and preschool children, who are in the process of forming attachment relationships and developing a sense of an autonomous self. A negative family environment, in particular one in which parents engage in child-directed criticism and that is stable over time, is likely to negatively influence the child's developing internal representations of self and others (Cicchetti, Rogosch & Toth, 1998; Rogosch et al., 2004).

As well as research implicating the risk for children of depressed fathers, fathers are also identified as a potential moderator for the impact of maternal depression, through positive contributions to the marital relationship, support for a depressed mother, a positive role model for the child, and by actively participating in healthy parenting (Goodman and Gotlib, 1999). Fathers involved in healthy parenting can have a positive and protective influence on child development even in infancy (Ramchandani, Ijzendoorn & Bakersman-Kranenburg, 2010), resulting in less depressive symptoms, greater social competence and greater cognitive development in the child (Dubowitz et al., 2001; Stolz, Barber & Olsen, 2005). Hence, the importance of including fathers in research has implications for both understanding the risk and contribution of fathers with depression to child disorders, but also the protective and moderating influence a non-depressed father may have on healthy child development.

The current study reports findings from a longitudinal project involving fathers with depression during the postnatal period, and seeks to begin filling a gap in the evidence base regarding paternal EE. EE in fathers of young children was explored to gain a better understanding of whether depression is associated with EE in fathers, and to consider whether paternal EE had associations with child emotional and behavioural problems. The study involved children aged 2 years old, which provided the opportunity to explore whether EE is a valid mechanism for the transmission of risk to younger children of depressed fathers. Thus far the research in parental EE has found lower rates of EE in parents of younger children (Boger, Tompson, Briggs-Gowan, Pavlis & Carter, 2008); parental criticism is thought to be the most crucial feature of EE related to child emotional and behavioural problems, corresponding to parents' child-directed attitudes and behaviour (Rogosch et al., 2004). The criticism dimension of EE has also been associated with poorer family functioning in general, whilst positive comments were associated with better family functioning, as reported by both

parents (Wamboldt et al. 2000). In the current study, scores for paternal EE were very low; only 1.4% of fathers were rated as having high EE. Based on the evidence, it was therefore viewed appropriate to focus on fathers' positive and critical comments in order to further explore the data.

Hypotheses

The current study sought to explore the following hypotheses:

1. Fathers' positive and critical comments remained stable at 12 months and 24 months.
2. Paternal depression at 3 months and 12 months predicted fewer positive and more critical comments by fathers at 24 months.
3. Paternal depression at 3 months and 12 months predicted more child emotional and behavioural difficulties at 24 months.
4. Fewer positive and more critical comments by fathers predicted more child emotional and behavioural difficulties at 24 months.

Methods

Ethical approval was obtained from the Oxfordshire research ethics committee when the study was initiated, and from the School of Psychology, University of Exeter, for the data coding and analyses reported in this paper (see Appendix A, Extended Methods, for copies of ethical approval).

This study used data collected as part of a longitudinal study designed and carried out by the Oxford Fathers' Project, which explored depression in men during the postnatal

period. Data was collected at three time points from the birth of the child until the child was age 24 months. This paper specifically reports the procedures for coding and scoring the measures of fathers' EE taken at the 24 month time point, analysed along with the data collected at the previous two time points. The coding procedures and analyses were carried out to fulfil the research component of the Doctorate in Clinical Psychology training, whilst study design, recruitment of participants and data collection were undertaken by the Oxford Fathers' Project team of researchers.

Participants

Participants in this study were part of a longitudinal project examining the impact of paternal depression on infant development. All parents with a new born infant were approached by trained staff whilst on the maternity wards of two hospitals in Oxford and Milton Keynes (UK). Parents were provided with information and invited to participate in the study. Parents involved in the study were over 18 years of age. Families were not included in the study if the child was involved in the intensive care unit, or if there were birth-related complications or low birth weight. Only English-speaking families were recruited.

Following consent, fathers were contacted at 3 months following the birth of their child and asked to complete the Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden & Sagovsky, 1987), a screening questionnaire for depression. Fathers scoring 10 and above, indicating depressive symptoms, as well as a random sample of fathers scoring below 10 (no depression) were invited to participate. The Structured Clinical Interview for DSM-IV (SCID; Gorman et al, 2004) was subsequently administered at 3 months to confirm a diagnosis of depression. Mothers, fathers and their infant were assessed at 3, 12 and 24

months. At 3 months, a total of 192 fathers were recruited. Participant attrition resulted in data being collected from 163 fathers at 12 months 143 fathers at 24 months.

Demographic information was collected for mothers, fathers and their children (see Appendix A, Extended Method, for more detail regarding demographic information). A large proportion of the fathers in this study were educated to degree level or above (62.3%). Whilst 92.7% were employed full time, 0.5% of the sample was unemployed. The majority of the sample (97%) were married or living together; the mean length of the parental relationship was 8.4 years (SD = 4.4). Fathers' mean age was 34.9 years (SD = 5.8). 52.6 % of infants were female, and 59.4 % were the first-born child in the family. Results from the SCID indicated that a proportion of the participants (19.3 %) reported no history of previous depression. At 3 months, 38.6 % of fathers scored 10 or more on the EPDS, indicating symptoms of depression. At 12 months, 29% of fathers scored 10 or more on the EPDS.

Measures

Edinburgh Postnatal Depression Scale

Paternal depression was assessed using the Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987). A cut-off of 10 and above was used as an indication of possible depression; Edmondson, Psychogiou, Vlachos, Netsi & Ramchandani's (2010) study determined that a score of greater than 10 was a statistically reliable cut-off when screening fathers for major depressive disorder, achieving an overall accuracy of subsequent diagnosis of 79.4%. The EPDS has also been found to have sound psychometric properties and has good specificity and sensitivity in predicting depression in fathers (Edmondson et al., 2010; Matthey, Barnett, Kavanagh & Howie, 2001).

Child Behaviour Checklist for ages 1 ½ to 5

The Child Behaviour Checklist for ages 1 ½ to 5 (CBCL/1 ½ - 5; Achenbach & Rescorla, 2000), a parent-completed measure of child behaviours, was used to measure child emotional and behavioural problems at 12 months and 24 months. The CBCL was also completed by another individual who knew the child well, such as a grandparent, where possible. Scores on the CBCL were used to compute scales for externalising (behavioural) and internalising (emotional) problems.

Pre-school Five Minute Speech Sample

The Pre-school Five Minute Speech Sample (PFMSS; Daley, Somuga-Barke & Thompson, 2003) was administered at 12 months and 24 months to measure parents' EE (see Appendix A, Extended Methods, for more information regarding the PFMSS). Audio recordings were taken from parents individually who were instructed to speak for five minutes, with no interruptions or prompts, about their thoughts and feelings towards their child and their relationship with their child over the last six months. Recordings of the PFMSS were coded using the Daley manual for coding EE (Daley et al., 2003). The PFMSS has three 'global' scores; initial statement, relationship and warmth, which were scored as positive, neutral or negative. Initial statement refers to the first comment the parent makes relating to their child or their relationship with their child. Warmth includes factors such as tone of voice, empathy, amount of detail used and monotony. Relationship was scored based on statements reflecting how the parent felt about their relationship with their child and the time spent with them. Frequency counts were taken of positive and negative comments. 'Intermediate' positive and negative comments, which were comments involving a qualifier (for example, 'my child is *quite* well-behaved') were included. High scores on the PFMSS translate to higher expression of negativity from the parent. A score of high EE was given

when parents had more critical than positive comments and the presence of at least one negative global category.

Training in the use of the coding manual was undertaken by two clinical psychology trainees and their supervisor, who was part of the Oxford-based team running the wider project (see Appendix A, Extended Methods, for further description of the training and coding procedures). Forty speech samples were coded as a group in order to achieve consistent and reliable coding of the speech samples. Following the training period, the remainder of the speech samples were coded individually, with one trainee taking the mothers' speech samples and one trainee taking the fathers' speech samples. In order to gain test-re test reliability, twenty speech samples were re-coded after a delay of approximately two months. Twenty different speech samples were coded by the supervisor in order to obtain inter-rater reliability. All researchers were blind to participants' scores on the EPDS.

The inter-rater and test-re test reliability of EE and its constituents for the twenty fathers' speech samples was examined using correlations for the continuous variables and Kappa's for the categorical variables as shown in Table 1. The inter-rater and test-re test reliability was satisfactory for all constituents of EE.

Table 1

Inter-rater and test-re test reliability for each constituent of EE

	Inter-rater		Test-re test	
	<i>k</i>	CI	<i>k</i>	CI
Initial statement	.807	.555-1	1	1-1
Relationship	.791	.518-1	1	1-1
Warmth	.872	.629-1	.831	.611-1
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Total positive comments	.950	.000	.907	.000
Total negative comments	1	.000	.994	.000

Data analysis strategy

Data analyses were conducted according to the following steps:

1. To address hypothesis 1, correlational analysis was run using fathers' positive comments at 12 months and fathers' positive comments at 24 months. The same analysis was conducted with fathers' critical comments at 12 months and 24 months.
2. To address hypothesis 2, linear regressions were run using fathers' EPDS scores at 3 months and fathers' positive comments at 24 months. The regression was then run using fathers' critical comments as the dependent variable. These regressions were repeated using fathers' EPDS scores at 12 months as the predictor variable.
3. To address hypothesis 3, linear regressions were run using fathers' EPDS scores at 3 months and child externalising scale at 24 months. The regression was then run using child internalising scale at 24 months as the dependent variable. The regressions were repeated using externalising and internalising scales as rated by fathers, mothers and other. The regressions were also repeated using fathers' EPDS scores at 12 months as the predictor variable.
4. To address hypothesis 4, linear regressions were run using fathers' positive comments at 24 months and child externalising scale. The regression was then run using child internalising scale at 24 months as the dependent variable. The regressions were repeated using externalising and internalising scales as rated by fathers, mothers and other. The regressions were also repeated using fathers' critical comments at 24 months as the predictor variable.

