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Steve Farnfield, Paul Holmes

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Airi Hautamäki
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Mothers and infants
Screening for maternal relationships at risk with the CARE-Index

Airi Hautamäki

Introduction
The Infant CARE-Index was originally devised for the purpose of research and is the oldest and best validated of the Dynamic-Maturational Model (DMM) methods for the assessment of attachment. Patricia Crittenden developed the CARE-Index under the direction of Mary Ainsworth together with the assistance of John Bowlby, both of whom viewed her set of videotapes of troubled mother–infant dyads (Crittenden 1981). At a time when research was largely focused on subjects drawn from typical community samples, the CARE-Index was instrumental in extending the assessment of attachment to at-risk populations (i.e. families in perpetual crises, dyads troubled by abuse or neglect). The CARE-Index was the first of the DMM assessments and, although not explicitly stated in the early papers, introduces the basic constructs on which Crittenden’s model is built: attachment as adaptation to context and attachment patterns as self-protective strategies organised to maximise protection under dangerous or threatening conditions (Crittenden 2008).

Ainsworth et al.’s (1974) original rating scale defined ‘sensitivity’ as a multi-step process including the ability (1) to perceive and to interpret the infant’s signals accurately and (2) to respond to the signals promptly and appropriately. Inevitably parents vary with regard to how they receive and respond to their infant’s signals (Claussen & Crittenden 2000): one parent might perceive the signal, but does not find it relevant nor react to it, another might not even perceive the signal. Thus, sensitivity refers to the parent’s ability to read the child’s behavioural signals (smiling, crying or arching the back, for example) as well as to select and to provide the appropriate response (Crittenden 2008). Crittenden defines adult sensitivity in play as ‘any pattern of behavior that pleases the infant and increases the infant’s comfort and attentiveness and reduces its distress and disengagement’ (Crittenden 2010: 8).

Ainsworth’s (Ainsworth et al. 1978) original work stressed the impact of maternal sensitivity on the security of the infant’s attachment, but the variance in attachment accounted for by maternal sensitivity turned out to be modest (Belsky 1997). The effect of paternal sensitivity on infant attachment security was even less (De Wolff & Van IJzendoorn 1997). This ‘gap’ indicates that the quality and/or the context of the assessment of sensitivity could be improved (Belsky & Fearon...
2008) which, in turn, presupposes a better understanding of why and how parental sensitivity contributes to attachment, as expressed by the evolving working models of self and relationships (Thompson 1997).

A number of approaches have been taken to bridge the transmission gap (how attachment security is transmitted). For example, Fonagy et al. (2002) have elaborated the concept of sensitivity in terms of mentalising, and Meins et al. (2001) in terms of mind-mindedness. These concepts refer to the caregiver’s readiness to treat the infant as an intentional individual with a mind of his own. Crittenden (2010) has elaborated the dyadic construction of interpersonal meaning in terms of the functional meaning of the behaviour for each individual, that is, the same behaviour can mean different things and have various functions in different dyads. Belsky and Fearon (2008) stress that in correlational studies the children’s susceptibility to rearing influences may also moderate the sensitivity–attachment link.

However, meta-analytic studies of experimental intervention programmes designed to increase mothers’ sensitivity, do show that even short-term interventions can be successful and that interventions improving mothers’ sensitive responsiveness to infant cues are most likely to show improvement in the attachment patterns of their babies (Bakermans-Kranenburg et al. 2008; van den Boom 1994). Likewise, interventions that have broadened the concept of sensitivity to include both maternal representations and caregiving behaviour also show that targeting maternal sensitivity has a positive impact on the attachment pattern of the infant (Cicchetti et al. 2006; Svanberg et al. 2010). Therefore, there is strong experimental evidence in regard to the impact of maternal sensitivity on infant attachment. As interventions often focus on infants with high levels of negative emotionality, they may be the group who are the most susceptible to changes in maternal behaviour (Belsky & Fearon 2008).

Thus, for those involved in offering services to troubled families, a tool, like the CARE-Index, to assess parental sensitivity, in terms of risk, planning for interventions and as a means of understanding the process of intervention, is a crucial first step (Crittenden 2010).

