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Maternal experiences and the mother–infant dyad's development: introducing the Interview of Mother's Experiences (I-ME)

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Objective: This study introduces an instrument, the Interview of Mother's Experiences (I-ME), focusing on how the mother's past and present experiences relate to her psychological state and interaction with the baby. **Background:** Questionnaires and video-taped interactions are used for assessing dyadic relationship disturbances. Validated interviews are rarer and might yield additional information. **Method:** Analyses were made on 86 dyads from a randomised controlled trial comparing mother–infant psychoanalytic treatment with Swedish Child Health Centre care. Data were assembled from two interviews with a 6-month interval. Initial infant mean age was 5 months. Concurrent and predictive validity were assessed by comparisons with questionnaires and mother–baby interaction ratings. **Results:** The I-ME's internal consistency and inter-rater reliability were high. Factor analyses indicated its incremental validity beyond questionnaires and interaction ratings. The hypothesis that I-ME scores would be closely related to the interaction ratings was refuted. Rather, they were associated with questionnaires on depression and infant functioning. The I-ME predicted the mothers' interactive contributions six months later, whereas the questionnaire on maternal psychopathology predicted the infants' contributions. **Conclusions:** The I-ME may help detecting dyads at risk for future difficulties with interactions and attachment, beyond other assessment methods such as mother-report questionnaires.

Keywords: attachment; internal working model; interview; mother–infant psychoanalytic treatment; postnatal depression

In mother–infant research, the strengths and difficulties of a dyad are generally assessed via mother-report questionnaires on infant social and emotional functioning (Briggs-Gowan & Carter, 1998, 2002; Squires, Bricker, Heo, & Twombly, 2002) or temperament (Carey, 1970; Hagekull, 1985), and/or via independently rated video-recorded interactions (Biringen, Robinson, & Emde, 1998; Clark, 1985; Hedenbro & Lidén, 2002; Lyons-Ruth, Bronfman, & Parsons, 1999). For summaries of methodological and clinical issues, see Carter, Godoy, Marakovitz, and Briggs-Gowan (2009), DelCarmen-Wiggins and Carter (2004), and Miron, Lewis, and Zeanah (2009). In clinical practice, on the other hand, assessments are generally based on interviews in which the clinician observes the dyad's interaction. Through questions to the mother, the clinician also assesses how she experiences her previous life and

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present state, her child and his/her father. An important and so far unresolved issue is whether such interviews may generate formal and quantified assessments that contribute to the prediction of the dyad's development. Interview formats already exist which assess different psychological aspects of parenthood (Aber, Slade, Berger, Bresgi, & Kaplan, 1985; Bretherton, Biringen, & Ridgeway, 1989; Brockington, Aucamp, & Fraser, 2006; Zeanah, Benoit, & Barton, 1986). To our knowledge none of them summarises, in a semi-structured yet quantifiable way, her past and previous experiences now that she has become a mother. To this end, we introduce the Interview of Mother's Experiences (I-ME).

The I-ME was developed during research interviews of the MIPPS study, the Mother–Infant Psychoanalysis Project of Stockholm (Salomonsson & Sandell, 2011a,b). This randomised controlled trial (RCT) was conducted October 2005–January 2008. Mothers with babies below 18 months were invited to take part if they experienced problems with themselves *qua* mothers, the baby's emotional well-being, or their relationship with the child. They thus constituted a sample of 'mother–infant relational disturbances' (DelCarmen-Wiggins & Carter, 2004; Sameroff, McDonough, & Rosenblum, 2004; Zeanah, 2000) or 'baby worries' (Salomonsson, 2010). They were recruited from local Child Health Centres, from the delivery ward and the Nursing Centre of the Karolinska University Hospital, and from parenting internet sites. In essence, the sample represented a low social risk; the educational level was slightly higher than the Stockholm average and the rate of single mothers was lower. In contrast, it represented a psychiatric medium risk as 50% of the mothers had received psychiatric treatment previously. They had mainly suffered from depressions, anxiety conditions or eating disorders.

The RCT compared the effects of mother–infant psychoanalytic treatment (the MIP group; Norman, 2001; Norman, 2004) with health care visits at Child Health Centres (the CHC group). All cases received nurse visits according to Swedish routines. In addition, one-third of the CHC group received a few sessions of psychotherapy at the initiative of the nurse or the mother.

Assessments were made twice, at intake and six months later. On both occasions, the instruments were questionnaires on maternal psychological state and infant social and emotional functioning, external ratings of interactions, and interviewer assessments of dyadic relationship qualities. At intake, data collection also comprised the I-ME assessment based on a 1-hour long interview in the baby's presence. It aimed to assess the mother's reports of her subjective experiences. The behaviours of mother and child were also integrated into these assessments. To strike the balance between a structured interview and an open-ended format, we used a semi-structured format. Our argument was that a structured interview might risk overlooking experiential details and emotional expressions, while an open-ended format might miss salient facts of history and development and be used to merely confirm the interviewer's preconceived notions (Link Egger & Angold, 2004). A semi-structured format was expected to promote the mother's spontaneous emotional expressions and yet enable systematic data collection. The baby's presence during interviews was thought to increase the mother's spontaneity as to how she felt about her baby and about being a mother.

The mother's symptoms were assessed via questionnaires and her interactive contributions by external observers via video recordings. Her experiences, on the other hand, were assessed by the interviewer. We hypothesised that the I-ME would add unique information beyond the questionnaires and video assessments. A further

hypothesis was based on the assumption that a mother may consciously control her responses on a questionnaire. In contrast, video-recordings of her interactive behaviour, as well as experiences expressed during a semi-structured interview, would be less influenced by conscious control. Furthermore, in a questionnaire the subject is requested to express her experiences into a set of score points. Even if written comments may also be requested or appear spontaneously, in general only the score points will be used in the statistics. In video-recordings and interviews, on the other hand, several modes of expression such as verbal comments, gestures and tone of voice, may be included in the total rating. Another factor was that the recordings were made in the baby's presence, whereas the questionnaires were filled in outside his/her immediate influence. We therefore hypothesised that the I-ME would be more closely associated with the interaction ratings than with the questionnaires.

Regarding predictive validity, we focused on dyadic interaction as a critical criterion of the child's development. We presumed that psychotherapies would influence dyadic interactions and thus the I-ME's predictions. Therefore, we decided to split the analyses on cases receiving psychotherapy and cases receiving no psychotherapy at all.

The I-ME: subscales and items

During the interviews, some mothers expressed worries about their marital or family relationships. Others told of traumatising events or psychiatric disorders in childhood and young adulthood, such as depression or anorexia. Alternatively, they worried about feeding and sleeping problems in the child or their emotional contact with him/her. We decided to devise a formalised method of quantifying their experiences through interviewer ratings. We began by setting up four major aspects, which have been shown in various studies to predict the dyad's development.

Maternal well-being: how the mother is feeling psychologically at present and earlier in life

Maternal psychological state during pregnancy is known to influence child development (Talge, Neal, & Glover, 2007; Van den Bergh, Mulder, Mennes, & Glover, 2005). The role of postnatal depression in adverse development has been amply studied; see reviews by Goodman and Brand (2009) and Murray and Cooper (1997b).

Mothering: how she thinks she is functioning as a mother

Disappointing birth experiences are associated with maternal depression (Saisto, Salmela-Aro, Nurmi, & Halmesmäki, 2001). Postnatal depression is also known to be linked with decreased breast-feeding (Gagliardi, Petrozzi, & Rusconi, 2010; Henderson, Evans, Straton, Priest, & Hagan, 2003).