(see Appendix B, Extended Results, for tests of assumptions of normality and supporting statistical analyses).

Results

Hypothesis 1: Fathers' positive and critical comments remained stable at 12 months and 24 months

Correlational analyses were used to examine the associations between positive and critical comments at 12 months and 24 months. There were no significant correlations found between critical comments at 12 months and 24 months ($r(132) = .136, p = .118$). Positive comments at 12 months and 24 months were significantly associated ($r(132) = .240, p = .005$).

Hypothesis 2: Paternal depression at 3 months and 12 months predicted fathers' positive and critical comments at 24 months

Linear regression indicated that paternal depression at 3 months was a strong predictor of depression at 12 months ($\beta = .582, t(163) = 9.127, p = .000$). This regression equation was a good fit, explaining 58 % of the variance ($R^2 = .338, F(1, 163) = 83.3, p = .000$).

Linear regression was used to examine whether paternal depression at 3 months and at 12 months predicted critical and positive comments made at 24 months. No significant relationships were found between paternal depression at 3 months and total critical comments at 24 months ($\beta = .097, t(136) = 1.133, p = .259$) or paternal depression at 3 months and total positive comments at 24 months ($\beta = -.022, t(136) = -.251, p = .802$). No significant

relationships were found between paternal depression at 12 months and total critical comments at 24 months ($\beta = -.035$, $t(134) = -.403$, $p = .688$) or paternal depression at 12 months and total positive comments at 24 months ($\beta = -.008$, $t(134) = -.094$, $p = .925$).

Hypothesis 3: Paternal depression at 3 months and 12 months predicted child emotional and behavioural difficulties at 24 months

Child outcome was represented by externalising (behavioural) and internalising (emotional) scales computed from scores of the CBCL as rated at 24 months by fathers, mothers and one other person who knew the child well. These results are shown in Tables 2 and 3.

Table 2

Correlation between fathers, mothers, and other CBCL scores for child internalising scale at 24 months

	Father internalising scale	Mother internalising scale	Other internalising scale
Father internalising scale			
Mother internalising scale	$r = .319^*$		
Other internalising scale	$r = .102$	$r = .304^*$	

(* $p < .01$)

Table 3

Correlation between fathers, mothers, and other CBCL scores for child externalising scale at 24 months

	Father externalising scale	Mother externalising scale	Other externalising scale
Father externalising scale			
Mother externalising scale	$r = .380^*$		
Other internalising scale	$r = .261^*$	$r = .273^*$	

(* $p < .01$)

Linear regression was used to examine whether paternal depression predicted child externalising or internalising problems. A number of significant relationships were found. Fathers' depression at 3 months predicted child internalising problems at 24 months, but only based on mothers' ratings ($\beta = .188$, $t(146) = 2.307$, $p = .022$). The regression equation explained 18% of the variance ($R^2 = .035$, $F(1, 146) = 5.321$, $p = .022$). Paternal depression at 12 months predicted child internalising problems as rated by fathers ($\beta = .189$, $t(140) = 2.279$, $p = .024$) and mothers ($\beta = .180$, $t(144) = 2.190$, $p = .030$). These equations explained 18% of the variance for both fathers' ratings ($R^2 = .036$, $F(1, 140) = 5.194$, $p = .024$) and mothers' ratings ($R^2 = .032$, $F(1, 144) = 4.794$, $p = .030$). Paternal depression at 12 months predicted child externalising problems based on only the mothers' ratings ($\beta = .176$, $t(144) = 2.141$, $p = .034$). This equation explained 17% of the variance ($R^2 = .031$, $F(1, 144) = 4.585$, $p = .034$).

Hypothesis 4: Fathers' positive and negative comments was associated with child emotional and behavioural difficulties at 24 months

Linear regression was used to explore whether fathers' critical or positive comments predicted child outcome, as rated by the fathers, mothers and other. Regression analyses indicated that fathers' positive comments were negatively associated with child internalising ($\beta = -.240, t(125) = -2.758, p = .007$) and externalising problems ($\beta = -.256, t(125) = -2.965, p = .004$) as rated by fathers. The equation for fathers' ratings of internalising problems explained 24% of the variance ($R^2 = .057, F(1, 125) = 7.607, p = .007$), and 24% of the variance for externalising problems ($R^2 = .066, F(1, 125) = 8.793, p = .004$). Fathers' positive comments were also negatively associated with both internalising ($\beta = -.247, t(130) = -2.901, p = .004$) and externalising problems ($\beta = -.248, t(130) = -2.916, p = .004$) when rated by mothers. These equations explained 24% of the variance for mothers' ratings of both internalising problems ($R^2 = .061, F(1, 130) = 8.416, p = .004$) and externalising problems ($R^2 = .036, F(1, 130) = 8.502, p = .004$). Fathers' critical comments at 24 months did not significantly predict child internalising or externalising problems at 24 months.

Discussion

The current study is valuable as it includes a large sample of depressed fathers and their young children studied over a period of two years. It also contributes to the small but growing evidence base looking at expressed emotion in depressed fathers. Overall, research on parental depression and EE has largely targeted mothers. Reasons for this may include the higher prevalence of depression in women than in men and the greater number of mothers over fathers in the role of primary caregiver to their children (Goodman & Tully, 2008).

However, there are substantial findings in the existing evidence base indicating that fathers play an important role in supporting healthy development in their children, as well as contributing to the development of emotional and behavioural problems (Kane & Garber, 2004). The current study was able to add some interesting findings which provide implications for further research involving fathers, which are now discussed.

Fathers' positive comments at 12 months were significantly correlated with fathers' positive comments at 24 months. This study is the first to indicate that fathers' positive comments about their young children remained stable over time. This suggests that fathers felt positive about their children even from a very young age and continued to express positive feelings about their children as they developed. A significant relationship was found between fathers' positive comments at 12 months and lower parental reports of child emotional and behavioural difficulties at 24 months. This is a particularly important finding as it implies that positive child-directed comments from fathers predicted fewer reported child emotional and behavioural problems even at a young age. This implies that fathers' positive relationship with their children throughout infancy may protect against the development of emotional and behavioural problems at age 2 years.

Paternal depression at 3 months predicted fathers' depression at 12 months, suggesting that fathers remained depressed throughout the first year of their child's life. Fathers' depression at 12 months was found to significantly predict parental reports of child internalising and externalising problems at 24 months. Using the mothers' CBCL ratings, paternal depression at 3 months also predicted child internalising problems. These findings suggest that, based on parental report, fathers' depression at 1 year was associated with the development of both emotional and behavioural problems in children at age 2 years. The finding that fathers' depression at 3 months had a small association with child emotional problems at age 2 years is interesting in the context of evidence suggesting that fathers are

more involved in caring for children after the early stages of infancy (Connell & Goodman, 2002; Ramchandani & Psychogiou, 2009; Rouyer et al., 2007; Wood & Repetti, 2004); this raises questions about measuring paternal involvement, and the level of paternal involvement necessary to result in a direct impact upon the child. It also indicates that further consideration of the indirect impact of paternal depression is warranted. As the highest rates of maternal and paternal depression have been found at 3 to 6 months postpartum, it would also be important to consider mothers' depression and well-being at this time point.

There are a number of factors to consider when using parental report of child problems; mothers' and fathers' ratings correlated significantly, which may indicate that parents are reporting similar observations of child problems or lack thereof. It may also be possible that parents within a more positive family environment interpret their child's behaviour differently to critical parents. For example, a child might be described as 'cheeky' rather than 'naughty', or parents may show empathy for their child's behaviour in the context of their development. Although attempts were made to collect data from one other rater, this data was missing for 76 cases. In future research, it may be useful to consider observation of child behaviour in order to measure child emotional and behavioural problems. Nonetheless, the way in which a parent interprets their child's behaviour as a greater or lesser problem is important, considering that the existing research indicates that depressed mothers are more likely to attribute behavioural difficulties to the child (Bolton et al., 2003) and that parents' negative affect and criticism have been associated with reported child behavioural problems (Rogosch et al., 2004).

No significant relationship was found between fathers' depression and the amount of critical or positive comments fathers made about their children. This finding calls to question whether depression in fathers influences the amount of criticism fathers express towards their children. This may reflect findings that men express depression differently to women

(Ramchandani et al., 2011), and are more likely to be critical towards themselves and their partner than their child (Rogosch et al., 2004). This is likely to be an important factor to consider given that anger and alcohol use are more present in depression in men than in women (Ramchandani & Psychogiou, 2009), and these features of depression may be measured differently, and associated with the development of different types of difficulties in children.

It is interesting to note that a relationship was found between paternal depression and child emotional and behavioural problems, whilst no relationship was found between paternal depression and fathers' critical comments. This has implications for the mechanisms through which fathers' depression is related to child problems. The evidence base suggests that depressed fathers contribute to child problems directly, through their genetic contribution and through maladaptive parenting, or indirectly via maternal depression or via marital conflict (Ramchandani & Psychogiou, 2009). Marital problems were not measured in this study but should be considered in future research. It would be valuable to further explore maternal depression and maternal expressed emotion in relation to fathers; for example, does fathers' depression predict mothers' critical comments? It would also be important to consider differences in results when both parents were rated as depressed in order to differentiate the impact of fathers' and mothers' depression separately and additively.

This study has some methodological strengths which should be acknowledged. A notable feature of many of the other existing studies of paternal depression is that father involvement and parenting was often measured through mother or child report, rather than by the father himself, and when fathers were directly involved in research, measures used were sometimes those designed for use with mothers (Kim and Swain, 2007). This study used measures of paternal depression as based on fathers' own reports, via a depression measure that has been validated for male samples (Edmondson et al., 2010; Matthey et al., 2001).

