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## Using the CARE-Index for Screening, Intervention, and Research

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Once when my daughter Becky was a child and we were in a shopping mall, she came over to me and whispered in my ear, “Mommy, I think that mommy over there needs you to help her.” A six-year-old was screening for risk in mother-infant relationships? On the basis of what information? Do you think she could do this? Can you?

That was almost 30 years ago, back in the 1970's when I worked with abusing and neglecting mothers. Becky had been to my group meetings with the mothers and their children and she had seen me studying the videotapes of their interactions carefully, viewing them again and again, trying to understand the nuances of communication - or miscommunication - between mother and infant. What I learned then and in the years that followed is encapsulated in the *CARE-Index* (Crittenden, 1979-2004).

The *CARE-Index* is a screening tool intended to enable trained professionals to make the judgment my daughter had made, but to make it reliably, with validity, and in cases that are not obvious to the untrained observer. The *CARE-Index* can also serve as a guide to planning intervention and as a tool for the process of intervention. Unexpectedly, it has also become a tool for exploring new aspects of interaction, such that over the decades of its use, the *CARE-Index* has been revised several times to reflect new understandings of troubled dyads. This chapter addresses each of these uses of the *CARE-Index* together with an appendix listing some of the published research using this tool.

### What is the CARE-Index?

The *CARE-Index* is a method for evaluating the quality of adult-infant interaction. Although the adult is most often the mother, the procedure can be used with fathers, other relatives, health visitors, daycare providers, and infant intervention personnel. It is based on 3 minutes of videotaped play interaction occurring under non-threatening conditions. Because the procedure is robust with regard to the physical context, the videotaping can be done at home, in a clinic setting, or in a research laboratory. It is not essential that the tapes be of a precise length, although they should be more than two minutes long, but not exceed the natural length of interactions for the age of the child. The procedure is suitable from birth to 15 months; in the toddler form, it can be used to about 2 ½ years of age.

### What does the CARE-Index assess?

The *CARE-Index* is a dyadic procedure that assesses adult sensitivity in a dyadic context. Specifically, “adult sensitivity in play is any pattern of behavior that pleases the infant and increases the infant’s comfort and attentiveness and reduces its distress and disengagement” (Crittenden, 1979-2004). It is crucial to understand that sensitivity as assessed by the *CARE-Index* is not an individual characteristic; it is characteristic of a specific relationship. Thus, the same adult could display different degrees of sensitivity with different children.

The coding procedure focuses observers' attention on seven aspects of adult and infant behavior some of which assess affect (facial expression, vocal expression, position and body contact, expression of affection) with other assessing "cognition", i.e., temporal order and interpersonal contingency, (pacing of turns, control of the activity, and developmental appropriateness of the activity). Each aspect of behavior is evaluated separately, for adult and infant, then the scores are summed to generate seven scale scores. For the adult, these are sensitivity, control, and unresponsiveness. For infants (birth-15 months), they are cooperativeness, compulsiveness, difficultness, and passivity. For toddlers (15-30 months of age), these are cooperativeness, compulsiveness, threateningly coercive, and disarmingly coercive.

The scores on these scales range from 0-14, with zero sensitivity being dangerously insensitive, 7 being normally sensitive, and 14 being outstandingly sensitive. On the adult sensitivity scale, scores of 5-6 suggest the need for parental education, 3-4 suggests the need for parenting intervention, and 0-2 suggests the need for psychotherapy for the parent. Although this statement should not be applied rigidly or without additional assessment, it makes the two points that (1) less adequate parent-infant relationships may not be helped – and might be harmed – by parent education and (2) some very troubled relationships will not be helped by parenting interventions at all. Other scales (i.e., control, unresponsiveness, compulsivity, difficultness, and passivity) suggest the specific nature of the deviation away from sensitivity and cooperation.

#### How does the CARE-Index compare with other screening tools, other assessments of interaction and assessment of attachment?

As a screening tool, the *CARE-Index* is unique because it assesses risk to relationships, rather than demographic, medical, or nutritional risk to individuals (see Svanberg & Jennings, 2002).

It differs from other measures of interaction in that it is a dyadic assessment, meaning that it assesses the fit between adult and infant. Compared to other measures, it emphasizes the affective attunement of mother and infant more and is less aimed at educational or teaching behavior on the part of parents. In addition, the *CARE-Index* identifies two opposite forms of insensitivity: over- and under-engagement with the infant. Methodologically, it is less tied to the quantity of particular behaviors and more tied to their interpersonal quality and meaning. Unlike other tools, it presumes that some behavior does not mean what it appears to mean, e.g., smiles do not necessarily express pleasure or affection. Indeed, false positive affect (that hides maternal hostility and infant displeasure) is presumed to typify some very high risk dyads. The infant compulsive patterns (that use false positive affect together with inhibition of true negative affect) are not found in other assessments. Thus, the *CARE-Index* identifies a group of risk dyads that are often (mis-)identified as sensitive/cooperative with other tools. Finally, the *CARE-Index* has been applied to a wide range of cultures (see appendix). This has yielded demonstration/teaching sets of interactions drawn from each culture as well as throwing light on cultural differences. It appears that each culture deviates from sensitivity differently and that this reflects the history of threats in that culture (Crittenden & Claussen, 2000a).