Support: how the mother feels supported by her family and by health professionals

A close relationship exists between a mother's attachment to her parents and the development of her child's attachment security (Hesse, 2008; van IJzendoorn,

1995). Marital and social support seems to enhance the mother's ability to take care of a challenging baby (Belsky & Fearon, 2008; Mertesacker, Bade, Haverkock, & Pauli-Pott, 2004).

Baby's well-being: how the mother views the baby's mood and functioning

It has been demonstrated that early problems with feeding and sleeping may persist up to school-start (Östberg & Hagelin, 2010). Infant sleeping problems (Morrell & Steele, 2003) are associated with, among other factors, maternal difficulties in limit-setting, depression and ambivalent attachment.

For each of the four aspects, five items were constructed to be rated by the interviewer.

Maternal well-being:

(1) Anxiety pre-delivery: 'The mother felt safe and calm before delivery.'
(2) Anxiety post-delivery: 'The mother felt psychologically stable after delivery.'
(3) Guilt feelings: 'The mother has no guilt feelings.'
(4) Self-esteem: 'The mother's self-esteem is good.'
(5) Present anxiety: 'The mother feels safe and calm now.'

Mothering:

(6) Delivery experience: 'The mother feels the delivery went well.'
(7) Breast-feeding: 'The mother feels breast-feeding went well.'
(8) Feelings for the baby: 'The mother's feelings for her baby are well integrated.'
(9) Differentiation from the baby: 'The mother describes her baby as a person in his/her own right.'
(10) Insightfulness: 'The mother is insightful about how her life history influences the present situation.'

Support:

(11) Confidence in the interviewer: 'The mother feels confident in speaking with the interviewer.'
(12) Confidence in the Child Health Centre (CHC): 'The mother feels the CHC staff supports her.'
(13) Support from the father: 'The mother feels the baby's father supports her.'
(14) Affection for the father: 'The mother seems fond of the baby's father.'
(15) Parental contact: 'The mother feels her contact with her parents is good.'

Baby's well-being:

(16) Health: 'The mother feels the baby is somatically well.'
(17) Sleep: 'The mother feels the baby sleeps well.'

(18) Appetite: 'The mother feels the baby has a good appetite.'
(19) Mood: 'The mother feels her baby is cheerful.'
(20) Relationship: 'The mother feels her baby has a friendly relationship with her.'

An appendix is provided with examples from interviews with mothers participating in the RCT (Salomonsson & Sandell, 2011a,b). Further arguments for the items will be offered in the discussion. The items were formulated as positive statements. The interviewer let the mother's experiences emerge spontaneously during the semi-structured and video-taped interview. If experiences covered by a certain item remained unmentioned by the mother, he explicitly asked about them. In the analysis of the video afterwards, he rated to what extent he felt that her responses cohered with each item. Four-point Likert scales were used, where 1 implied maximum disagreement with the statement and 4 total agreement. A mean score across all 20 items was calculated.

The interview was devised to be performed by child care professionals, such as nurses, psychologists, social workers or doctors. We recommend that it be video-recorded to enhance the reliability of ratings. Recordings may also be used for external ratings.

Aims

The principal aim of this study was to investigate the reliability and validity of the I-ME interview. It investigated concurrent validity by comparing its scores with simultaneous mother-report questionnaires and external ratings. In addition, it investigated its predictive validity regarding the dyad's interaction six months later. The following hypotheses were set up.

(a) I-ME ratings will attain satisfactory levels of reliability.
(b) I-ME ratings will add information beyond that provided by questionnaires and video assessments of the dyad.
(c) I-ME ratings will be more closely related to the video-based interaction ratings than to the questionnaires.
(d) I-ME will predict the quality of mother–baby interaction differentially among cases where psychotherapy has, and has not, been provided, respectively.

Ethical approval

The project was approved by the Swedish Central Ethical Vetting Board (Centrala etikprövningsnämnden), Dnr Ö 16-2005. The interviewer provided thorough information before and during the interview, whereupon he and the mothers confirmed their participation on a signed document.

Sample

The sample consisted of 86 mothers with infants. Maternal mean age was 33.2 years (SD 4.2) and the modal number of children was 1. The babies' mean

age was 5.0 months (SD 3.3) with only one baby above 12 months. Mean birth-weight was 3450 g (SD 560), and delivery had taken place in pregnancy week 39.7 (SD 1.8). Fifty-five percent were girls. The maternal educational level was slightly higher than the Stockholm average for women of the same age. About every second mother had suffered a psychiatric disorder during childhood, adolescence or adulthood; mainly depressive, anxiety and eating disorders. This was reflected in the questionnaire scores in Table 1, which also provides reference data from normal populations. Ten percent had chronic medical conditions, such as epilepsy, hyperthyreosis, diabetes and MS. There was also a high prevalence of relationship problems and stressors in the family, as indicated by the DC 0–3:R (ZERO-TO-THREE, 2005) classifications. For a detailed description of the sample, we refer to the RCT study (Salomonsson & Sandell, 2011a,b).

Inter-rater reliability

The interviewer was the first author, an experienced child and infant psychoanalyst. Two trained professionals were used to test reliability. One was an experienced CHC nurse in psychotherapy training, the other a doctoral student in pedagogy and interested in mother–infant psychoanalysis. They received training sessions based on video-recordings and a written manual. Thereupon, they rated eight full-length interviews without knowing the interviewer's ratings.

Table 1. Data at interview #1. Mean scores (with standard deviations, SD) or prevalence (%).

Measure	Scores or %	Reference data
ASQ:SE	2.05 (1.31)	0.87[a]
EPDS	11.68 (4.62)	5.65[b], 6.92[c]
GSI	0.91 (0.55)	0.45[d], 0.34[e]
SPSQ	2.91 (0.54)	2.5[f]
PIR-GAS	69.59 (12.25)	
EAS Mother Mean	0.70 (0.12)	
EAS Infant Mean	0.63 (0.19)	
DC 0–3:R, Axis 1 diagnosis	16%	18[g]
DC 0–3:R, Axis 2 RPCL notation	81%	8.5[g]
DC 0–3:R, Axis 3 diagnosis	17%	
DC 0–3:R, Axis 4 stressors	80%	

Note. ASQ:SE, the Ages and Stages Questionnaire: Social-Emotional; EPDS, the Edinburgh Postnatal Depression Scale; GSI, the General Severity Index of the Symptom Check List-90; SPSQ, the Swedish Parental Stress Questionnaire; PIR-GAS, the Parent–Infant Relationship Global Assessment Scale; EAS Mother Mean, the mean scores of the maternal dimensions of the Emotional Availability Scales (EAS); EAS Infant Mean, the mean scores of the infant dimensions of the EAS; DC 0–3:R, the Diagnostic Classification ZERO-TO THREE, Revised Edition; RPCL, the Relationship Problems Checklist. $n = 86$, except for the EAS ($n = 68$).

[a]Squires, Bricker, and Twombly (2004); mean scores/item of 'no-risk' infants < 1 year.
[b]Seimyr, Edhborg, Lundh, and Sjögren (2004).
[c]Wickberg and Hwang (1997).
[d]Fridell, Cesarec, and Johansson (2002).
[e]Börjesson et al. (2005).
[f]Östberg et al. (1997).
[g]Skovgaard et al. (2008)

Instruments

Mother-report questionnaires

The Ages and Stages Questionnaire: Social-Emotional (ASQ:SE; Squires et al., 2002) was used to assess infant social and emotional functioning. We used a Swedish translation approved by the constructor. Items are rated on four-step scales (0, 5, 10 or 15 points), except four items on two-step scales (0 or 5 points). For this age range, there are three sets of questionnaires: 3–8 months, 9–14 months and 15–20 months. We used mean scores across all items (total score/number of items). In this study, internal consistency (α) was .79.

The Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987) was used to rate maternal depression. It consists of 10 items with three-step scales. Its Swedish version has been validated (Edhborg, Lundh, Seimyr, & Widström, 2003; Rubertsson, Waldenström, Wickberg, Rådestad, & Hildingsson, 2005; Wickberg & Hwang, 1996, 1997). In our study, α was .82.

The Symptom Check List-90 (SCL-90; Derogatis, 1994), in its Swedish version (Fridell, Cesarec, Johansson, & Malling Thorsen, 2002), was used to measure psychological distress. The GSI (General Severity Index) was calculated as the mean across all items. Internal consistency was $\alpha = .97$.

The Swedish Parental Stress Questionnaire (SPSQ; Östberg, Hagekull, & Wettergren, 1997) was used to measure parental stress. It is a Swedish version of the Parenting Stress Index (PSI; Abidin, 1990) with 35 items rated on five-step scales. In this study, α was .88.

Observer-rated mother–baby interactions

The Emotional Availability Scales, third edition (EAS; Biringen et al., 1998) were used to assess video-taped mother–baby interactions. This instrument has four dimensions related to maternal interactive behaviour: Sensitivity, Structuring, Non-intrusiveness, and Non-hostility, and two dimensions reflecting infant behaviour: Responsiveness and Involvement. In line with the recent fourth edition (Biringen, 2009), each dimension score was divided by its possible range. All scores thus ranged 0–1, with 1 implying optimal behaviour. Two independent and blind raters were used; one a psychologist and the other a child psychiatrist, both with substantial clinical infant experience. They were trained by the first author and certified by the EAS constructor.

EAS scores were available for 68 dyads. Three mothers declined being video-recorded, one recording failed technically, and 14 babies were asleep during the interview. For inter-rater reliability, intra-class correlations (ICC) were calculated on each dimension for 31 dyads assessed by both raters. For maternal Sensitivity, Structuring, Non-intrusiveness, and Non-hostility, ICCs were .74, .71, .84, and .67, respectively. Because the raters did not reach a satisfactory ICC on non-hostility on data from the outcome interviews, this dimension was not used in the analyses. For infant Responsiveness and Involvement, ICCs were .78 and .77. When possible, rater mean scores were used for the statistics. In the interest of power, we then collapsed the five dimensions into two measures, the ‘EAS Mother Mean’ and the ‘EAS Infant Mean’. Their correlations were significant ($r = .584$, $p = .011$).

Interviewer-based assessments of the mother–baby relations

The Parent–Infant Global Assessment Scale (PIR-GAS; ZERO-TO-THREE, 2005) was used to assess parent–infant relationships. A global judgement was made on a scale ranging from 0 to 99, from 'documented maltreatment' to 'well-adapted'. Ratings were made by the first author. For ICC assessments, we engaged an independent psychologist with extensive experience in infant clinical work and PIR-GAS ratings. The ICCs computed for 20 intake assessments and 20 outcome assessments were .90 and .86, respectively. Whenever possible, we used the raters' means for the statistical analyses.

Statistical analyses

SPSS v. 15.0 was used. Statistical methods were product–moment correlations, intra-class correlations between raters, multiple regression, and factor analysis. Outliers were analysed and handled according to Tabachnik and Fidell (2007). Thus, raw scores exceeding $z = 3.29$ ($p < .001$, two-tailed test) were replaced by raw scores corresponding to $z = 3.29$. Only one ASQ:SE item score needed to be handled this way. Twelve missing I-ME values out of 1720 (20 items × 86 cases) were substituted with the mean value of each item.

Results

Reliability

We analysed intra-class correlations on each I-ME item across eight dyads for the two independent raters and the interviewer. ICCs across items ranged from .67 to .96, with a median of .85. ICC for the I-ME mean score was .94. Internal consistency, computed on the mean values of the three raters' scores on each item, yielded a Cronbach's α of .78. Deleting an item did not raise α by more than .014. Thus, we retained all 20 items in the ensuing statistical analyses.

Descriptive statistics

The total I-ME mean score was 2.78 (SD 0.35) with a fairly normal distribution (Kolmogorov–Smirnov $z = .522$, $p = .948$). The mean scores for each item ranged from 1.97 to 3.74, with a median of 2.88. Standard deviations ranged from 0.57 to 1.00, and all items but one ranged 1–4 points. Six items were negatively and four were positively skewed, that is, the ratio of their skewness value and its standard error was above 2. The most positively skewed items concerned the mother's self-esteem and her insightfulness. The most negatively skewed items concerned the baby's somatic health and their friendly relationship. Thus, many mothers had a low self-esteem and felt little connection between their past lives and the present situation. In contrast, they felt that their baby was in good health and that their relationship was friendly.

Factor structure

A principal axis factor analysis on the 20 items yielded six factors with eigenvalues exceeding 1, explaining 64% of the total variance. The scree test suggested a solution with three factors. This solution explained 43% of the total variance.

Table 2 shows that after oblique rotation (oblimin), the Infant Factor loaded mainly on items reflecting the baby's well-being. Items on mothering also contributed. The Father Factor loaded strongly on the items relating to the support from the child's father. Finally, the Mother Factor loaded mostly on items reflecting mothering and maternal well-being. Factor inter-correlations ranged from .04 to .22. Two of the support items yielded factor loadings less than .30: 'Confidence in the CHC' with a maximum of .175, and 'Confidence in the interviewer' .119.

As the I-ME items were set up to reflect four aspects of mothers' experiences, we investigated whether a four-factor solution would correspond to them. This solution explained 52% of the variance. However, the factors did not unequivocally correspond with the four I-ME aspects.

Concurrent validity

Next, we analysed the relations between the I-ME means and factor scores and the other instruments. Table 3 shows that I-ME mean scores correlated significantly with all the questionnaire means and more weakly with the two interaction measures. The strongest correlation was with the PIR-GAS, with $r = .70$. In a paradoxical manner, the Infant Factor correlated significantly with the EAS Mother Mean and the Mother Factor with the EAS Infant Mean.

A principal factor analysis of all instrument scores and the I-ME mean scores extracted two factors with an eigenvalue > 1.0 explaining 65% of the total variance. Nevertheless, the scree test suggested extracting three factors accounting for 77% of the variance.

Table 2. Pattern matrix of the I-ME, with factor loadings > .30. Principal Axis Factoring. Oblique rotation.

	Factors		
	Infant	Father	Mother
The baby has a friendly relation with mother	.877		
The baby is cheerful	.745		
The baby has a good appetite	.638		
Breast-feeding went well	.507		
Mother has no guilt feelings	.390		
The baby is somatically well	.369		
Mother feels delivery went well	.353		
The baby sleeps well	.351		
Mother feels the baby's father supports		.990	
Mother is fond of the baby's father		.789	
Mother felt stable after delivery			.631
Mother felt safe and calm before delivery			.604
Mother feels safe and calm now			.592
Mother sees the baby a person in his own right	.308		.525
Mother understands earlier history's influences			.429
Mother has a good self-esteem			.411
Mother's feelings for child are well integrated	.463		.382
Mother is in good contact with parents			.322
Child Health Centre supports			
Mother has confidence in interviewer			

Table 3. Interview #1 correlations (r) between mean scores and the I-ME mean scores and factors. $n = 86$ for all analyses except EAS means, where $n = 68$.