What the CARE-Index assesses

The CARE-Index is a play-based method for assessing dyadic synchrony; that is, the ‘dance’ between parent and child or quality of adult–infant interaction. It was developed to assess the risk to relationships, screen for developmental risk, guide intervention and assess the outcomes of interventions (Crittenden & DiLalla 1988; Farnfield et al. 2010). The focus on the assessment of risk to relationships rather than individuals (usually mothers) makes it a unique screening tool (Crittenden 2010).

The assessment process

The infant method is used with children from birth to 15 months and the toddler method with children aged between 16 and 48 months (Crittenden 2005, 2010).
The parent is asked to ‘be or play with your child as you would usually’ and the interaction is videotaped for approximately 3–5 minutes. The parent decides the nature of play and use of toys. Because the procedure induces low stress in the adult and none in the child, it offers less information on child attachment than the stress-based Strange Situation (Ainsworth et al. 1978). But as the CARE-Index allows the adult to be a more active participant, it offers more information on the parent’s contribution to the child’s strategy (Farnfield et al. 2010). It can be used with adults who are not attachment figures (e.g. distant relatives) and foster and prospective adoptive parents. The videotaping does not require a laboratory setting and can be conducted by one person just about anywhere. The procedure is not invasive and can be repeated several times, using short time intervals without compromising its validity (Crittenden 2010). As well as screening for risk, it is useful for intervention studies and programme evaluation (Cramer et al. 1990; Svanberg et al. 2010).

Because the focus of the CARE-Index is on specific relationships and not on individual characteristics, the behaviour of each person is scored from the perspective of the other. For example, the behaviour of a baby who is looking away and squirming is coded as ‘difficult’ from the mother’s perspective, and the behaviour of a mother who pokes the baby is coded ‘controlling’ from the baby’s perspective. Because sensitivity is a dyadic construct, rather than a quality possessed by the parent independently, the infant’s temperament becomes an integral part of the procedure so that a mother is sensitive only to the extent that she is responsive to the unique features of her infant. And because sensitivity is a characteristic of a specific relationship, the same parent may display different degrees of sensitivity with different children (Crittenden 2010).

**Coding the CARE-Index**

In contrast to Ainsworth’s global and uni-dimensional scale of attachment (Ainsworth et al. 1971), Crittenden’s (2010) system has two negative points to the non-sensitive end of the sensitivity dimension: over- and under-engagement with the infant, coded as controlling and unresponsive, respectively. The coding procedure focuses on seven aspects of adult and infant behaviour, of which four assess affect (facial expression, vocal expression, position and body contact, expression of affection) and three assess cognition, i.e. temporal order and interpersonal contingencies (the response of one party to the behavioural signals of the other): turn-taking, control of the activity, developmental appropriateness of the activity. Each aspect of behaviour is scored separately, for the adult and the infant, and the scores added to generate three scales for the adult (sensitivity, control and unresponsiveness) and four for the child (cooperation, compulsivity, difficulty and passivity for infants, and cooperation, compulsivity, threatening and disarming coercive behaviour for preschoolers) (Crittenden 2010).

The CARE-Index incorporates the concept of ‘reparation’ (Tronick 1989); that is, the ability of the dyad to repair breaches or breakdowns in their interaction. In sensitive dyads breakdowns are repaired relatively quickly accompanied by the...
transformation of negative affect into positive affect. Dyads which are assessed as at risk show sustained periods when there is either conflict or no connection together with negative affect (anger or withdrawal).

Unlike many other observational methods which count the frequency of a particular behaviour, the CARE-Index focuses on patterns of interaction and emphasises the use of categorical judgements regarding the function of behaviours in the ‘dance’ of the dyad. This is of particular importance with the regard to falsification of behaviour by both adults and toddlers with the result that some displays of emotion may have more than surface significance. For example, smiles do not necessarily express genuine pleasure or affection. A mother might try to hide her infant’s displeasure and her own hostility with false positive affect, or a child may display positive affect when she, in fact, feels rejected and sad. In the latter case the function of the display of cheerfulness may be to cheer up a withdrawn mother and increase her emotional availability to the child (compulsive care giving).

Alternatively the apparent helplessness of a toddler may actually mask a coercive strategy aimed at maximising adult attention by emphasising vulnerability over aggression (passive aggression).

Identifying the overall function of behaviour helps us recognise patterns of adult–child interaction; the most common combinations are given in Table 3.1 (Crittenden 2010; Hautamäki 2010).