Assessments of attachment require the introduction of a stressful condition that will elicit individuals' self-protective strategies. Because this is not done in the *CARE-Index*, the procedure cannot directly assess pattern of attachment. It does, however, assess dyadic characteristics that are associated with attachment. The outcome is most likely to be misleading when adults can manage low stress situations, but not high or intense stress. For

example, a depressed mother who was aware of her baby's needs might play with some sensitivity, but be unable to meet the child's needs when she herself felt poorly or when the infant was distressed. In such a case, the play interaction might be somewhat sensitive (particularly on the "cognitive" scales [Crittenden, 2004] and less so on the affective scales), but the attachment very anxious.

#### How can one use the *CARE-Index* for screening?

The purpose of a screening tool is to identify risk that professionals would overlook without the screen. That is, screening tools are valuable to the extent that they identify non-obvious risk. In infancy, that is (1) covert hostility in adults and compulsiveness in children and (2) passive kindness in mothers combined with passivity or irritability in children. In toddlerhood, it is (1) a wider range of compulsive behavior and (2) the exaggerated emotional displays of coercive children. There are other sorts of risk as well, but they are more obvious.

One advantage of the *CARE-Index* is that it can be applied by paraprofessionals and carried out in almost any context (home, clinic, office, etc.) Another is that it is brief, requiring only 3 minutes of videotape and 10 minutes' time to complete with the dyad. On the other hand, the professionals who code the interaction need extensive training; once trained, however, an interaction takes only about 15 minutes to code. The greatest advantage of the *CARE-Index* is that it identifies risk dyads that most professionals overlook in live observations (Jennings, 2004)

Of course, no tool can perfectly discriminate high-risk from low-risk dyads. The *CARE-Index* veers on the side of over-identifying risk in the hope that very few risk dyads will be missed. When a dyad is identified as being at risk using the *CARE-Index*, a more thorough assessment should be carried out. This will involve another, more extensive visit with the family in which (1) a second *CARE-Index* interaction will be videotaped, (2) a family history will be taken, (3) developmental or other relevant assessments will be administered, and (4) the use (both now and in the past) of other services will be explored.

#### How can one use the *CARE-Index* to plan intervention with risk dyads?

The *CARE-Index* is the first in a developmental series of assessments from infancy to adulthood based on the Dynamic-Maturational Model of information processing and self-protective organization (Crittenden, 1996; Crittenden, 2002; Crittenden & Claussen, 2000b). As such, it can guide therapists to determine whether the distortions are in affect or causal relations (i.e., "cognition"). Further therapists can observe whether parent and infant exaggerate or minimize feelings. Knowing the nature of the non-sensitive adult behavior and non-cooperative infant or toddler behavior can help to focus intervention (Crittenden, 1999).

#### How can one use the *CARE-Index* in the process of intervention?

Viewing one's own interaction or those of other mothers can be very helpful to young women who, in real life, must respond immediately to the signals of their infants. Viewing video gives them the opportunity to observe without having to act; it offers the possibility for analysis, reflection, and the generation of new ideas about how to respond. Viewing other mothers and babies can increase each mother's repertoire of things to try while providing each with the chance to develop observational skills on less personally threatening material. If mothers do this in a group setting, the group leader can see that each woman is praised for what she does well, thus giving her a sense of competence. If women are praised for (a) observing carefully, (b) verbalizing their thoughts, and (c) trying new skills with their infants (even if poorly executed initially), the intervention can build skills for on-going adaptation,

rather than simply fitting mother to baby at one point in time. Techniques for doing this with mothers have been assessed with some common techniques proving useless (e.g., general positive reinforcement, written materials, pamphlets) or even counter-productive (e.g., modeling, demonstration) and others functioning well (e.g., role playing, self-rating; Crittenden, 1991a).

In all cases, however, it is essential that the professional interact with the mother as the mother should interact with her infant: without a program and with a willingness to adapt herself in real time to the needs and desires of the mother. No program, no written plan or manual can teach mothers to respond sensitively to moment-to-moment changes in their infants. Intervention manuals/guides and real time interpersonal adaptation are inherently in conflict (Crittenden, 1991b). Instead, mothers need a repertoire of interpersonal skills, observational skills, a willingness to think about problems, and the confidence to try new ideas - and observe their infants to see how they reacted.