	I-ME mean score	Factor score, Infant Factor	Factor score, Father Factor	Factor score, Moth. Factor
EPDS	–.339[c]	–.233[a]	–.101	–.465[c]
ASQ:SE	–.315[b]	–.407[c]	–.039	–.153
GSI	–.254[b]	–.089	–.169	–.344[c]
SPSQ	–.338[c]	–.322[b]	–.328[b]	–.271[b]
EAS Mother Mean	.207[a]	.298[b]	–.117	–.196
EAS Infant Mean	.233[a]	.164	.116	–.282[a]
PIR-GAS	.703[c]	.730[c]	.027	–.487[c]
I-ME mean score	1	.805[c]	.303[b]	.733[c]
Factor score. Infant F-r		1	–.007	.366[c]
Factor score. Father F-r			1	.222[a]

Note: Abbreviations are explained in Table 1

[a]Correlation significant at the 0.05 level (2-tailed).
[b]Correlation significant at the 0.01 level (2-tailed).
[c]Correlation significant at the 0.001 level (2-tailed).

Table 4. Pattern matrix of the I-ME mean scores and all other instruments (except the PIR-GAS), factor loadings > .40. Principal Axis Factoring. Oblique rotation.

	Factors		
	Maternal distress	Interactions	Infant distress
EPDS	.999		
GSI	.761		
SPSQ	.553		
EAS Mother Mean		.871	
EAS Infant Mean		.742	
ASQ:SE			-.891
I-ME mean score			

Note: Abbreviations are explained in Table 1

The three factors in Table 4 were named in accordance with their major loadings; ‘Maternal Distress’, ‘Interaction’, and ‘Infant Distress’. Loadings of the I-ME mean score did not exceed .236, suggesting that the I-ME ratings were relatively independent from these three factors.

A multiple regression was run with the I-ME mean scores as the dependent variable. From the independent variables we excluded the PIR-GAS, whose high correlation with the I-ME probably indicated a common rater factor. All questionnaire and EAS scores were entered stepwise into the equation. The EPDS and the ASQ:SE were the only significant contributors, with $\alpha = –.294$ ($p = .015$) and –.242 ($p = .044$), respectively. Adjusted $R^2 = .160$.

Predictive validity

The EAS Mother and Infant Means at the outcome interviews were regressed on the I-ME mean scores and the questionnaires from the intake interviews. First, we performed stepwise multiple regression analyses only on scores from those 28 CHC cases that had received no psychotherapeutic support. For the EAS Mother Mean, the I-ME score was the only significant contributor $\beta = .442$, $p = .021$, adjusted $R^2 = .164$). For the EAS Infant Mean, the GSI score was the only significant contributor ($\beta = .477$, $p = .012$, adjusted $R^2 = .197$). In a second analysis, we performed a corresponding regression analysis on the remaining cases, that is, those who had received any form of psychotherapy. No variable, whether in the analysis of the EAS Mother or EAS Infant scales, fulfilled the inclusion criterion $p < .05$.

Discussion

The assumption that a mother's experiences may result in behaviour which will affect her child's development is in line with transactional (Sameroff & Fiese, 2000), attachment (Bowlby, 1969) and psychoanalytic (Tyson & Tyson, 1990) developmental theories. We created the I-ME to assess maternal experiences, selecting aspects or facets (Levy, 2005) which various studies have shown to predict the baby's social and emotional development. We formalised them into 20 items in 4 clusters: maternal well-being, mothering, support, and the baby's well-being. We will now elaborate our arguments for the items.

Our reason for including items on maternal well-being was that a mother's psychological state during pregnancy may influence the child's future development (Talge et al., 2007; Van den Bergh et al., 2005). Guilt feelings and a low self-esteem (items 3 and 4) may reflect an underlying depression. This condition is associated with non-optimal mother–infant interaction (Field et al., 2007; Goodman & Brand, 2009), child emotional regulation (Blandon, Calkins, Keane, & O'Brien, 2008), sleeping and eating behaviour (Murray & Cooper, 1997a), and attachment (Toth, Rogosch, Sturge-Apple, & Cicchetti, 2009). Item 5 on the mother's present safety and calmness was motivated by findings that maternal anxiety may associate negatively with sensitivity and positively with intrusiveness (Feldman et al., 2009).

The cluster on mothering covered areas such as delivery, breast-feeding, and feelings for the baby. Many women report pain, lack of control, and negative perception of health caregivers during delivery (Fowles, 1998). Complications, such as instrumental delivery and caesareans, may be associated with maternal distress (Ryding, Wijma, & Wijma, 1998). Item 7 on breast-feeding was included, as it is known that depressed mothers tend to nurse less than non-depressed mothers (Gagliardi et al., 2010; Henderson et al., 2003), and that their experience of confidence is decreased (Field, Hernandez-Reif, & Feijo, 2002).

Item 8 on the mother's integrated feelings for her baby focused on whether she was aware of ambivalence towards her child and how she handled it. For example, a mother with a disengaged internal working model of the child might unknowingly attribute her negative feelings to him/her (Rosenblum, Zeanah, McDonough, & Muzik, 2004). Item 9 on the mother's differentiation from the baby reflected her 'mind-mindedness' (Meins, Fernyhough, Fradley, & Tuckey, 2001) and reflective functioning (Fonagy, Steele, Steele, Moran, & Higgitt, 1991) *vis-à-vis* her baby. These variables are known to associate with mothers' interactions with their babies (Rosenblum, McDonough, Sameroff, & Muzik, 2008).

The items on support covered the mother's contacts with other adults and the extent to which she perceived them as reliable and supportive. A mother's attachment to her parents is associated with how her child's attachment security will develop (Hesse, 2008; van IJzendoorn, 1995). Marital and social support (items 13–15) may affect her ability to take care of the baby (Belsky & Fearon, 2008; Crockenberg, Leerkes, & Lekka, 2007; Mertesacker et al., 2004). Item 11 on her confidence in the interviewer was thought to reflect her general sense of security and support.

The items on the baby's well-being were included because a mother's experiences centre much on how she perceives her baby's behaviour. In clinical samples, sleeping and eating difficulties may persist up to school start (Östberg & Hagelin, 2010). Sleeping problems are associated with maternal limit-setting difficulties, infant temperament, and ambivalent infant attachment (Morrell & Steele, 2003). The items on the baby's mood and relationship with the mother (19–20) may detect negative maternal attributions (Silverman & Lieberman, 1999) affecting child development. It is also known that mothers who perceive their babies as difficult to soothe may develop insensitive parenting techniques (Ghera, Hane, Malesa, & Fox, 2006). The items in this cluster also reflect the mother's internal representations of her child, which are associated with the child's attachment security (Huth-Bocks, Levendosky, Bogat, & von Eye, 2004; Rosenblum, Dayton, & Muzik, 2009).

Testing the hypotheses

Internal consistency and inter-rater reliability of the I-ME were high, which confirmed hypothesis (a). This would speak in favour of retaining all the 20 items. On the other hand, in the factor analysis two items appeared unrelated to the others: the mother's confidence in the CHC staff and in the interviewer. The CHC item (12) nevertheless seems motivated as CHCs form an integral part of Swedish routine parental support, and it is therefore important to assess how the mother experiences them. On the other hand, the item on her confidence in the interviewer (11) seems more weakly substantiated theoretically. Future studies are needed to show if it should be discarded.