The CARE-Index was developed to differentiate high-risk dyads from low-risk dyads and has a tendency to over-identify risk. For this reason, whenever a dyad is identified as being at risk, a more thorough assessment with additional methods should be carried out, for example a second CARE-Index, a family history should be taken or another attachment assessment method should be conducted. Crittenden (2010) also stresses that because the suitability of the CARE-Index for applied use has not yet been studied as fully as its research utility, and because highly trained coders are needed, diagnostic conclusions based on the procedure should be drawn with caution, and only in conjunction with other information.

**Comparable procedures**

Comparable assessments are those involving the parent and child doing something together under mildly stressful conditions (e.g. Fivaz-Depeursinge & Corboz-

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Warnery 1999; Marschak 1960). Like the CARE-Index, the Lausanne Triadic Play (LTP) has a relational focus, but it looks at the development of the infant’s communicative competence with both parents simultaneously in a triangular family process, the goal of which is ‘to preserve threesome relatedness in the midst of affectively loaded situations, such as harmony, uncertainty, and conflict’ (Fivaz-Depeursinge & Corboz-Warnery 1999: 25). Thus the observation in the LTP combines a family systems and an attachment theory perspective although it does not code for attachment behaviour per se. The Marschak Interaction Method (MIM) is a structured technique consisting of a series of tasks that elicit a variety of behaviours. The aim is to observe and assess the structure, engagement, nurture and appropriate challenging in the parent’s relationship to her child (Marschak 1960).

Even though the MIM-constructs may be paralleled with the affective and cognitive aspects in the CARE-Index, the CARE-Index is more focused on the dyadic construction of interpersonal meaning, that is, the same behaviour can mean different things and have various functions in different dyads. Neither does appearance always reflect reality. Displays of behaviour may be falsified, for example when the infant learns to deny negative affect in compulsive or inhibitory patterns of infant adaptation. The affective displays may also be distorted, as when toddlers learn to exaggerate some signals and minimise others in coercive patterns of adaptation (Crittenden 2010).

Cultural differences

According to Geertz (1973) the core of culture is a set of control mechanisms – plans, rules and instructions – for the governing of behaviour. The control mechanisms connected to protecting humans from danger in their specific cultural niche are particularly relevant in the context of parental sensitivity and attachment (Hautamäki 2010). Every culture has scripts about how to live safely in one’s environment. The parents’ most important task, independent of culture, is to keep their offspring alive and safe (von der Lippe & Crittenden 2000). Parents transmit to their children a set of control mechanisms, or what people in a certain cultural context have learned about ways of staying safe. Their infants organise their attachment behaviours in ways that increase the probability of their parents providing protection from dangers, and decrease the probability of parents rejecting them (von der Lippe & Crittenden 2000). For example, if the cultural niche demands the suppression of negative affect (anger, fear and the desire for comfort), infants tend to develop a Type A (avoidant) attachment to meet this requirement. In such a cultural context, the Type A strategy may be considered normative in the sense that it promotes adaptation and is the predominant one (Hautamäki 2010; Hautamäki et al. 2010). Thus, inter-cultural differences in parental sensitivity and child attachment reflect the history of dangers in the culture in question.

Even though these cultural differences lead to variation in parental sensitivity vs. unresponsiveness and control, coders of the CARE-Index should not adapt the
items to different cultures. Instead they should apply the items similarly across cultures (Crittenden 2005). When the results show different patterns of scores, for example higher unresponsiveness scores in a particular culture (Hautamäki 2010; Kemppinen 2007) the social and psychological meaning of the difference should be analysed in terms of how historical and current conditions of danger and safety have impacted on the culture’s values, in particular, in regard to child rearing (Crittenden 2005).

The Infant CARE-Index has been applied to an array of cultures, for example: Hautamäki 2010; Kemppinen et al. 2006a; Killen 2006; Künster et al. 2010; Pleshkova & Muhamedrahimov 2008; Simó et al. 2000; Svanberg et al. 2010; Ward & Carlson 1995.