Paternal EE was also measured directly from fathers' five minute speech samples, and reported fathers' results independently from mothers' results. Inter-rater and test-re test reliability was obtained for the scoring of the EE measures.

Clinical Implications and Suggestions for Further Research

The findings in this study have some interesting and valuable implications. Whilst no evidence was found to associate child-directed criticism with depression in fathers, there were indications that paternal depression at 1 year was associated with both internalising and externalising child problems at age 2 years. This contributes to the evidence base by implying that fathers' depression may impact on very young children, and may be associated with emotional as well as behavioural difficulties. The clinical implications of this finding are that fathers as well as mothers should be included in assessment and intervention for depression in the postnatal period. It also indicates that other mechanisms besides child-directed criticism explain how fathers' may contribute to the development of child problems.

Fathers' positive comments at 12 months predicted positive comments at 24 months which suggests a stable positive relationship. This is an important implication as it suggests that fathers' positive comments contribute to child well-being, even at a young age, and highlight the value of including fathers in both research and clinical settings for preventative or early interventions for child emotional and behavioural difficulties. No association was found between child problems and fathers' critical comments. This may suggest that fathers' criticism has less impact on child development than mothers, or that depression in fathers does not translate into child-directed criticism. These findings warrant further investigation to determine whether the lack of relationship between critical comments and child problems,

and the association between positive comments and fewer problems remain significant as the child ages.

An important area for continued research for this particular study is to consider measures of fathers' depression at 24 months; whilst this data was collected, at this stage there were no resources available for the data to be analysed. Therefore it was not possible to determine the stability of fathers' depression over time. Despite finding a relationship between fathers' depression at 12 months and child externalising and internalising problems at 24 months, it could not be determined whether these reported problems were independent of fathers' depression, or lack thereof, at 24 months; that is, would children have been rated as having emotional and behavioural difficulties at 24 months, even if fathers were no longer depressed at this time point. Similar findings have been previously reported, where paternal depression in the postnatal period was associated with child behavioural problems at age 3 years, even when fathers were no longer depressed (Ramchandani et al., 2008a). The significant relationships identified in this study accounted for a somewhat moderate amount of the variances; this indicates that other processes were contributing which were not explained by the variables addressed in this study.

Lack of depression data at 24 months also prevented associations between depression and paternal criticism from being further explored. No relationship was found between fathers' depression at 12 months and critical or positive comments at 24 months. There may have been a greater likelihood that current depression had a more significant relationship with current critical or positive comments. If paternal depression remained unrelated to fathers' child-directed criticism when both were measured at the same time point, implications may have been drawn about the mechanisms through which fathers' depression is related to child problems. Given that a proportion of the fathers reported no history of previous depression, it would also have been interesting to see whether depression decreased or increased over time,

and to think about what inferences could be made about fathers who become depressed in the postnatal period.

Limitations

There are some limitations in terms of interpreting these findings. Firstly, the regression analyses carried out do not indicate directionality; it is not possible to state for example whether fathers' depression causes child problems, or that fathers' positive comments reduce child problems. It is equally possible that children with fewer emotional and behavioural difficulties receive more positive responses from their parents, or that children's difficult temperaments contribute to parental low mood.

Another limitation is the potential to apply the findings to the general population. The study involved fathers of whom a high proportion were highly educated and employed on a full time basis. Also, as the study targeted couples, almost 100% of the sample were married or living together. There may have been significant differences found if greater numbers of unemployed or single parents were targeted, given that fathers' roles in contributing financial support to the family and emotional support to their partners are highlighted as important factors in healthy child development (Lamb, 2010). In light of the sample targeted in this study, it is assumed that the findings cannot be generalised to the wider population.

Some limitations regarding the design and conduct of the study are considered. The participants in this study were recruited on the basis of paternal depression (with a sample of non-depressed fathers included); whilst 38.6% of fathers scored 10 or more on the EPDS at 3 months, only 9.9% were scored at having current depression using the SCID. Despite indications that the EPDS can reliably predict diagnosis (Edmondson et al., 2010), the EPDS is a screen rather than a diagnostic tool, and it may be more apt to describe the sample as

showing symptoms of depression. Further research may aim to recruit a larger sample of fathers diagnosed as depressed using the SCID. This may also relate to the attrition rate between the 12 months data collection point and 24 month point. It is possible that factors such as moving to another location or becoming increasingly busy with a developing child contributed to the drop-out rate, but it is also possible that fathers who maintained higher levels of depressive symptoms, or whose symptoms increased, may have chosen to discontinue their participation. Thus there is a possibility that the sample is biased towards fathers with less depressive symptoms. However, the difficulty of recruiting fathers into research regardless of depression is recognised, and thus the value of this study still remains.

Conclusions

There is a significant gap in the literature regarding expressed emotion in depressed fathers, particularly those with very young children. The aim of this study was to explore whether there were any relationships between fathers' depression, fathers' child-directed criticism and child emotional and behavioural problems. This study was the first to show the stability of fathers' positive comments towards their young children over time. It also found that fathers' child-directed positive comments predicted fewer reported internalising and externalising child problems at age 2 years. Finally, the study found a significant association between fathers' depressive symptoms and reported child emotional and behavioural difficulties.

This study has implications for further research looking at the impact of fathers' depression. No relationship was found between paternal depression and paternal criticism, or paternal criticism and child problems. This implies that firstly, father's depression may not translate into child-directed criticism, or secondly, that paternal criticism is not associated

with emotional and behavioural problems in young children. An important question to consider therefore is the mechanism through which paternal depression contributed to child problems. To answer this question, further research should examine the data gathered from the mothers of the children in this sample, specifically considering the association between paternal depression and mothers' depression and mothers' child-directed criticism.

The clinical implications of this study are that fathers' depression during the postnatal period and in children's early years of life should be targeted for assessment and intervention as well as mothers' postnatal depression, as it may be significantly associated with child emotional and behavioural problems. Positive comments should be further explored in fathers, mothers and older children as a preventative factor in the development of child difficulties at a young age.

References

- Achenbach T. & Rescorla, L. (2000). *Manual for the ASEBA preschool forms & profiles*. Burlington: University of Vermont, Research Centre for Children, Youth, & Families.
- Areias, M., Kumar, R., Barros, H. & Figueredo, E. (1996). Correlates of postnatal depression in mothers and fathers. *British Journal of Psychiatry*, *169*, 36-41.
- Ashman, S. & Dawson, G. (2002). Maternal depression, infant psychological development and risk for depression. In S. Goodman & I. Gotlib (Eds.), *Children of depressed parents: Mechanisms of risk and implications for treatment* (pp. 37-58) Washington: American Psychological Association.
- Barrowclough, C. & Hooley, J. (2003). Attributions and expressed emotion: A review. *Clinical Psychology Review*, *23*, 849-880.
- Boger, K., Tompson, M., Briggs-Gowan, M., Pavlis, L. & Carter, A. (2008). Parental expressed emotion toward children: Prediction from early family functioning. *Journal of Family Psychology*, *22*, 784-788.
- Bolton, C., Calam, R., Barrowclough, C., Peters, S., Roberts, J., Wearden, A. & Morris, J. (2003). Expressed emotion, attributions and depression in mothers of children with problem behaviour. *Journal of Child Psychology and Psychiatry*, *44*, 242-254.
- Chen, M., Johnstone, C., Sheeber, L. & Leve, C. (2009). Parent and adolescent depressive symptoms: The role of parental attributions. *Journal of Abnormal Child Psychology*, *37*, 119-130.
- Cox, J., Holden, J., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, *150*, 782-786.

- Cox, M., Owen, M., Henderson, V. & Margand, N. (1992). Prediction of infant-father and infant-mother attachment. *Developmental Psychology*, 28, 474-483.
- Cicchetti, D., Rogosch, F. & Toth, S. (1998). Maternal depressive disorder and contextual risk: Contributions to the development of attachment insecurity and behaviour problems in toddlerhood. *Development and Psychopathology*, 10, 283-300.
- Daley, D., Sonuga-Barke, E. & Thompson, M. (2003). Assessing expressed emotion in mothers of preschool AD/HD children: Psychometric properties of a modified speech sample. *British Journal of Clinical Psychology*, 42, 53-67.
- DeKlyen, M., Biernbaum, M., Speltz, M. & Greenberg, M. (1998). Fathers and preschool behaviour problems. *Developmental Psychology*, 34, 264-275.
- Dietz, L., Jennings, K., Kelley, S., & Marshal, M. (2009). Maternal depression, paternal psychopathology, and toddlers' behavior problems. *Journal of Clinical Child and Adolescent Psychology*, 38, 48-61.
- Dubowitz, H., Black, M., Cox., C., Kerr, M., Litrownik, A., Radhakrishna, A., English, D., Schneider, M. & Runyan, D. (2001). Father involvement and children's functioning at age 6 years: A multisite study. *Child Maltreatment*, 6, 300-309.
- Edmondson, O., Psychogiou, L., Vlachos, H., Netsi, E. & Ramchandani, P. (2010). Depression in fathers in the postnatal period: assessment of the Edinburgh Postnatal Depression Scale as a screening measure. *Journal of Affective Disorders*, 125, 365-368.
- Field, T., Diego, M., Hernandez-Reif, M., Figueiredo, B., Deeds, O., Contogeorgos, J. & Ascencio, A. (2006). *Infant Behaviour and Development*, 29, 579-583.
- Frosch, C. & Mangelsdorf, S. (2001). Marital behaviour, parenting behaviour and multiple reports of preschoolers' behaviour problems: Mediation or Moderation? *Development Psychology*, 37, 502-519.