#### How can one use the *CARE-Index* for research?

The list of studies in the appendix conveys the range of applications of the *CARE-Index* to research. A particular advantage is that it is a non-reactive assessment that can be used multiple times, making it ideal for program evaluation (Cramer, Robert-Tissot, Stern, & Serpa-Rusconi, 1990; Crittenden, 1988; Svanberg, under review).

In addition, however, simply using the *CARE-Index* has functioned like peeling back the layers of an onion; as soon as one sees one interpersonal process clearly, other processes become visible for the first time. The first version of the *CARE-Index* had no compulsive patterns (Crittenden, 1981); compulsive compliance was added in the first revision (Crittenden, 1988; Crittenden & DiLalla, 1988). Other compulsive patterns were added in successive revisions of the manual. In 2002, toddler patterns were added and a new manual developed for toddlers only. Will there be further changes? Hopefully!

#### How does one learn the *CARE-Index*?

The training for the infant *CARE-Index* takes about 8 days, plus practice and a reliability test. The Toddler *CARE-Index* takes another 5 days, plus practice and a reliability test. But this only prepares the future coder to begin.

Using the *CARE-Index* is a pattern recognition skill. As such, one becomes better at it as one sees more interactions and receives feedback on one's judgments. Most people need to code 100-150 adult-infant interactions with feedback before they become confident, quick, and reliable. Further, like any skill, you must use it or you lose it. Forgetting begins the minute you stop learning. In addition, coding alone for long periods or coding only skewed samples tends to skew the coder. Therefore working independently, but consulting with other skilled coders is essential. Even so a pair of coders can become highly attuned to one another (and hence have very high agreement with each other) and yet together drift away from the international standard. More than one study has had coders who each worked completely alone and drifted apart or worked so closely together that they functioned as if with one mind, but that joint mind drifted away from other coders. Periodic work with coders from other locales and with the original teaching tapes (that constitute the definitions of the patterns) is essential. For this reason, initial reliability is given for only one year and must be updated with evidence of further work and continued competence. Later reliability extends for longer spans of time, but must be supported by periodic attendance at advanced *CARE-Index* seminars with other skilled coders.

How does one learn the *CARE-Index*? Progressively. Practice, consult, practice, consult. The more you use it, the better you'll do it.

Where do we go from here?

Psychological research yields a constantly changing understanding of human experience. With luck, the *CARE-Index* will remain relevant - and this, by definition, means that it will continue to change. In addition, research can explore the relation of *CARE-Index* patterns to particular diagnoses and conditions (see Appendix) and the relation of particular patternings to intervention strategies. From this comes the possibility of better fitting our understanding to the needs of families with infants and toddlers.

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Svanberg, P. O., & Jennings, T. (2002). The Sunderland Infant Program (U.K.): Reflections on the first year. The Signal, 9, 1-5.

## Appendix: Studies Using the CARE-Index

### **Risk Studies**

#### **1. Adolescent mothers**

Pacquette, D., Bigras, M., Zoccolillo, M., Tremblay, R., Labelle, M-È, and Azar, R. (2001). Comparison de la sensibilité parentale entre des mères adolescentes et des mères adultes peu scolarisées. Revue de Psychoéducation et d'Orientation, 30, 283-298.

See also Leadbeater, et al. and Linares et al., below

#### **2. Drug abusing mothers; drug exposed infants**

Ciotti, F., Lambruschi, F., Pittino, B., & Crittenden, P. (1998). La valutazione della relazione precoce madre-bambino in una popolazione di madri con una storia di tossicodipendenza attraverso l'uso del CARE-Index. Psicoterapia Cognitiva e Comportamentale, 4, 53-59.

See also Linares et al.

#### **3. Maternal psychiatric disorder**

Hughes, S. (1993). The relationship between maternal psychiatric disorder and mother-child responsivity. Dissertation presented to the Faculty of McGill University, Montreal, Canada.

Kemppinen, K. (in preparation). Maternal sensitivity and depression around delivery: the effects of recurrent and transient symptoms.

Leadbeater, B. J., Bishop, S. J., & Raver, C. C. (1996). Quality of mother-toddler interaction, maternal depressive symptoms, and behavior problems of adolescent mothers. Developmental Psychology, 32, 280-288.

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#### **4. Handicapping conditions**

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Rauh, H., & Calvet-Kruppa, C. (2001). Bindungssicherheit und Verhaltensentwicklung bei Kindern mit Down-Syndrom. Psychologie in Erziehung und Unterricht.

#### **5. Maltreated infants**

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- Ward, M. J., Kessler, D. B., & Altman, S. C. (1993). Infant-mother attachment in children with failure to thrive. Infant Mental Health Journal, 14, 208-220.

### **Normative Studies**

- Patino, F. L. (1993). Mothers' prenatal attachment history, attachment status, and social support satisfaction as predictors of postnatal maternal sensitivity. Dissertation Abstracts International, 53 (7-B): 3787.

### **Predictive Longitudinal Studies**

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