**Infant CARE-Index: developmental considerations**

The CARE-Index is well grounded in infant development and the ways in which parental sensitivity has to change to meet developmental changes in the child. Accurate coding of the infant system must focus on the stages and processes by which the adult and the infant create dyadic synchrony (the dance), cognitive contingencies (responses to the other’s signals) and affective attunement (the mother’s ability to pick up and mirror the infant’s feelings), from birth to 15 months (Crittenden 2010).

**The infant period (0–15 months): from physiological regulation to reciprocal communication around objects of joint attention**

The central question in the first three months is: ‘Can the adult enable the infant to remain in an alert and relaxed state for increasingly long periods of time?’ (Crittenden 2010: 46). When the baby is developing an emergent sense of self, the adult’s task as the ‘self-regulating other’ (Stern 1985) is one of physiological regulation. At best, parents regulate the baby’s arousal in a way that keeps the infant alert, but not over-excited. Sensitive parents take up face-to-face positions to communicate with their babies, as nothing catches the young infant’s attention better than a mother’s attentive and responsive face. A cooperative baby will gaze at his mother, coo and gesticulate. Control is indicated by maternal actions which are experienced by the baby as intrusive, i.e. negatively contingent. Unresponsive mothers do not provide the baby with self-relevant stimuli around which to organise his behaviour and learn the to-and-fro of social interaction. Tronick’s (1989) ‘still-face’ experiment (when the mother is asked to suddenly blank her expression when looking at her baby) shows the difficulties confronting babies whose carers lack contingent responsiveness.

During the 3–6 month period the central question is learning to take turns (Crittenden 2010: 49): ‘Can the adult help the infant to find and expect repetitive dyadic sequences in which they each have a part?’
From 6–9 months the central issue is: ‘Can adult and infant establish a dyadic pattern and then vary the components of the pattern?’ (Crittenden 2010: 52). Several important developmental processes broaden the scope of parent–child interaction at this stage. The child forms person-specific ties with one or two attachment figures, which also means he is wary of unfamiliar people. As the infant has learned turn-taking, longer and more varied play sequences can be created.

At 9–12 months the central question is: ‘Can the adult and the baby turn their attention from each other and toward an object that they both enjoy?’ (Crittenden 2010: 55). Parent and child can now divert their attention to playing with a third object so that the issue becomes one of ensuring reciprocal communication around objects of joint attention.

The central issue from 12–15 months of infant age is incorporating language in play. ‘Can the adult use language in simple ways that enable the baby to regulate play without exclusive reliance on non-verbal forms of communication?’ (Crittenden 2010: 58). Three groups of children can be discerned by one year of age (Crittenden 2010: 55, 58):

- Cooperative infants: Those who have learned to listen to adult language, because they find it meaningful, and produce sound sequences of their own with the expectation that it will elicit a sensitive response.
- Difficult and passive infants: Those who are angry and desirous of comfort and still emphasise non-verbal communication and do not find it meaningful to attend to what adults say.
- Compulsive: Those who use language according to meanings offered by others, i.e. they do not vocalise spontaneously. Instead, they tend to echo and mirror what is demanded of them.

In terms of attachment strategies these are Types B, C and A, respectively.

Contingency

From birth, babies develop strategies for eliciting the best possible care from their attachment figures. The combinations of parent–child behaviours given in Table 3.1 can be construed in terms of the degree to which parental behaviour is contingent on the signals of the infant and the emerging attachment behaviour of the infant. Sensitive mothers are positively contingent and their babies are on the road to secure attachment. Controlling, covertly hostile mothers provide negative or punitive contingencies (e.g. they respond to their baby’s distress angrily or by laughing). If the parent is controlling and shows false positive affect, the infant will either protest by showing non-compliance, or inhibit the display of negative affect, and look alert, but with an empty gaze. If the baby engages in a struggle then she is on the road to a Type C attachment.

However, by 6 months of age, some infants become alert and vigilant, i.e. they learn to selectively inhibit some behaviours (e.g. crying, pushing with the arms).
If difficult behaviour has been punished consistently and strongly by the parent, infants, with further cortical maturation, will exhibit the beginnings of compulsive behaviour (Crittenden 2010: 50).