- Goodman, J. (2004). Paternal postpartum depression, its relationship to maternal postpartum depression, and the implications for family health. *Journal of Advanced Nursing*, 45, 26-35.
- Goodman, S. (2007). Depression in mothers. *Annual Review of Clinical Psychology*, 3, 107-135.
- Goodman, S. & Gotlib, I. (1999). Risk for psychopathology in the children of depressed mothers: A developmental model for understanding mechanisms of transmission. *Psychological Review*, 106, 458-490.
- Gorman, L., O'Hara, M. & Figueiredo, B., et al (2004). Adaptation of the Structured Clinical Interview for DSM–IV Disorders for assessing depression in women during pregnancy and post-partum across countries and cultures. *British Journal of Psychiatry*, 184, 17-23.
- Goodman, S. & Tully, E. (2008). Children of depressed mothers: Implications for the etiology, treatment and prevention of depression in children and adolescents. In J. Abela & B. Hankin (Eds.), *Handbook of depression in children and adolescents* (pp. 415- 433). New York: The Guildford Press.
- Jacob, T. & Johnson, S. (2001). Sequential interactions in the parent-child communications of depressed fathers and depressed mothers. *Journal of Family Psychology*, 15, 38-52.
- Kane, P. & Garber, J. (2004). The relations among depression in fathers, children's psychopathology, and father-child conflict: A meta-analysis. *Clinical Psychology Review*, 24, 339-360.
- Kim, P. & Swain, J. (2007). Sad dads: Paternal postpartum depression. *Psychiatry*, 4, 36-47.
- Lamb, M. (2010). *The role of the father in child development (5th Edition)*. New York: John Wiley & Sons.

- Malmberg, L. & Flouri, E. (2011). The comparison and interdependence of maternal and paternal influences on young children's behaviour and resilience. *Journal of Clinical Child and Adolescent Psychology, 40*, 434-444.
- Matthey, S., Barnett, B., Ungerer, J. & Waters, B. (2000). Paternal and maternal depressed mood during the transition to parenthood. *Journal of Affective Disorders, 60*, 75-85.
- Matthey, S., Barnett, B., Kavanagh, D.J. & Howie, P. (2001). Validation of the Edinburgh Postnatal Depression Scale for men, and comparison of item endorsement with their partners. *Journal of Affective Disorders, 64*, 175-184.
- McCarty, C. & Weisz, J. (2002). Correlates of expressed emotion in mothers of clinically referred youth: An examination of the five minute speech sample. *Journal of Child Psychology and Psychiatry, 43*, 759-768.
- Paulson, J. & Bazemore, S. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression: A meta-analysis. *Journal of the American Medical Association, 303*, 1961-1969.
- Paulson, J., Dauber, S. & Leiferman, J. (2006). Individual and combined effects of postpartum depression in mothers and fathers on parenting behaviour. *Pediatrics, 118*, 659-668.
- Peris, T. & Baker, B. (2000). Applications of the Expressed Emotion construct to young children with externalising behaviour: Stability and prediction over time. *Journal of Psychology and Psychiatry, 41*, 457- 462.
- Phares, V., Duhig, A. & Watkins, M. (2002). Family context: Fathers and other supports. In S. Goodman & I. Gotlib (Eds.), *Children of depressed parents: Mechanisms of risk and implications for treatment* (pp. 203-225) Washington: American Psychological Association.

Psychogiou, L., Netsi, E., Sethna, V. & Ramchandani, P. (in press). Expressed Emotion as an assessment of family environment with mother and fathers of one-year old children.

Child: Care, Health and Development.

Ramchandani, P., Ijzendoorn, M. & Bakersman-Kranenburg, M. (2010). Differential susceptibility to fathers' care and involvement: The moderating effect of infant reactivity. *Family Science, 1*, 93-101.

Ramchandani, P., O'Connor, T., Evans, J., Heron, J., Murray, L. & Stein, A. (2008a). The effects of pre- and postnatal depression in fathers: A natural experiment comparing the effects of exposure to depression on offspring. *Journal of Child Psychology and Psychiatry, 49*, 1069-1078.

Ramchandani, P. & Psychogiou, L. (2009). Paternal psychiatric disorders and children's psychosocial development. *Lancet, 374*, 646-653.

Ramchandani, P., Psychogiou, L., Vlachos, H., Iles, J., Sethna, V., Netsi, E. & Lodder, A. (2011). Paternal depression: An examination of its links with father, child and family functioning in the postnatal period. *Depression and Anxiety, 28*, 471-477.

Ramchandani, P., Stein, A., O'Connor, T., Heron, J., Murray, L. & Evans, J. (2008b). Depression in men in the postnatal period and later child psychopathology: A population cohort study. *Journal of the American Academy of Child and Adolescent Psychiatry, 47*, 390-398.

Reeb, B. & Conger, K. (2009). The unique effect of paternal depressive symptoms on adolescent functioning: Associations with gender and father-adolescent relationship closeness. *Journal of Family Psychology, 23*, 758-761.

Rogosch, F., Cicchetti, D. & Toth, S. (2004). Expressed emotion in multiple subsystems of the families of toddlers with depressed mothers. *Development and Psychopathology, 16*, 689-709.

- Rouyer, V., Frascarolo, F., Zaouche-Gaudrom, C. & Lavanchy, C. (2007). Fathers of girls, fathers of boys: Influence of child's gender on fathers' experience of, engagement in, and representations of paternity. *Swiss Journal of Psychology, 66*, 225-233.
- Schacht, P., Cummings, E. & Davies, P. (2009). Fathering in family context and child adjustment: A longitudinal analysis. *Journal of Family Psychology, 23*, 790-797.
- Stolz, H., Barber, B. & Olsen, J. (2005). Toward disentangling fathering and mothering: An assessment of relative importance. *Journal of Marriage and Family, 67*, 1076-1092.
- Tompson, M., Pierre, C., Boger, K., McKowen, J., Chan, P. & Freed, R. (2010). Maternal depression, maternal expressed emotion, and youth psychopathology. *Journal of Abnormal Child Psychology, 38*, 105-117.
- Wamboldt, F., O'Connor, S., Wamboldt, M., Gavin, L. & Klinnert, M. (2000). The Five Minute Speech Sample in children with asthma: Deconstructing the construct of Expressed Emotion. *Journal of Child Psychology and Psychiatry, 41*, 887-898.
- Wee, K., Skouteris, H., Pier, C., Richardson, B. & Milgrom, J. (2011). Correlates of ante- and postnatal depression in fathers: A systematic review. *Journal of Affective Disorders, 130*, 358-377.
- Wood, J. & Repetti, R. (2004). What gets dad involved? A longitudinal study of change in paternal child caregiving involvement. *Journal of Family Psychology, 18*, 237-249.

Appendix A

Extended Methods

Ethical Approval from Oxford REC


Oxfordshire REC A
2nd Floor, Astral House
Chaucer Business Park
Granville Way
Bicester
OX28 4JT

Telephone: 01869 604077
Facsimile: 01869 604055

27 June 2006

Dr Paul Ramchandani
Senior Research Fellow
University of Oxford
Department of Psychiatry
Warneford Hospital
Oxford
OX3 7JX

Dear Dr Ramchandani

Full title of study: Fathers and their children in the postnatal period.
REC reference number: 06/Q1604/63

Thank you for your letter of 16 June 2006, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The Committee has designated this study as exempt from site-specific assessment (SSA). There is no requirement for Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Application	5.1	29 March 2006
Investigator CV	Paul Ramchandani	28 March 2006
Protocol	v1	28 March 2006
Covering Letter		28 March 2006
Summary/Synopsis	Flowchart	

An advisory committee to Thames Valley Strategic Health Authority

Letter from Sponsor	University of Oxford	03 April 2006
Letter from Sponsor	University of Oxford	31 March 2006
Peer Review		09 December 2005
Compensation Arrangements	Insurance letter	31 March 2006
Interview Schedules/Topic Guides	v1 (Questionnaire)	28 March 2006
Questionnaire	Dyadic	
Letter of invitation to participant	1 (Father present)	01 June 2006
Letter of invitation to participant	v1 (Non-present fathers)	28 March 2006
Letter of invitation to participant	2 (Non-present father)	16 June 2006
GP/Consultant Information Sheets	2 (with depression)	26 May 2006
GP/Consultant Information Sheets	2 (without depression)	26 May 2006
Participant Information Sheet:	2	15 June 2006
Participant Information Sheet: Initial Contact	2 (Initial contact)	30 May 2006
Participant Information Sheet: For nursery teachers	1	06 June 2006
Participant Information Sheet: For mothers	1	01 June 2006
Participant Consent Form: For nursery teachers	1	26 May 2006
Participant Consent Form: For mothers	1	26 May 2006
Participant Consent Form	v1 (Contact - Mother)	28 March 2006
Participant Consent Form:	2	26 May 2006
Participant Consent Form: Contact - Father	v2	30 May 2006
Response to Request for Further Information		16 June 2006
Outcome measures	v1	28 March 2006
Covering letter	Insurance	04 April 2006
Letter from Funder	Wellcome Trust	03 January 2006

Research governance approval

You should arrange for the R&D department at all relevant NHS care organisations to be notified that the research will be taking place, and provide a copy of the REC application, the protocol and this letter.

All researchers and research collaborators who will be participating in the research must obtain final research governance approval before commencing any research procedures. Where a substantive contract is not held with the care organisation, it may be necessary for an honorary contract to be issued before approval for the research can be given.