The I-ME mean scores showed a normal distribution with the full scoring range used. We interpreted that the three-factor solution distinguished infant, maternal, and father items, respectively, in contrast to the four preset item clusters. When we factor-analysed all instrument scores and the I-ME mean scores, we found that the two groups of assessments were largely unrelated. As reliability of the I-ME was satisfactory, we concluded that it added unique true variation. Hypothesis (b) was thus supported. In the analysis of concurrent validity, the I-ME mean scores were not predicted by the intake interaction ratings but by the questionnaires on depression (EPDS) and infant functioning (ASQ:SE). The mothers' reports to the interviewer and their response patterns on the questionnaires were thus more closely associated than expected, and our hypothesis (c) was refuted.

When analysing the predictive validity of the I-ME scores, we differentiated between cases that received and did not receive any psychotherapy, respectively. The rationale was that therapies aimed to influence the mother's psychological suffering and emotional availability. Such treatments might thus affect the I-ME's predictability in general. To test hypothesis (d), we investigated which initial assessments predicted the mother's and the baby's interactive behaviour six months later. For cases receiving psychotherapy, no variable fulfilled the inclusion criterion

$p < .05$. This implied that treatment had affected outcomes on dyadic interaction and thus decreased the predictive capacity of the I-ME. This conclusion applied both to the EAS Mother Mean and Infant Mean.

For the untreated cases, on the other hand, we found that the only initial assessment that significantly predicted *maternal* interactive behaviour was the I-ME. Although maternal sensitivity is not an exclusive condition of attachment security (De Wolff & van Ijzendoorn, 1997), it may influence a child's later attachment (NICHD, 1997, 2001), reported in Belsky (2005, p. 77). Thus, sensitivity is an important influential factor in the child's development. We conclude that the I-ME may be more useful than the questionnaires to reveal dyads at risk for non-optimal maternal emotional availability and, thus, for the development of the child's attachment difficulties. This conclusion must, of course, be investigated in further studies.

For the *infant's* emotional availability, on the other hand, the GSI was the sole predictor. We would like to speculate on the background to this surprising finding. The I-ME interview focused on how the mother subjectively experienced both her present and past situation. In contrast to our expectations, its scores related more closely to simultaneous verbal assessments (the questionnaires on depression and infant functioning) than to non-verbal measures (the interaction ratings). The GSI, on the other hand, focused on her present symptoms of psychic distress. Because many of them may be expressed as part of her non-verbal behaviour, the baby may be affected by them as much as by her verbal communication. To phrase it otherwise, when a mother is with her child, it is perhaps easier for her to contain her previous experiences than her present distress. Consequently, her current distress will more readily affect the child's emotional availability. Furthermore, the influence of maternal psychopathology was probably active during the time span between the two interviews. This assumption is supported by findings that distress as measured by the GSI is fairly stable in mothers of infants (Börjesson, Ruppert, & Bågedahl-Strindlund, 2005). In our study, the stability of the GSI from intake to outcome was indicated by a correlation of $r = .72$ in the untreated subsample, which also suggests a fairly stable influence by maternal psychopathology on infant behaviour. To sum up, hypothesis (d) was confirmed regarding *maternal* interactive behaviour but discarded regarding *infant* interactive behaviour.

Other interview formats

Parental interview formats cover different areas of parental experiences and capacities, and they also differ in being more or less structured. The Parental Development Interview (Aber et al., 1985; Slade, 2005) has preset questions that probe how the parent links his/her childhood experiences with the present parental role. It is carried out without the child present and focuses on the parent's reflective functioning. The Birmingham Interview for Maternal Mental Health (Brockington et al., 2006) also contains compulsory questions, but aims more generally to explore 'the social, psychological and psychiatric course of pregnancy, parturition and the puerperium' (p. 244). It thus covers areas adjacent to those of the I-ME though in a much more structured and explicit way; for example, 'Do you regret having this baby?' or 'Have you ever felt that it would be better if someone else looked after him/her?' (Brockington et al., 2006, p. 245). As we see it, such clear-cut questions are often anxiety-provoking and may therefore launch the respondent's psychological defences. This might tempt her to answer in an exaggeratedly positive way. In

the I-ME, these questions would be covered by the item 'The mother's feelings for her baby are well integrated'. The interviewer combines the mother's verbal statements with his impressions of her non-verbal communications and behaviour with the child. This demands more clinical experience from the interviewer. On the other hand, in our experience, CHC nurses make such assessments in their daily work. The I-ME may help them to scaffold their intuitive perceptions into a set of meaningful items and to calculate them into one average score.

The Parent Attachment Interview (Bretherton et al., 1989) seeks to obtain the parent's descriptions and emotional appraisals of specific care-giving events. It also provides information about the parent's past attachment relationships. Its sensitivity/insight scale has been demonstrated to be associated with children's responses on story completion tests (Bretherton, 2005). Another instrument, the Vineland Adaptive Behaviour Scale (Klin, Chawarska, Rubin, & Volkmar, 2004; Sparrow, Balla, & Cicchetti, 1984) taps the child's adaptive behaviour rather than his relation with the mother or her experiences of their relation.

The Working Model of the Child Interview (WMCI; Zeanah et al., 1986) and its newer version, the WMCI-D (Crawford & Benoit, 2009), is a structured (Benoit, Zeanah, Parker, Nicholson & Coolbear, 1997) format. It has shown good concurrent validity with Strange Situation assessments (Benoit, Parker, & Zeanah, 1997; Benoit, Zeanah, et al., 1997). Whereas the I-ME assesses experiences in several domains related to motherhood, the WMCI focuses on the mother's internal representations of the child. Second, the WMCI interviewer should avoid interpretive comments in order to get a 'relatively thorough overview of the caregiver's perceptions of the infant' (Zeanah & Benoit, 1995, p. 553). The I-ME, in contrast, encourages interpretive comments and spontaneity if they help the interviewer assess the mother's experiences. For example, a mother may claim that the baby eats well. The interviewer notices, however, that she anxiously nurses the baby as soon as he whimpers. When he shares this observation with the mother, she starts crying. This will diminish her score on item 18 concerning the baby's appetite. The I-ME possibly requires more clinical experience of the interviewer than the WMCI, but it may yield information beyond that given by a set list of questions.

The WMCI is done in the child's absence, because 'if the mother's attention wanders, that can be important for coding purposes. Were the child present, it could be unclear if the distraction/interruption is child generated or topic generated' (Zeanah, personal communication, 2008). In contrast, the I-ME utilises the baby's presence to open up the mother's 'barrier against feelings' (Fraiberg, 1989, p. 50), which helps her convey her experiences. Finally, the I-ME provides one mean score of the mother's experiences. The WMCI aims at one categorical classification of her representations: balanced, disengaged or distorted (Zeanah & Benoit, 1995, p. 541).

The unique niche of the I-ME may be summarised as follows: it measures how the mother perceives her past and present psychological state, her experiences of motherhood, and her views on parents, partner, and child. These experiences are not subsumed under psychiatric entities or attachment patterns, but rather under global categories or facets formulated as a set of items. The interview's semi-structured character, as well as the baby's presence, is assumed to increase the mother's readiness to respond in a sincere and relatively unmasked way. Ratings are based on her verbal statements as well as non-verbal cues. If the interviewer wishes to get beyond a verbal statement that seems artificial or contradictory, (s)he may use further probing questions.

Our findings suggest that when we clinically assess a mother and her baby, we should seriously consider using a well thought out interview which focuses on her experiences. Her responses, as captured by the I-ME, yield important information concerning the dyad's present state and also indicate some aspects of the dyad's future state. Although the I-ME was created from a clinical sample, it was also intended for non-clinical samples. Our results indicate that a mother's experiences may foreshadow her interactive behaviour with the child. As non-optimal maternal interactive behaviour might impact the child's development negatively, the I-ME promises to be an instrument for more wide-spread use. Further research is needed to settle that question.