When maternal unresponsiveness is pervasive, the infant is likely to shut down and display passive, i.e. uninvolved and listless behaviour, which will elicit even less attention from an already unresponsive adult. The infant is not yet able to generate attention-getting and pleasing affective behaviour (Crittenden 2010: 51). For this reason, at 3–6 months, it is probable that an unresponsive parent is paired with a passive baby. This is detrimental for the relationship, in which both feel unloved by the other, and for the development of the baby, who neither learns to recognise signals around which to organise his interactive behaviour nor self-efficacy. However, when the maternal unresponsiveness is at average, the infant is likely to display difficult behaviour to catch the attention of the inconsistently responding caregiver (Fuertes et al. 2010).

Compulsivity

One of Crittenden’s major contributions to the observation and understanding of early years development in the context of maltreatment is her work on compulsivity. Compulsive behaviour is characterised by inhibiting forbidden negative affect (which forms the basis of avoidant Type A1-2 behaviour) and, crucially for compulsivity, turning negative affect into displays of false positive affect. For example, smiling with sad eyes or responding to adult intrusions with a strained ‘happy’ voice tone. Parallels may be drawn to Winnicott’s (1965: 17) concept of ‘false self’.

The affective response to aversive body contact is the most difficult to falsify so that infants only gradually develop compulsive behaviour, if required, and there is frequently a shift from difficult to compulsive behaviour with displays of compulsivity being achieved earlier or later in different modalities. For example, inhibition of vocal protects (crying) and looking away from the attachment figure are relatively easy to master, whereas tolerating aversive touch is more difficult to achieve (Crittenden 2010: 53).

From about 9 months some infants with very withdrawn, unresponsive parents develop compulsive caregiving behaviour which entails inhibiting their own desire for comfort, focusing excessively on the parent, and presenting an over-bright cheerful demeanour in order to elicit and maintain attention from their parent (Crittenden 2010: 56).

Toddler CARE-Index (15–48 months): from parent–toddler conflict to goal-corrected partnership

The Toddler CARE-Index is adapted to fit the more complex psychological and interpersonal functioning of preoperational children. On the basis of growing cognitive, language and perspective-taking abilities, the toddler develops
expectations of a goal-corrected partnership; i.e. to create joint plans, negotiate and compromise about them with significant others (Bowlby 1982).

The central issue for 2-year-old children is: ‘Can the adult assist the toddler to transform (1) action into linguistic communication, especially story-like behavioural sequences and (2) non-verbal affect into accurate verbal statements about feelings and desires?’ (Crittenden 2005: 41).

In the transition from sensorimotor representation to the representational use of language, verbal negotiation of differences in plans becomes possible for the toddler. Stern (1985: 161) emphasises that affective attunement (which starts when the baby is born) is a stepping stone toward language: ‘It treats the subjective state as the referent and the overt behavior as one of several possible manifestations or expressions of the referent.’ Language provides a new way of being related to others by sharing personal knowledge with them, as the child develops his sense of a verbal self (Stern 1985). Language can either help the toddler to articulate his personal experience and feelings or alienate him from his self-experience depending on how parents incorporate language in their interactions with their children, for example helping the child to interpret his genuine feelings and intents by empathically mirroring and expanding his utterances into short statements. The Type C coercive strategy is connected to linguistic limitations and the belief that words do not necessarily mean what others seem to express by them. If the parents have been inconsistent, as is the case in struggling, ‘inept’ dyads, the child has learned that parents do not necessarily do as they tell him. Hence the child does not learn to trust promises about the future, and to negotiate with language. Instead, he refines his coercive strategy, alternating forcefully exaggerated and split negative affect (anger/desire for comfort) (Crittenden 2005).

With a covertly hostile caregiver, the child experiences the mismatch of affect to speech. When, for instance, the carer’s false positive affect is accompanied by predictable, sometimes hostile, language, the child learns to focus on the content of speech and behaviour, is not sensitised to the carer’s or his own true underlying feelings and may become estranged from his own personal experience. This is the basis for the Type A strategies.

Crittenden (2005: 9) defines adult sensitivity in play as any pattern of behaviour that supports the toddler’s opportunities to explore the activity with interest and spontaneity and without inhibition or exaggeration of negative affect. Two issues are essential: whether the adult is able to establish a hierarchical relationship, in which the toddler both can explore safely and seek comfort, and, if the adult can help the toddler to regulate affect in a way that it communicates the feelings of the toddler without disturbing the relationship further.