Statement of compliance

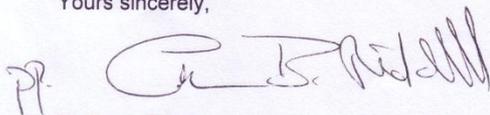
The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/Q1604/63

Please quote this number on all correspondence

With the Committee's best wishes for the success of this project,

Yours sincerely,



Dr Brian Shine
Chair

Ethical Approval from University of Exeter, School of Psychology



Psychology Research Ethics
Committee

Psychology, College of Life &
Environmental Sciences

Washington Singer Laboratories
Perry Road
Exeter
EX4 4QG

Telephone +44 (0)1392 264626
Fax +44 (0)1392 264623
Email Marilyn.evans@exeter.ac.uk

To: Lucy Hooper
From: Cris Burgess
CC: Lamprini Psychogiou
Re: Application 2010/225 Ethics Committee
Date: August 15, 2012

The School of Psychology Ethics Committee has now discussed your application, **2010/225 – Expressed emotion in fathers with depression during the postnatal period**. The project has been approved in principle for the duration of your study.

The agreement of the Committee is subject to your compliance with the British Psychological Society Code of Conduct and the University of Exeter procedures for data protection (<http://www.ex.ac.uk/admin/academic/datapro/>). In any correspondence with the Ethics Committee about this application, please quote the reference number above.

I wish you every success with your research.

A handwritten signature in black ink, appearing to read 'Cris Burgess', with a horizontal line underneath.

Cris Burgess

Chair of Psychology Research Ethics Committee

Participants

Table 3 shows the demographic information for fathers, mothers and children participating in the longitudinal study.

Table 3

Demographic information for participants of the Oxford Fathers' Project

	Fathers N= 192 (%)	Mothers N= 192 (%)
Age in years mean (SD)	34.9 (5.8)	33.2 (4.8)
Academic qualifications		
GCSE	18 (9.7)	11 (6)
A level	19 (10.2)	18 (9.9)
Diploma	30 (16.1)	31 (17)
Degree	62 (33.3)	67 (36.8)
Postgrad	54 (29)	55 (30.2)
Employment status		
Full time	178 (94.2)	122 (68.9)
Part time	7 (3.7)	45 (25.4)
Student	1 (.5)	1 (.6)
Unemployed	3 (1.6)	5 (2.8)
Is mother on maternity leave?		
Yes	155 (85.2)	
No	27 (14.8)	
Is mother returning to work?		
Yes	147 (82.1)	
No	10 (5.6)	
Not applicable	22 (12.3)	
Parental marital status		
Married	147 (77.8)	
Living together	39 (20.6)	
Stable relationship	2 (1.1)	
Single	1 (.5)	
Mean length of parental relationship in years (SD)	8.4 (4.4)	
Child gender		
Male	91 (47.4)	
Female	101 (52.6)	
Child birth order		
1 st born	114 (59.4)	
2 nd born	61 (31.8)	
3 rd born	14 (7.3)	
4 th born	3 (1.6)	

Measures

Most studies of EE use a brief measure known as the Five Minute Speech Sample (FMSS; Magana et al. 1986, as cited in Bolton et al. 2003). The FMSS asks parents to talk about their child for five un-interrupted minutes; it is assumed that an individual's verbal expression about the target relationship reflects the way they interact on a day-to-day basis (Nelson, Hammen, Brennan & Ullman, 2003). The speech sample is scored in terms of criticism (CRIT) or emotional over-involvement (EOI). CRIT is based on negative comments made in reference to the child or the parent's relationship with the child. EOI is characterised by over-protective or self-sacrificing behaviour, excessive detail or expression of very strong feelings of love (McCarty & Weisz, 2002). Parents may express high EE towards one child in the family and not another, although some findings suggest high EE generally reflects disturbances in the wider family system (Tompson et al., 2010).

High levels of criticism in parents as measured by the FMSS have been associated with child psychological disorder, particularly child externalising symptoms (Nelson et al., 2003). Parental expression of high levels of emotional over-involvement are thought to be associated with child anxiety disorders (Tompson et al., 2010), although some studies suggest that intrusive emotional concern, which impairs autonomy in adult samples, may not be developmentally inappropriate for parents of small children (Rogosch et al., 2004). Findings indicate that, when EOI is excluded, EE can be reliably measured during the pre-school age, and subsequently the Preschool Five Minute Speech Sample (PFMSS) has been developed for use with younger children (Daley et al., 2003). For these reasons, EOI was not measured in this study. The PFMSS has good discriminant validity differentiating the parents of children with behavioural problems from the parents of control children (Daley et al., 2003).

It has also been found to have good inter-rater and test re-test reliability (Yelland & Daley, 2009).

Procedure

Two trainees from the Doctorate of Clinical Psychology programme were recruited to code and analyse the EE data gathered at the 24 month data collection point of the Oxford Fathers' Project, one of whom would analyse fathers' scores and the other would analyse mothers' scores. Thus, this paper does not analyse or report mothers' data; these findings were analysed as part of a separate submission to the Doctorate programme, and all findings will be collated and reported together as part of the dissemination plan. Training in the use of the Daley manual for coding EE from the PFMSS was undertaken by the two trainees and their supervisor, who was part of the Oxford-based team running the wider project.

Speech samples were recorded onto cassette tapes. Five recordings from the fathers and six from the mothers were excluded as they were inaudible due to poor recording. For training purposes, twenty mothers' and twenty fathers' speech samples were coded as a group in order to clarify any misunderstandings of the coding manual and increase the consistency of scoring. The list below outlines the agreements made between coders during the training, which were not clarified in the manual:

- Positive / negative comments may include those which refer to the child's eating or sleeping behaviour or to their relationship with their sibling(s).
- Positive / negative comments are recorded even if the parent is repeating this particular comment (but only recorded once if repeated as part of the same string. For example:

‘my child is good at painting, he is a good painter’ would be recorded as one positive comment, ‘my child is good at painting’).

- Positive / negative comments may also be used as evidence to support positive / negative global score for relationship.

The two trainees proceeded to code the rest of the mothers’ or fathers’ speech samples individually. During the process, the following inconsistencies were noted in the speech samples:

- Differences in instructions: in some samples, parents were instructed to consider their child and their relationship with their child over the last six months, whilst in others the instruction was to consider the last year. According to the manual, this instruction should be ‘in the last six months’.
- Differences in prompts: there was a wide variation of prompts used when parents found it difficult to continue speaking. The manual specifies ‘if parent doesn’t have anything to say just repeat “tell me your thoughts and feelings about (child’s name)”’.
- Differences in length of speech sample: some parents who had lots to talk about were not asked to stop at the five minute mark. Others were given multiple prompts, whilst in some cases the recordings were ended prematurely.

Twenty speech samples were coded again by the trainees after a delay of approximately two months. Twenty different speech samples were coded by the supervisor in order to obtain inter-rater reliability. All speech samples were coded using paper coding sheets, and then the scores for the three global categories, the frequency of positive and negative comments, and

the overall rating of EE were entered into a spread sheet using SPSS PASW. Table 4 summarises fathers' and mothers ratings' of the constituents of EE at 24 months.

Table 4

Descriptive statistics of fathers' and mothers' scores for each constituent of EE at 24 months

	Fathers' scores N = 138(%)	Mothers' Scores N = 137(%)
Expressed Emotion		
High	2 (1.4)	3 (2.2)
Low	136 (98.6)	134 (97.8)
Initial statement		
Positive	60 (43.5)	60 (43.8)
Neutral / negative	78 (56.5)	77 (56.2)
Warmth		
High	51 (37)	92 (67.2)
Moderate / low	87 (63)	45 (32.8)
Relationship		
Positive	84 (60.9)	83 (60.6)
Neutral / negative	54 (39.1)	54 (39.4)
Total critical comments mean (SD)	1.3 (1.7)	2.0 (4.3)
Total positive comments mean (SD)	9.2 (4.8)	9.6 (2.2)

The SPSS spread sheet was merged with a spread sheet containing the demographic information, depression scores, EE at 12 months, and CBCL raw data from 24 months. The CBCL consists of 100 items which could be combined to reflect the following eight scales (Achenbach & Rescorla, 2000):

- Emotionally Reactive,
- Anxious / Depressed,
- Somatic Complaints,
- Withdrawn,
- Sleep problems,

- Attention Problems,
- Aggressive Behaviour,
- Other problems.

Before computing these scales, the data was checked. It was noticed that most participants had missing data for at least one item on the CBCL and their information was therefore excluded from the analyses. In order to minimise the number of participants excluded due to missing data, these scores were replaced by the participant's median score for all answers on the CBCL. If more than two items for each scale were missing, the scores were not manipulated. Scales were computed by using the 'compute variable' function on SPSS. The eight scores listed above were further condensed to form two main scales; internalising problems (emotionally reactive, anxious / depressed, somatic complaints and withdrawn) and externalising problems (attention problems and aggressive behaviour).

Appendix B**Extended Results****Test of Normality**

Histograms were created and visually examined for skewness and kurtosis. Boxplots were created to identify and check any mistakes resulting in outliers. The Kolmogorov-Smirnov statistic was then examined for all continuous variables used in the analyses, as shown in Table 5. The Kolmogorov-Smirnov statistics for all the target variables were significant, suggesting that the scores in this data set were significantly different to those of the normal population.

Table 5

Results of the Kolmogorov-Smirnov test of normality

	KS	P
Fathers		
EPDS 3months	.107	.000
EPDS 12months	.119	.000
CBCL internalising	.165	.017
CBCL externalising	.084	.000
Total critical comments	.259	.000
Total positive comments	.122	.000

Whilst the above statistics indicate that the data violates assumptions of normality, it was felt appropriate to continue with the regression analyses for the following reasons. Firstly, regression is viewed as a robust statistical test which typically provides estimates that remain reasonably unbiased even in departures from normality; as long as there is homogeneity of

variance, violations of normality should not significantly impact on the results (Boneau, 1960). Scatter plots were produced for each regression analysis which illustrates the variance of residuals (see below). It is also argued that in regression, assumption of normality is actually that the residuals are normality distributed, not the variables themselves (van Belle, 2002). Secondly, non-normality in regression analyses is likely to result in an under-estimate of the goodness of fit, and so use of parametric regressions with non-normally distributed data is likely to moderate the significance values rather than exaggerate them (van Belle, 2002). This may result in less significant analyses where, in some circumstances, non-parametric analyses would be more powerful; however it is noted that such techniques disregard much of the information contained within the data and as a result, will tend not to reject the null hypothesis when it is actually false as often as will those tests which do make assumptions (Boneau, 1960).