Limitations

All I-ME assessments were made by one interviewer, an experienced clinician. First of all, this limits the generalisability across interviewers. Second, if one wishes to use the I-ME in general infant health care, it is not yet settled whether CHC nurses will feel comfortable in searching for unspoken attitudes beneath the respondents' verbal statements. On the other hand, in their daily work they use intuition and experience to capture maternal and infant distress. One should therefore investigate whether a training course might enable them to combine their professional experience with the communicative skills that are necessary for using the instrument. Such an investigation should also focus on whether the semi-structured format of the I-ME poses specific problems as opposed to structured interviews that follow a prescribed manual. To sum up, the fact that all interviews were made by one interviewer limits the generalisability of our findings, and further studies are necessary to determine the external validity of the I-ME. The usual limitations regarding sample size and composition apply to this study. Socio-economically, the sample was middle-class and low-risk. In contrast, it was one of medium psychiatric risk. Future studies should address other sample types. Not the least, its value as a screening instrument in normal samples should be investigated. Such a study should also investigate if any I-ME items are redundant.

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Appendix to the I-ME interview. General guidelines for the interviewer

This interview format was devised for mothers and babies up to 18 months of age. It takes place with the mother in the presence of her baby. Please ask about items in any order you find natural. Follow the natural flow of the interview while internally checking that you ask about all 20 items.

Most items begin with 'The mother feels …' because we investigate her *subjective* experiences. For example, on item 16 on infant health, 'Mother feels the baby is somatically well', a reported medical affection may seem trivial. However, if she experienced it as a serious threat this will lower your scoring. In your ratings, give room also for unspoken attitudes. For instance, if she states she loves her partner but you sense underlying anger, lower your score on item 14, 'Mother is fond of the baby's father.'

The baby's presence during the interview might make the mother's experiences emerge more clearly. For example, if she feels she has a good relation with her child, she may emphatically answer yes on item 20, 'Mother feels her baby has a friendly relationship with her'. However, if the baby starts fretting and the mother is frowning you may ask 'Something seemed to disturb you now'. She might sigh and tell you about problems around, for example, feeding. This would lower the score.

Every item is formulated as a positive statement, the correctness of which you rate on a 4-point Likert scale.

If you think the statement does not fit at all, please rate 1.

If you think the statement does not fit, please rate 2.

If you think the statement fits rather well, please rate 3.

If you think the statement fits very well, please rate 4.

The items

The items are illustrated with interviewed mothers having problems in their roles *qua* mothers, in their relationship with the child, or with the child's well-being. To facilitate reading, feminine pronouns will be used for the mother and masculine for any child.

Maternal well-being

1. Mother felt safe and calm before delivery

Does not fit at all (1):

She had serious psychiatric problems during pregnancy.

She visited a specialist clinic for her panic of labour.

She worried about the survival of her future child and did not dare buy any baby clothes.

Does not fit very well (2):

She had some psychiatric problems (depression, anxiety) during pregnancy.

She feared the upcoming delivery but got help from the Child Health Centre (CHC).

She had had several miscarriages and worried about the upcoming delivery.

She is an immigrant and was feeling lonely and lacking support from her parents back home.

She 'almost regretted pregnancy' and feared she would not handle her older children's untoward reactions to the coming child.

Fits rather well (3):

She had few emotional difficulties during pregnancy.

She sometimes worried about the future child's health or if she would become a good mother. Mostly, though, she looked confidently forward to delivery and motherhood.

Fits very well (4):

She had no psychiatric problems during pregnancy.

She had prepared herself well and was confident, proud, and happy becoming a mother.

She seldom worried about child health, and she really looked forward to delivery and motherhood.

2. *Mother felt psychologically stable after delivery*

(1):

She lost contact with reality for a lengthy period of time. For example, she was hospitalised and/or was on antipsychotic medication.

She had thoughts about suicide or infanticide. They were protracted and marred her contact with the child.

(2):

She lost contact with reality for some fleeting moments. For instance, she had a transitory and 'completely unfounded' suspicion about her husband.

She felt her mood fluctuated constantly. This worried her.

She had looked forward to delivery, but afterwards she could not bear being with the child.

She had fleeting thoughts about suicide or infanticide. However, they did not prevent her from enjoying her child.

(3):

She felt well most of the time, except for shorter periods of worry or sadness.

She felt her mood fluctuated but this included joy. She was not frightened about it.

(4):

She felt excellent and stable.

She felt like a happy and proud mother, and the child gave her much love and contact.

She felt everything went smoothly after delivery.

3. *Mother has no guilt feelings*

(1):

She accuses herself of the baby's state: 'It's my fault that he doesn't breast-feed!'

She feels she is a bad mother and dwells on this during the interview.

She feels her child looks reproachfully at her, 'which is justified since I'm angry with him'.

She feels it is her fault the child has a hereditary disease.

(2):

She reproaches herself about the child's state, but her guilt does not overwhelm her.

She vaguely senses that her own problems of trusting people will rub off on her child.

She reproaches herself that she does not feel 'overwhelming love but just some love'.

(3):

She feels she sometimes affects the child negatively, but this feeling is not overwhelming or frequent.

She feels she sometimes affects the child negatively, but her love and concern for the baby is evident during the interview.

She felt uncertain if she once wanted the child or not, but now she loves him.

(4):

She feels confident that she made everything possible for her child.

She sometimes feels guilty when the baby cries, but quickly realises this is signalling that she cares for him. This makes her assist him, such as tucking him in bed or singing a lullaby.

4. Mother's self-esteem is good

This item captures the mother's self-esteem *qua* mother.

(1):

She feels 'worthless' in being a bad and a 'no-good' mother.

She feels that being a busy professional woman suits her much better than being a mother.

She feels people around her rightly condemn her for not being committed to the baby.

She speaks about herself and the baby in a bitter and ironic tone.

(2):

She does not like herself 'too much'.

She does not appreciate her achievements as a mother.

She does not feel 'complete love' for her child and is ashamed about this.

She dwells on the Caesarean: 'A real woman should have delivered vaginally'.

(3):

She feels quite confident as a mother.

She feels rather confident as a mother and increases her self-esteem through other activities, such as keeping up with her friends and hobbies.

She thinks she is 'OK' as a mother.

(4):

She appreciates herself much, as a person and a mother.

She feels very confident and thinks motherhood has increased her self-esteem.

She feels her self-esteem is good and that the father helps increase it further.

5. Mother feels safe and calm now

This item covers to what extent she seems to be calm, relaxed, and secure. Her specific sense of safety about the child's health is covered by item 16.

(1):

She constantly worries about the medical services offered to herself or the child.

While describing her 'wonderful' baby, she gives a very tense impression.

She talks uninterruptedly about the tense relation with her partner.

(2):

She feels she often worries about her child or herself.

She worries about the child's condition but thinks she can handle it fairly well.

She says she is worried at home but seems relaxed during the interview.

(3):

She worries and feels some discomfort, but this only occurs sometimes.

She feels 'perhaps I should worry that I don't worry enough'.

She basically feels safe but may get upset and worried when too many things happen at home.

(4):

She seems to be a safe, relaxed, and secure person.

She is sad since her partner left but feels confident about the future of her child and herself.

She was sad when she was separated from the baby at delivery, but now she seems very safe and calm.

Mothering

6. Mother feels delivery went well

Please rate how the mother experienced delivery, irrespective of its medical course and outcome. A premature delivery lowers the score with 1 point.