Two developmental advances require a different way of coding toddlers’ interactions (Crittenden 2005). First of all, because toddlers can split the internal regulation of feelings from their external display, new ways of influencing the behaviour of parents in desired directions are possible. Hence the ambivalent-resistant, Type C pattern becomes organised as a coercive strategy (Crittenden 1994). Toddlers using the Type C coercive strategy can split mixed negative affects into an angry and threatening display package, on the one hand, and a vulnerable fearful and
The toddler is able to use coy behaviour to disarm parental anger and elicit nurturance; for example, stamping on the cat’s tail then giving Granny a cute little smile accompanied by a shimmy. The split here is within negative affect so that one emotional state may dominate (e.g. anger over vulnerability) or displays of anger and desire for comfort may be alternated. By contingently alternating affective displays the toddler can catch and maintain the attention of unpredictable parents and regulate their response. Parallels can be drawn to Mahler et al.’s (1975) analysis of 18–21-month-old toddlers’ increasing attempts to coerce parents to function as external extensions to their egos and to react with splitting mechanisms.

The second developmental advance entails the ability to create a split between negative and positive affect by inhibiting negative affect and displaying positive affect. The inhibited negative affect is replaced by parent-pleasing, false positive affect to prevent adult rejection and elicit adult approval. This is the compulsive strategy, outlined above, which takes four forms: compulsive caregiving (role reversal); compulsive attention; compulsive compliance; and compulsive performance.

Toddlers using the Type B strategy have parents who can establish a hierarchical relationship in which the child can explore safely, and in times of need, seek comfort (Crittenden 2005). The child is open not only about positive but also his negative affects, without exaggerating them, and negotiates directly with his or her parents in situations of conflict, in the firm belief of the protective availability and goal-corrected partnership with the attachment figure (Crittenden 2004).

**Validity and reliability of the CARE-Index**

The Infant CARE-Index is the best validated of the DMM assessments. There are several studies of low-risk populations and prospective longitudinal studies (Kemppinen et al. 2006a; Kemppinen et al. 2007; Simó et al. 2000; Ward & Carlson 1995). Also several studies of various risk conditions have been done, for example handicapping conditions (Crittenden & Bonvillian 1984; Robert-Tissot et al. 1996); drug-exposed infants (Linares et al. 1999); maternal psychiatric disorder (Cassidy et al. 1996; Kemppinen et al. 2006b); maltreated infants (Crittenden & DiLalla 1988; Leadbeater & Bishop 1994); and prematurity (Müller-Nix et al. 2004). Discriminating between a set of medical and social factors, Fuertes and colleagues found that the socio-economic situation of the family had the strongest impact on maternal sensitivity and the cooperative behaviour of premature infants (Fuertes et al. 2012). Economic hardship is connected to more harsh and/or detached parenting that, in turn, may be mediated by the reproductive strategies that the parents have developed in their families of origin (Belsky 2007). There are only two studies of the toddler CARE-Index (Crittenden 1992; Künster et al. 2010).

Coding a CARE-Index is essentially a pattern recognition skill, and as such it requires extensive training as well as seeing many interactions and receiving feedback on one’s judgements. Qualified coders need to code 100–150 interactions
before becoming reliable. In order to retain reliability, coder drift, by coding in small groups drifting away from the standard, must be prevented. Coding must also occur blindly, the coder being naive to all external information about the dyad (Crittenden 2010).

**How can the CARE-Index be used to plan interventions with dyads at risk?**

For the purpose of screening for risk, both the pattern of the interaction (see Table 3.1) and the scale score of maternal sensitivity can be used (Kemppinen *et al.* 2007; Linares *et al.* 1999; Simó *et al.* 2000). Scores on parental sensitivity range from the highest value of 14 (the dyadic synchrony is described as ‘mutual delight, joy in one another; a dance’) to a low value of 0 (‘total failure to perceive or attempt to soothe infant’s distressed state; no play’) (Crittenden 2010: 21). On the basis of the scale score of parental sensitivity, the degree of risk to the relationship can be estimated, and when this is incorporated with the pattern of the interaction it can help professionals design the optimal intervention.