Supporting analyses

Correlation analyses were carried out to determine whether there were any relationships between demographic, dependent and independent variables. As the data was not normally distributed, non-parametric tests of correlation (Spearman's rho) were applied to the data. No significant correlations were found, indicating that demographics did not need to be controlled for in the regression analyses.

Scatter plots are shown below (see Figures 1 - 5) for each significant regression analysis reported in the main body of the paper to illustrate homoscedasticity, indicating a lack of funnelling which suggests the spread of the residuals is fairly constant.

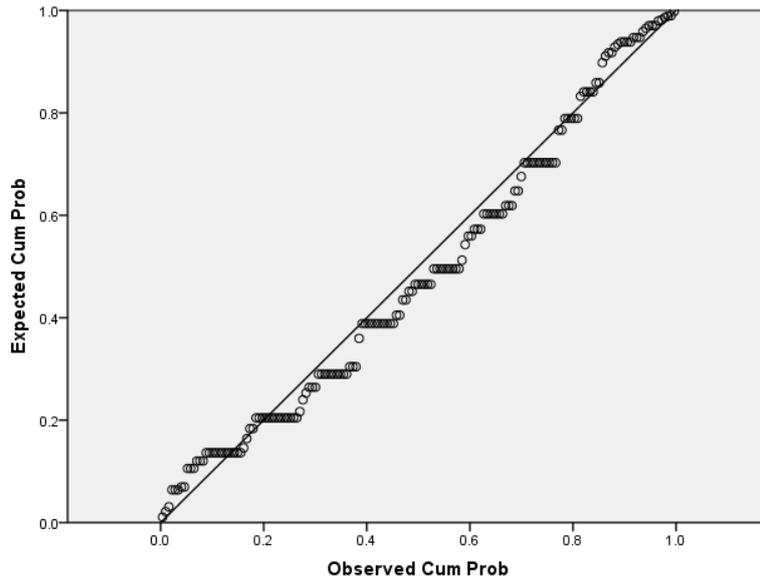


Figure 1. Plot of residuals for regression analyses of fathers' depression at 3 months and 12 months.

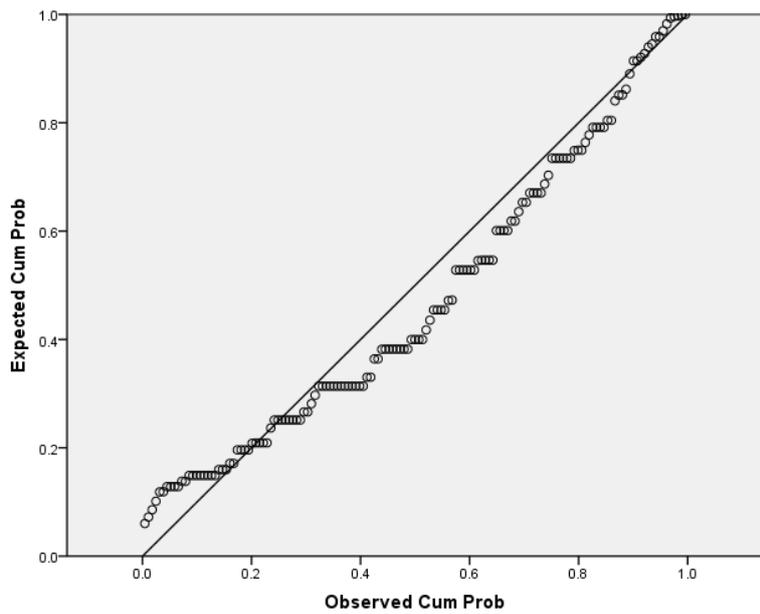


Figure 2. Plot of residuals for regression analyses of fathers' depression at 3 months and child internalising scale (mothers' ratings).

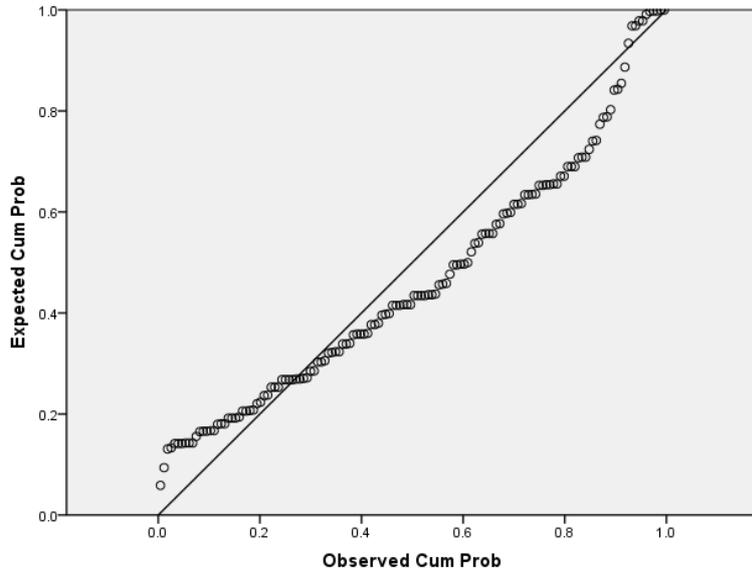


Figure 3. Plot of residuals for regression analyses of fathers' depression at 12 months and child internalising scale (fathers' ratings).

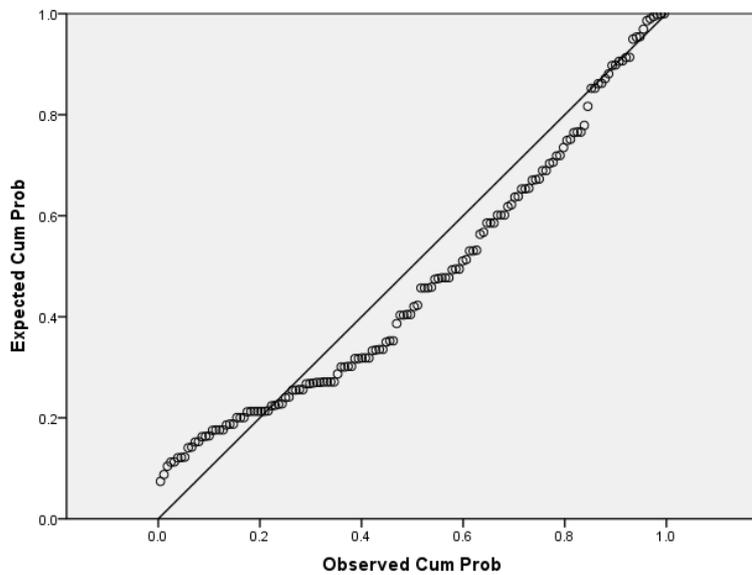


Figure 4. Plot of residuals for regression analyses fathers' depression at 12 months and child internalising scale (mothers' ratings).

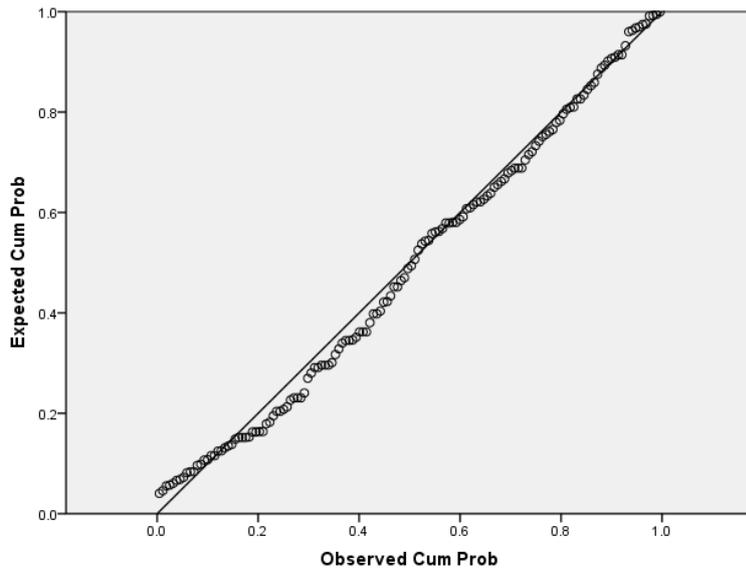


Figure 5. Plot of residuals for regression analyses of fathers' depression at 12 months and child externalising scale (mothers' ratings).

Paternal depression at 3 months and 12 months was not significantly related to fathers' critical or positive comments at 24 months. Linear regression was also used to examine the relationship between paternal depression at 3 months and at 12 months with the frequency of critical and positive comments made by fathers at 12 months. These analyses were also insignificant, as shown in Table 6.

EXPRESSED EMOTION AND DEPRESSION IN FATHERS

Table 6

Linear regression showing associations between fathers' depression and positive and critical comments

	12 months										24 months									
	Fathers' total critical comments					Father's total positive comments					Fathers' total critical comments					Father's total positive comments				
	B	SE	<i>B</i>	<i>T</i>	<i>p</i>	B	SE	β	<i>T</i>	<i>p</i>	B	SE	β	<i>t</i>	<i>p</i>	B	SE	β	<i>t</i>	<i>p</i>
Paternal depression 3 months	.021	.020	.082	1.050	.295	-.049	.048	-.081	-1.026	.306	.035	.031	.097	1.133	.259	-.022	.086	-.022	-.251	.802
Paternal depression 12 months	.041	.024	.135	1.721	.087	-.038	.056	-.053	-.676	.500	-.015	.037	-.035	-.403	.688	-.010	.101	-.008	-.094	.925

Appendix C

Extended Discussion

The extended results add some further findings and discussion points to those reported in the main body of the manuscript. Given that depression at 12 months did not predict critical or positive comments at 24 months, regressions were run to consider the relationship between depression at 12 months and critical and positive comments at 12 months. These were also insignificant. On the basis of these findings, depression in fathers was not associated with child-directed criticism. Further research is warranted to determine whether the child-directed criticism remains low or absent in fathers as the child ages.