(1):

She experienced delivery as a 'catastrophe' or a 'trauma'. She never wants to go through it again.

She felt humiliated by the staff at the delivery ward.

She felt delivery was an instance of 'mental violence'. Anaesthesia was insufficient and instructions from the staff were incomprehensible.

(2):

She experienced delivery as difficult and painful. She will only go through it again if promised a Caesarean.

She had looked forward to delivery, but the emergency Caesarean 'robbed her' of the experience.

She had a Caesarean and was separated from the child for some hours. The pain of this experience still remains.

She felt delivery was OK but that the staff was quite unsympathetic.

(3):

She feels delivery went well, but her story lacks spark and contentment.

She feels she was treated rather well by the staff and was not very worried.

She feels delivery was fine but suddenly some anxiety appeared. She could handle it though.

(4):

She feels delivery was a wonderful, unforgettable experience.

She feels delivery was fantastic, confirming her womanhood.

She feels delivery was deeply rewarding. She slept heavily afterwards while her husband changed the baby's diapers.

7. Mother feels breast-feeding went well

Please rate the mother's *experience* of nursing, whatever its medical course. If she has stopped breast-feeding, ask how she remembers it.

(1):

She feels breast-feeding is disgusting and painful.

She feels the baby is greedy and breast-feeding gives her no satisfaction.

She cannot stand her sore nipple and immediately wants to stop breast-feeding.

She could not acknowledge the baby and was relieved when terminating breast-feeding.

(2):

She feels psychic and/or physical pain during breast-feeding, but yet she continues with it.

She gives a vague, joyless, or overly technical description of breast-feeding.
She felt incompetent since her sore nipples forced her to quit breast-feeding.
She feels breast-feeding never went well. The child often turned away his head.
She feels stressed. She had 'no milk', yet tried to nurse for some time but without any joy.

(3):
She feels breast-feeding went well, 'though it's not as fantastic as people say it is'.
She feels some sexual arousal when breast-feeding, which is unpleasant to her.

(4):
She feels breast-feeding was very rewarding.
She enjoys breast-feeding and is proud of it.
She feels some sexual arousal when breast-feeding, but this does not frighten her.
She feels 'my baby loves the breast, and I love breast-feeding her'!

8. Mother's feelings for her baby are well integrated

This item captures if the mother can acknowledge and separate divergent feelings towards her child, especially anger and love. Please also assess if they combine into a relationship with the child that is vital, pleasurable, and loving.

(1):
She has chaotic and unacknowledged feelings, especially of hatred and repudiation, towards her child. When she calls the baby 'a monster', it gives the interviewer unpleasant feelings.
She feels an open aversion for her child. Her guilt is overwhelming and paralysing or is totally denied, 'I don't care'.

(2):
She has jumbled and unacknowledged feelings for her child, but her love predominates. When she calls him 'a monster', one senses her anger but there is some loving tone as well.
She cannot appreciate her baby, because she fears this would make his sibling jealous.
She fears bathing the child, because 'terrible things might happen'.
She has a dreary and annoyed tone towards her child.
She laughs nervously when her child angrily scratches her face.

(3):
She mostly feels love for her child but sometimes seems 'lost' *vis-à-vis* him. 'As far as I understand it, he is a nice baby. So people say …'.
She 'leaks' negative attitudes towards her child by beginning critical sentences about him and then stopping herself. However, she is quite warm with him.

(4):
She expresses a mixture of love and vexation, for example, when her child is crying and hard to comfort. These feelings do not frighten her. Her love for the child is clearly predominant.
She is annoyed sometimes but her sense of humour helps her dealing with it. When she calls the baby 'a rascal', the interviewer realises this as a warm, humoristic and self-accepting way of expressing her temporary frustration with her baby.

9. Mother describes her child as a person in his own right

This item captures if the mother describes the child in a differentiated way, that is, with his personal qualities – or whether she alternately attributes parts of herself to her child.

(1):
She attributes her personal peculiarities to the child without realising it.

She is convinced the child looks reproachfully at her, which seems to reflect her own reproaches.

She looks at the child with a strong sense of alienation.

She feels lost with the child and cannot describe any personal qualities in him. 'You know, he's just a baby. He's so little you can't really say anything about him'.

(2):

She attributes personal peculiarities to the child and realises this only sometimes.

She avoids seeing the sadness and lack of vigour in her child, which is so evident to the interviewer.

She cannot differ between worries about her own health and that of her child. She notices this but cannot change it.

She changes her description of the child according to what she imagines the interviewer wants to hear from her.

She cares for her child, but her care is directed more by her preconceived ideas about child care than by her child's specific needs.

(3):

She sometimes attributes her own personal peculiarities to the child, and she realises when she does this.

She looks with clear and warm eyes at her child, but does not fully realise his simultaneous reactions of discontent.

She is sweet with the child but does not describe him as a sweet person.

She fears the child will have the same problems in the future as she had in her own childhood.

(4):

She rarely attributes her own problems to the child.

She sees the child in his own right. She can differ between problems in her and in him.

She understands how she influences the child in both positive and negative directions.

She speaks in a sweet tone about the child. When he frets she does not take it as a sign of rejection or a personal insult but tries to imagine what he wants to express.

10. Mother is insightful about how her life history influences the present situation

This item captures if the mother links the present baby relation with her own life history.

(1):

She makes no connections between her life history and her present worries about the child. When the interviewer hints at such a connection, she does not understand.

She shuts the door to her previous life history. 'I'm looking forwards. Let bygones be bygones!'

She describes an anxious relation with her child, similar to the one she describes with her own parents. However, she does not realise this similarity.

(2):

She makes some connections between her life history and her present child worries, but she cannot make much of it or gets overwhelmed. When the interviewer hints at such a connection she seems to listen but may get lost about this perspective.

She describes her parents vaguely and has difficulties imagining links between the emotional climate during childhood and her present relations with her child and husband.

(3):

She makes some connections between her life history and her present child worries but she cannot see how her history influences the present situation.

She makes some connections, although more of an intellectual than of an emotional kind.

(4):

She makes, in a natural and interested way, connections between her life history and her present relation with the baby. 'I guess I protect my daughter a bit too much. My mother was the same with me. I've been thinking this was because Mom lost her own mother early'.

She is not overwhelmed when connecting painful events in her background, such as parental death or abandonment, with the present situation.

Support

11. Mother feels confident in speaking with the interviewer

(1):

She openly expresses mistrust towards the interviewer. She does not trust his confidentiality or that he is interested in helping her.

(2):

She feels distrust towards the interviewer but yet conveys she thinks he tries to do a good job and that he will keep the interview material confidential.

She expresses irony towards the interviewer. When he sneezes she asks if he is allergic to babies. Yet, she cooperates by answering questions.

(3):

She feels a basic confidence in the interviewer.

She feels some initial worry about confidentiality issues but gets reassured by the interviewer's confirmations.

(4):

She shows no signs of distrust towards the interviewer.

She is positive and interested about the interviewer's comments.

She is very positive, which rubs off on the interviewer's mood.

She expresses gratitude about the interview. 'It gave me an opportunity to express my feelings.'

12. Mother feels the Child Health Centre staff supports her

(1):

She feels the staff is arrogant, ignorant, and dismisses her problems.

She feels the staff is uninterested in helping her.

She dislikes the staff and has invented an ironical nick-name for one of the nurses.

(2):

She feels the staff is not very interested in helping her.

She feels the staff does not respond to her queries.

She feels the staff should give much more instructions about possible complications on breast-feeding, baby symptoms, and on her own emotional reactions.

(3):

She feels the staff does the job she expects from them, but not much more.