Svanberg and colleagues (Svanberg *et al.* 2010) assigned subjects to risk groups on the basis of the scores on maternal sensitivity. For the sensitive enough group (scores on maternal sensitivity ranging from 8–12), one home visit was offered including positive feedback to the mother by means of showing examples in the videotape of sensitive responses to her infant. The health visitor also offered guidance such as a leaflet on the early emotional development of the child. For dyads in the struggling group (sensitivity scores ranging from 4–7) and the high-risk group (sensitivity scores ranging from 0–3) the intervention was designed around the unique needs of the dyad. The struggling group was offered a series of four reflective video feedback sessions, using their own CARE-Index, highlighting brief flashes of sensitive interaction (Svanberg *et al.* 2010). The aim was to help mothers read and respond to infant signals and to increase reflection on potentially distorted representations of both herself and her baby. The reflective discussions focused on four main topics: developing mindfulness; acknowledging ambivalence; helping the mother to make links from her own childhood to current parenting; and developing awareness of the impact of separations. Dyads in the high-risk group were offered the same reflective videotape feedback, and, in addition, various forms of parent/infant psychotherapy (Svanberg *et al.* 2010).

Joint viewing of the videotape and reflective video feedback sessions play an integral part in interventions with troubled families and studies that have used video as a part of an intervention with parents and their young children have reported promising results (Svanberg *et al.* 2010; Bakermans-Kranenburg *et al.* 1998, 2008; Holmes & Farnfield 2014). In real life parents must respond immediately, caught by the heat of the moment, to the signals of their infants. When parents are viewing their own interaction with their infant, they can observe without having to act. The opportunity to analyse and to reflect on one’s own action helps the mother to recognise problems and blocks in her own ways of responding, for example...
repeating tragedies from her own past (Fraiberg et al. 1975), and to generate new ways to respond (i.e. mentalising: see Chapter 13; see also Lieberman et al. 2005). Viewing other mothers and babies may also increase a mother’s repertoire of things to try. This provides mothers an opportunity to develop their observational skills on less personally threatening observation material (Crittenden 2008).

**The pattern recognition skills of the interventionist**

The CARE-Index does not only offer information in regard to the level of dyadic synchrony, but also in regard to the nature of the dys-synchrony. The CARE-Index assessment is based on categorical judgements of the function of behaviours in dyadic interaction, particularly on finding functionally equivalent behaviours, and offers information about how these behaviours form a self-protective pattern (Crittenden 2010). For example, an unresponsive mother who feels she is unlovable signals this to her baby by not seeking eye contact with her infant, even averting her gaze, and by minimising close physical contact with him (Ainsworth et al. 1978). Gaze aversion can, in terms of Schore (1994: 379) be considered ‘an external manifestation of shame’. The baby responds by passivity but might then learn that by gurgling positively when his mother draws near he can brighten her affect and retain her attention. Seeing the functional purpose of self-protective strategies in the parent and the child helps to engender compassion for both participants in the dyad (Crittenden 2008).

The therapist needs pattern recognition skills to discern the nature of the dys-synchrony of the dyad. Are there biases toward using affect or cognition to regulate behaviour? What kind of distortions are there in child-protective and comforting behaviour and in information processing? The relation of adult to infant scores can be analysed. A combination of non-sensitive and non-cooperative items offers information about how the mother and the child perceive each other. Incongruity in the adult and child scores, for example apparently sensitive adults with compulsive infant, as well as covertly hostile adults with apparently cooperative infants, should alert the observer to ask whether the sensitive and cooperative items have been misinterpreted (Crittenden 2010).

Items related to affect should be contrasted with those related to temporal contingency. A marked difference in the appropriateness of affective and cognitive scores offers information for tailoring the intervention (Crittenden 2010). Affectionately attuned adults who struggle to structure activities and respond to infant cues are able to learn how to interpret their infant signals better by observing their own videotaped interactions. Appropriately cognitively contingent adults who are covertly hostile or affectively unresponsive present a more serious challenge. The intervention has to deal with the adult’s feeling of being a mother or father carrying the care-taking responsibility of a needy infant. Infant–caregiver psychotherapy is often needed (Crittenden 2010).

Thus, with the help of the CARE-Index the therapist can observe and draw inferences in regard to the unique patterns of the relation of the non-sensitive
adult to the non-cooperative infant or toddler, which helps to focus the intervention. Further research will help to match CARE-Index patterns to developmental psychopathology and environmental conditions as well as improving the selection of appropriate interventions to meet the needs of a particular dyad.

References
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