A significant limitation to this study was the inability to analyse fathers' depression scores for 24 months. This reflects a challenge of working as part of large, longitudinal, funded project; whilst the data regarding parents' depression was collected, there were no funds available to score and enter this data. Thus, it was not possible to consider the relationship between fathers' depression data and fathers' EE data from the 24 month data collection point. At present it is uncertain whether funding will be available for this study to continue. If significant relationships were found between fathers' depression, fathers' criticism and child emotional and behavioural problems, it would then be possible to carry out mediation analyses to explore whether criticism is a mechanism through which the impact of paternal depression contributes to child difficulties. On the basis of the findings from this study so far, criticism was not a significant factor, and therefore it seems likely that other variables not targeted in this study (such as mother's criticism or depression) are important.

Other methodological difficulties arising included issues relating to consistency when different individuals were involved in the collection, coding, analyses and data entry. Using the method of merging data files highlighted the importance of carefully labelling variables in

order for them to be understood by other researchers, which in turn ensures that the data and the analyses are replicable in further studies. There were a number of demographic variables that were excluded from this analysis (such as socio-economic status) as there was no information available in order to identify the meaning of the variable labels.

During the process of coding the tapes, a number of inconsistencies were noted in the administration of PFMSS (see Appendix A, Extended Methods). Further specific instructions may need to be incorporated into the manual and it should be ensured that, where there are multiple individuals administering the measures, training is delivered to increase consistency. However, the PFMSS has been found to be a reliable and valid tool (Daley et al., 2003; Yelland & Daley, 2009). This study, like others, found very low occurrences of EE in this sample of parents (Boger et al., 2008). It has been reported in some studies that the FMSS (but not the pre-school version specifically) underestimates EE when compared to an alternative measure of expressed emotion, the Camberwell Family Interview (CFI; Vaughn & Leff, 1976), which is viewed as the most reliable measure of EE (Van Humbeeck, Van Audenhove, De Hert, Pieters, & Storms, 2002). However, in a sample involving preschool-aged children, Calam and Peters (2009) found higher ratings of EE achieved using the FMSS over the CFI, even following some modifications to the CFI in order for it to be used appropriately with children. Overall there are contradictory findings regarding the predictive power of the FMSS in relation to children (Kershner, Cohen & Coyne, 1996); as this current study involved very young children, consideration of alternative forms of measuring EE may be warranted.

Appendix D

Extended references

Boneau, C. (1960). The effects of violations of assumptions underlying the *t* test.

Psychological Bulletin, 57, 49-64.

Calam, R. & Peters, S. (2009). Assessing expressed emotion: Comparing Camberwell Family Interview and Five-minute Speech Sample ratings for mothers of children with behaviour problems. *International Journal of Methods in Psychiatric Research*, 15, 107-115.

Kershner, J., Cohen, N. & Coyne, J. (1996). Expressed emotion in families of clinically referred and nonreferred children: Toward a further understanding of the expressed emotion index. *Journal of Family Psychology*, 1, 97-106.

Van Belle, G. (2002). *Statistical Rules of Thumb*. New York: John Wiley & Sons.

Vaughn, C. & Leff, J. (1976) The measurement of expressed emotion in the families of psychiatric patients. *British Journal of Social and Clinical Psychology*, 15, 157-165.

Van Humbeeck, G., Van Audenhove, C., De Hert, M., Pieters, G. & Storms, G. (2002). Expressed emotion: A review of assessment instruments. *Clinical Psychology Review*, 22, 321-341.

Appendix E

Instructions for authors



The Journal of Child Psychology and Psychiatry

Published on behalf of the Association for Child and Adolescent Mental Health

Edited by:

Edmund Sonuga-Barke

Print ISSN: 0021-9630

Online ISSN: 1469-7610

Frequency: Monthly

Current Volume: 53 / 2012

ISI Journal Citation Reports® Ranking: 2010: Psychiatry: 21 / 126;
Psychiatry (Social Science): 11 / 107; Psychology, Developmental: 6 / 66

Impact Factor: 4.36

Author Guidelines

Please read the Notes for Contributors guidance below for all types of contributions and styles of manuscript. There is also specific guidance available on [Practitioner Reviews](#) and [Research Reviews](#).

Why submit your article to *The Journal of Child Psychology and Psychiatry*?

- The leading, international journal covering both child and adolescent ***psychology and psychiatry***
- Provides an interdisciplinary perspective to the multidisciplinary field of child and adolescent mental health, though publication of high-quality empirical research, clinically-relevant studies and highly cited research reviews and practitioner review articles
- Impact Factor 4.36 (2010); 5-Year Impact Factor 5.85 (2010)

- ISI Journal Citation Reports © Ranking: 2010:66 (Psychology Developmental); 11/107 (Psychiatry (Social Science)); 21/126 (Psychiatry)
- Ranked in the Top 20 journals in psychiatry and psychology by citation impact over the last decade (Thomson Reuters, Essential Science Indicators)
- Over 7,000 institutions with access to current content;
- Massive international readership; approximately half a million articles downloaded every year (42% North America, 40% Europe, 10% Asia-Pacific)
- State of the art online submission site, simple and quick to use:- <http://mc.manuscriptcentral.com/jcpp-camh>; dedicated journal Editorial Office for easy, personal contact through the peer review and editorial process; proof tracking tool for authors
- Articles appear on Early View before the paper version is published - Click [here](#) to see the [Early View](#) articles currently available online; Epub entries on PubMed and widely indexed/abstracted, including MEDLINE, EMBASE and ISI Citation Indexes
- Acceptance to Early View publication approx. 3 months; Acceptance to print publication approx. 7 months;
- Authors receive free online access to their article once published as well as 20% discount on all Wiley-Blackwell publications.

The journal encourages pre-submission enquiries, which may be sent via the Managing Editor at jcpp@acamh.org.uk.

Notes for Contributors

General

Contributions from any discipline that further knowledge of the mental health and behaviour of children and adolescents are welcomed. Papers are published in English, but submissions are welcomed from any country. Contributions should be of a standard that merits presentation before an international readership.

Papers may assume either of the following forms:

- *Original articles*
These should make an original contribution to empirical knowledge, to the theoretical understanding of the subject, or to the

development of clinical research and practice. Adult data are not usually accepted for publication unless they bear directly on developmental issues in childhood and adolescence. **Original articles should not exceed 6000 words, including title page, abstract, references, tables, and figures; the total word count should be given on the title page of the manuscript. Limit tables and figures to 5 or fewer double-spaced manuscript pages. It is possible to submit additional tables or figures as an Appendix for an online-only version. Manuscripts exceeding the word limit will not be accepted without permission from the Editor.**

- *Review articles*

These should survey an important area of interest within the general field. These include papers in the Annual Research Review, Research Review and Practitioner Review sections, which are usually commissioned. Word limits for review papers are stated at the time of commissioning.

Authors' professional and ethical responsibilities

Submission of a paper to JCPP will be held to imply that it represents an original contribution not previously published (except in the form of an abstract or preliminary report); that it is not being considered for publication elsewhere; and that, if accepted by the Journal, it will not be published elsewhere in the same form, in any language, without the consent of the Editors. When submitting a manuscript, authors should state in a covering letter whether they have currently in press, submitted or in preparation any other papers that are based on the same data set, and, if so, provide details for the Editors.

Ethics

Authors are reminded that the *Journal* adheres to the ethics of scientific publication as detailed in the [*Ethical principles of psychologists and code of conduct*](#) (American Psychological Association, 2010). These principles also imply that the piecemeal, or fragmented publication of small amounts of data from the same study is not acceptable. The Journal also generally conforms to the Uniform Requirements for Manuscripts of the International Committee of Medical Journal Editors ([ICJME](#)) and is also a member and subscribes to the principles of the Committee on Publication Ethics ([COPE](#)).

Authorship

Authorship credit should be given only if substantial contribution has been made to the following:

- Conception and design, or collection, analysis and interpretation of data
- Drafting the article or revising it critically for important intellectual content, and final approval of the version to be published

The corresponding author must ensure that there is no one else who fulfils the criteria who is not included as an author. Each author is required to have participated sufficiently in the work to take public responsibility for the content.

Conflict of interest

All submissions to JCPP require a declaration of interest. This should list fees and grants from, employment by, consultancy for, shared ownership in, or any close relationship with, an organisation whose interests, financial or otherwise, may be affected by the publication of the paper. This pertains to all authors, and all conflict of interest should be noted on page 1 of the submitted manuscript. Where there is no conflict of interest, this should also be stated.

2010 JCPP Editor Conflicts of Interest Statement: this can be found by clicking [here](#). The JCPP Editor Conflicts of Interest Statement is published annually in issue 1 of each volume.

Note to NIH Grantees

Pursuant to NIH mandate, Wiley-Blackwell will post the accepted version of contributions authored by NIH grant-holders to PubMed Central upon acceptance. This accepted version will be made publicly available 12 months after publication. For further information, see www.wiley.com/go/nihmandate.

Informed consent and ethics approval

Authors must ensure that all research meets these ethical guidelines and affirm that the research has received permission from a stated Research Ethics Committee (REC) or Institutional Review Board (IRB) , including adherence to the legal requirements of the study county. Within the Methods section, authors should indicate that 'informed consent' has been appropriately obtained and state the name of the REC, IRB or other body that provided ethical approval. When submitting a manuscript, the manuscript page number where these statements appear should be given.