She feels the staff offered her more frequent appointments when she asked for it. 'But why didn't they try to find out *why* I wanted all those appointments?'

She feels the visits to the CHC are not as important as with her first child.

(4):

She speaks of the staff with warmth and respect.

She feels 'the CHC is good. They do an important job'.

She feels the staff 'sees' her. 'The nurse listened to me and gave me valuable advice. She brought up my family relations with me. This was important to talk about.'

13. Mother feels the child's father supports her

This item relates to the father's concrete contributions to child care. Her personal feelings for him are captured by item 14.

(1):

The father left the mother during pregnancy. They have no contact any longer.

She feels the father completely ignores child care in order to be with his friends or at work.

There is a constant struggle about how much time mother and her partner should spend with the child. This makes her bitter and resentful when being with the baby.

(2):

The father left the mother during pregnancy but maintains contact with her. His commitment to the baby is wavering.

She feels the father is uninterested in the baby.

She resents that the father 'never wakes up at night when the baby is crying'.

(3):

She feels the father tries to help, but he doesn't always make it.

She feels the father helps, but she finds it difficult to accept his help.

She feels the father helps, but there is lack of pride or joy in her account.

She feels the father helps, but the spouses compete somewhat about child care.

(4):

She feels the father is warm, active and committed towards the child.

She feels the father empathises and stands by her side in taking care of the baby.

She feels dependent on the father and accepts it with warmth and trust.

14. Mother seems fond of the child's father

(1):

She feels hatred, rage or bitterness towards the father.

She feels humiliated by the father.

She feels it would have been better were she the only parent of the child. 'To tell you the truth, I sometimes wish he were dead'.

(2):

She says she loves the father, but her ambivalence is evident.

She says she loves the father, but conveys that she is uncertain whether to continue their relationship.

(3):

She feels love for the father and describes him with nuances, although with some hesitation.

She feels love for the father, but expresses envy of his rewarding contact with their baby. This disturbs her warm feelings for him.

(4):

She feels love for the father and describes him with warmth and joy. 'When I see him looking at our baby, I really love him'.

She loves the father. 'He is the man I want to spend the rest of my life with'.

She feels their relationship developed after they got a child. 'There's not much time for sleep or sex, but we share so much fun with our baby.'

15. Mother feels her contact with her parents is good

The focus is on the mother's emotional contact with her parents. If one parent is dead, or the mother has no contact with him/her, please lower the score with 1 point.

(1):

She feels her mother's emotions are 'completely shut off'. They have a sparse contact.

She feels bitterness and hatred towards her mother who committed suicide.

She gets emotionally shut off when speaking of her mother who died early.

She feels her own mother is psychically unstable and/or is an alcoholic. She has no contact with her father.

She feels her parents reject her spouse. They do not visit their grandchild.

(2):

She feels her relation with her mother is emotionally cool and unrewarding. 'There are so many things I don't talk to her about!'

She feels her parents do not support her motherhood.

She feels her mother is self-centred. 'I start telling her about my son's sleeping problems, but she starts complaining about her back pain'.

(3):

She feels her parents support her, but she would have wished for some more help.

She feels her parents support her, but regrets they live far away.

She feels her parents support her but worries about their distant relation with her husband.

(4):

She feels the parents are committed, warm, respectful, and positive towards her.

She feels the parents are interested and loving towards their grandchild and son-in-law.

She feels free to communicate with her parents about difficult matters.

She feels her parents support her. They live far away but maintain a vital contact via internet.

Baby's well-being

16. Mother feels the baby is somatically well

(1):

She relates serious medical problems with the child and worries deeply and constantly. She is pessimistic about the future of the child's health.

She constantly surveys her baby's body. The least scratch makes her think of lethal diseases.

(2):

She relates serious medical problems with the child and often worries about them. Yet, she feels basically optimistic about child health.

She has some seemingly unfounded worries about her child's health.

(3):

She relates slight medical problems with the child. When they appear, she deals with them on her own or she seeks adequate help. They do not overwhelm her.

(4):

She feels her baby is 'fit as fiddle', 'a real number one baby', 'a no-problem child'.

'There have been some colds and stomach pain, but every baby has these things'.

17. Mother feels the baby sleeps well

(1):

She feels the baby has great difficulties in falling asleep. She is tormented and exhausted.

The baby sleeps only for short periods. This creates chaos at home.

She feels the baby's sleeping problems seriously affects marital relations. 'He starts crying at night and we start arguing about who should give him the bottle.'

(2):

She feels the baby has periods of sleep problems. In between, the baby sleeps OK and the mother is not tormented by this.

She feels the baby's sleep 'is not terribly good'.

She feels she must go to his bed every night to comfort him. She puts up with it but is annoyed, too.

(3):

The baby may fuss about sleeping once in a while, but the mother's overall impression is that it is OK and natural for a baby to wake up during the night.

(4):

She feels the child 'sleeps as a log', 'peacefully and calmly', 'no problems at all'.

18. Mother feels the baby has a good appetite

This item applies both to breast milk and solid food. It captures the mother's ideas about the baby's lust for and enjoyment in eating.

(1):

During the interview, or the way the mother relates it, the baby is uninterested, rejecting, or angry while feeding. She suffers much about this.

She feels there is much conflict around eating. The baby yells and turns away from her. She gets stressed and the feeding situation turns into a fight.

(2):

She feels the child sucks or eats 'as he should do, but he doesn't seem to enjoy it.'

She feels the child eats well but only if his conditions are met with, for example, a certain time of the day, a certain kind of food, etc. Otherwise, he fusses.

She feels that 'the only time nursing works is at night. Daytime, we are in trouble'.

(3):

She feels the child sucks/eats well and that he alternates between enjoying it and not being so happy about it.

She feels the child eats well, but she does not experience so much fun or pride in feeding him.

(4):

She feels the child eats/sucks with pleasure and a good appetite.

She feels the child really loves to eat.

She feels the child reacts with interest and vigour when she introduces new food.

19. Mother feels the baby is cheerful

(1):

She feels that her child is mostly angry, ill-humoured, listless, or sad. This torments her.

She feels her child avoids looking at her, which is excruciating to her.

She constantly compares her child with other babies and concludes there is something wrong with his mood.

(2):

She feels the baby changes constantly between calm and crossness. She worries if this is OK, but she is not tormented about it.

She feels the child has tantrums and feels 'frustrated about it'.

She feels the child has mood problems. When this happens, she nurses the child but feels it only works sometimes.

(3):

She feels she has a calm and positive kid. She tells this in a non-conspicuous or neutral way.

(4):

She feels she has a happy and positive child, 'a real sunshine baby'.

She feels her baby's mood is all right. When her personal worries overwhelm her, she notices that the baby seem untouched by them. She thinks this is because he has a sphere of his own, 'which he safeguards to keep up his spirits'.

20. Mother feels her child has a friendly relationship with her

This item captures whether the child seems to like, love, and appreciate the mother.

(1):

She feels the baby is rejecting, angry, bitter, sour, or depressed. This happens specifically when the baby is with her, which torments and humiliates her.

She feels the baby simply does not want to be with her. This is very painful to her.

(2):

She feels the baby is rejecting and angry, but this alternates with periods when the child is loving towards her. This is rather painful.

She is uncertain if the baby's behaviour reflects his love or anger towards her.

(3):

She feels the baby likes her but she is not 100% sure. This may cause occasional worry.

(4):

She feels her baby gives her clear signals that he loves her.

She tells of how the baby kisses and hugs and seeks contact with her, babbles, laughs, etc. She is certain this reflects the baby's love for her.