Recommended guidelines and standards

The Journal requires authors to conform to CONSORT 2010 (see [CONSORT Statement](#)) in relation to the reporting of randomised controlled clinical trials; also recommended is the [Extensions of the CONSORT Statement](#) with regard to cluster randomised controlled trials). In particular, authors must include in their paper a flow chart illustrating the progress of subjects through the trial (CONSORT diagram) and the CONSORT checklist. The flow diagram should appear in the main paper, the checklist in the online Appendix. Trial registry name, registration

identification number, and the URL for the registry should also be included at the end of the methods section of the Abstract and again in the Methods section of the main text, and in the online manuscript submission. Trials should be registered in one of the ICJME-recognised trial registries:

<http://www.controlled-trials.com/isrctn/>

Australian Clinical Trials Registry <http://actr.ctc.usyd.edu.au>

Clinical Trials <http://www.clinicaltrials.gov>

ISRCTN Register <http://isrctn.org>

Nederlands Trial Register <http://www.trialregister.nl/trialreg/index.asp>

UMIN Clinical Trials Registry <http://www.umin.ac.jp/ctr>

Manuscripts reporting systematic reviews or meta-analyses should conform to the [PRISMA Statement](#).

The [Equator Network](#) is recommended as a resource on the above and other reporting guidelines.

Access to data

If the study includes original data, at least one author must confirm that he or she had full access to all the data in the study, and takes responsibility for the integrity of the data and the accuracy of the data analysis.

CrossCheck

An initiative started by *CrossRef* to help its members actively engage in efforts to prevent scholarly and professional plagiarism. The journal to which you are submitting your manuscript employs a plagiarism detection system. By submitting your manuscript to this journal you accept that your manuscript may be screened for plagiarism against previously published works.

Manuscript preparation and submission

Papers should be submitted online. For detailed instructions please go to: <http://mc.manuscriptcentral.com/jcpp-camh> Previous users can *Check for existing account*. New users should *Create a new account*. Help with submitting online can be obtained from Piers Allen at ACAMH (E-mail: Piers.Allen@acamh.org.uk)

1. The manuscript should be double spaced throughout, including references and tables. Pages should be numbered consecutively. The preferred file formats are MS Word or WordPerfect, and should be PC compatible. If using other packages the file should be saved as Rich Text Format or Text only.

2. Papers should be concise and written in English in a readily understandable style. Care should be taken to avoid racist or sexist

language, and statistical presentation should be clear and unambiguous. The *Journal* follows the style recommendations given in the *Publication manual of the American Psychological Association* (5th edn., 2001).

3. The *Journal* is not able to offer a translation service, but, authors for whom English is a second language may choose to have their manuscript professionally edited before submission to improve the English. A list of independent suppliers of editing services can be found at http://authorservices.wiley.com/bauthor/english_language.asp. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

Layout

Title: The first page of the manuscript should give the title, name(s) and short address(es) of author(s), and an abbreviated title (for use as a running head) of up to 80 characters.

Abstract: The abstract should not exceed 300 words and should be structured in the following way with bold marked headings: Background; Methods; Results; Conclusions; Keywords; Abbreviations. The abbreviations will apply where authors are using acronyms for tests or abbreviations not in common usage.

Key points: All papers should include a text box at the end of the manuscript outlining the four to five Key (bullet) points of the paper. These should briefly (80-120 words) outline what's known, what's new, and what's clinically relevant.

Headings: Articles and research reports should be set out in the conventional format: Methods, Results, Discussion and Conclusion. Descriptions of techniques and methods should only be given in detail when they are unfamiliar. There should be no more than three (clearly marked) levels of subheadings used in the text.

Acknowledgements: These should appear at the end of the main text, before the References.

Correspondence to. Full name, address, phone, fax and email details of the corresponding author should appear at the end of the main text, before the References.

References

The *JCPP* follows the text referencing style and reference list style detailed in the *Publication manual of the American Psychological Association* (5th edn.)i.

References in text: References in running text should be quoted as follows:

Smith and Brown (1990), or (Smith, 1990), or (Smith, 1980, 1981a, b), or (Smith & Brown, 1982), or (Brown & Green, 1983; Smith, 1982).

For up to five authors, all surnames should be cited in the first instance, with subsequent occurrences cited as et al., e.g. Smith et al. (1981) or (Smith et al., 1981). For six or more authors, cite only the surname of the first author followed by et al. However, all authors should be listed in the Reference List. Join the names in a multiple author citation in running text by the word 'and'. In parenthetical material, in tables, and in the References List, join the names by an ampersand (&). References to unpublished material should be avoided.

Reference list: Full references should be given at the end of the article in alphabetical order, and not in footnotes. **Double spacing must be used.**

References to journals should include the authors' surnames and initials, the year of publication, the full title of the paper, the full name of the journal, the volume number, and inclusive page numbers. Titles of journals must not be abbreviated and should be italicised.

References to books should include the authors' surnames and initials, the year of publication, the full title of the book, the place of publication, and the publisher's name.

References to articles, chapters and symposia contributions should be cited as per the examples below:

Kiernan, C. (1981). Sign language in autistic children. *Journal of Child Psychology and Psychiatry*, 22, 215-220.

Thompson, A. (1981). *Early experience: The new evidence*. Oxford: Pergamon Press.

Jones, C.C., & Brown, A. (1981). Disorders of perception. In K. Thompson (Ed.), *Problems in early childhood* (pp. 23-84). Oxford: Pergamon Press.

Use Ed.(s) for Editor(s); edn. for edition; p.(pp.) for page(s); Vol. 2 for Volume 2.

Tables and Figures

All Tables and Figures should appear at the end of main text and references, but have their intended position clearly indicated in the manuscript. They should be constructed so as to be intelligible without reference to the text. Any lettering or line work should be able to sustain reduction to the final size of reproduction. Tints and complex shading should be avoided and colour should not be used unless essential. Figures should be originated in a drawing package and saved as TIFF, EPS, or PDF

files. Further information about supplying electronic artwork can be found in the Wiley-Blackwell electronic artwork guidelines at http://authorservices.wiley.com/prep_illust.asp

Nomenclature and symbols

Each paper should be consistent within itself as to nomenclature, symbols and units. When referring to drugs, give generic names, not trade names. Greek characters should be clearly indicated.

Manuscript processing

Refereeing

The *Journal* has a policy of anonymous peer review and the initial refereeing process seldom requires more than three months. Most manuscripts will require some revision by the authors before final acceptance. The Editorial decision on the suitability of a manuscript for publication is final.

Proofs

Proofs will be sent to the designated author only. These will be sent via email as a PDF file, and therefore a current email address must be provided with the manuscript. Only typographical or factual errors may be changed at proof stage. The publisher reserves the right to charge authors for correction of non-typographical errors.

Offprints

The designated author will receive a PDF file of their article. The designated author should undertake to forward copies of the PDF file to their co-authors.

Copyright

Exclusive Licence Form

Authors will be required to sign an Exclusive Licence Form (ELF) for all papers accepted for publication. Please note that signing the Exclusive Licence Form does not affect ownership of copyright in the material.

Download the Exclusive Licence Form [here](#)

Advice for NIH authors

JCPP and Wiley-Blackwell will support NIH funded authors by posting the accepted version of articles by NIH grant-holders to PubMed Central upon acceptance by the journal. The accepted version is the version that incorporates all amendments made during peer review, but prior to the publisher's copy-editing and typesetting. This accepted version will be made publicly available 12 months after publication. The NIH mandate applies to all articles based on research that has been wholly or partially funded by the NIH and that are accepted for publication on or after April

7, 2008.

Please let the editorial office know that you are an NIH-funded author when you submit your article.

Alternatively, any author wishing to publish their article open access can do so using our author-pays Online Open service - please see details below.

NEW: Online Open

OnlineOpen is a pay-to-publish service from Wiley-Blackwell that offers authors whose papers are accepted for publication the opportunity to pay up-front for their manuscript to become open access (i.e. free for all to view and download) via the Wiley Online Library website. Each OnlineOpen article will be subject to a one-off fee of **\$3000** to be met by or on behalf of the Author in advance of publication. Upon online publication, the article (both full-text and PDF versions) will be available to all for viewing and download free of charge. The print version of the article will also be branded as OnlineOpen and will draw attention to the fact that the paper can be downloaded for free via the Wiley Online Library service.

For the full list of terms and conditions, please visit the [OnlineOpen](#) homepage. Any authors wishing to make their paper OnlineOpen are required to complete the [online form](#).

(Please note this form is for use with OnlineOpen material **ONLY**.)

Prior to acceptance there is no requirement to inform an Editorial Office that you intend to publish your paper OnlineOpen if you do not wish to. All OnlineOpen articles are treated in the same way as any other article. They go through the journal's standard peer-review process and will be accepted or rejected based on its own merit.

The copyright statement for OnlineOpen authors will read:

© [date] The Author(s)

Journal compilation © [date] [Wiley-Blackwell Ltd]

Liability

Whilst every effort is made by the publishers and editorial board to see that no inaccurate or misleading data, opinion or statement appears in this journal, they wish to make it clear that the data and opinions

appearing in the articles and advertisements herein are the sole responsibility of the contributor or advertiser concerned. Accordingly, the publishers, the editorial board and editors, and their respective employees, officers and agents accept no responsibility or liability whatsoever for the consequences of any such inaccurate or misleading data, opinion or statement.

Appendix F

Dissemination plan

The dissemination plan for the data analysed and presented in the current study is to combine the results of the analyses for both the fathers' and mothers' data, in order to produce two separate papers for submission to Journal of Child Psychology and Psychiatry. The first will focus on the link between expressed emotion in parents and child emotional and behavioural problems. The second will look at the stability of expressed emotion over time, and the differences in expressed emotion in mothers and fathers.