

## EDITORIAL

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## Further evidence that early emotional connections affect future child behaviour

We have known for many years that the early communication between a mother and her infant is extremely important for the child's later development. One of the basic principles is the rhythm and timing as they take turns to communicate and the sensitivity shown by the mother. Parent/caregiver when they are reading their child's cues is vital. The theory that this is based on goes back to early studies and hypotheses about the infant's need for good parenting and the mutual emotional stimulation they need to drive their development. Early advocates of this approach were Winnicott (1), Stern (2), Trevarthen (3) in the 1970s and 1980s. We know that the infant brain is partly shaped by their early life environment and experiences and their closest relationships play a particularly important role in their development (4).

This issue of *Acta Paediatrica* contains the results of an American validation study by Frosch et al. that examined the scores of 49 mother–infant dyads who were assessed with the Welch Emotional Connection Screen (WECS). The authors report that dyads that were emotionally connected at six months of age had fewer externalising and internalising behavioural problems at the age of three, whereas those that were emotionally disconnected displayed issues (5). They also reported that no links were found between the emotional connection established between the mother and her infant during toy-based play at six months and later child behavioural problems. I want to congratulate the authors on this paper and their findings and make a few observations of my own.

The WECS scale was originally used to identify and assist mother–infant dyads who displayed a lack of emotional connection as a result of emotional and physical separation, such as premature birth and an extended stay in a neonatal intensive care unit. Its success led to its further development, as described by Frosch et al. (5) in their paper. When clinical work and research work in a continuous circle that leads to further development and improvements it shows that tools like the WECS are well and truly grounded in knowledge. Frosch et al. used the WECS to demonstrate the links between being emotionally connected at six months of age and fewer behavioural problems at the age of three. This finding is important, as it reinforces that early relationships and communication have an important impact on child development outcomes.

One aspect of the WECS that is very important is that the tool is not time-consuming and can be used by practitioners to screen for health issues in infant–parent dyads. We certainly need methods and tools that can be used at an early stage, so that we can identify issues



that may interfere with a child's healthy emotional development.

Current research on the infant's brain tends to focus on the findings that early interaction is important for child development. A study by Lloyd-Fox et al. (6), which used functional magnetic resonance imaging techniques, found brain activation in six-month-old infants when their parents spoke directly to them and combined this with a direct gaze.

Abraham and Feldman discussed microlevel relationship behaviours between individuals and dyads during family interactions. The authors suggested that the results demonstrated synchrony between the brain responses of two individuals with an attachment relationship. They further maintained that human attachment develops within the matrix of biological attunement and brain-to-brain synchrony between infants and their attached mothers and fathers (7).

The family systemic paradigm of infant–mother–father is used in the Lausanne Trilogue Play (8). When we used it for a Swedish study, we found that the children's ability to perform turn-taking sequences at three, nine and 18 months showed positive correlations with their later ability to communicate with peers and generally relate to other people. The data for this study were provided by their preschool and secondary school teachers when they were four and 15 years of age, respectively (9).

A promising area for further research could be how the interaction in the mother–infant dyad relates to the interaction during the infant–mother–father triad and how it affects child development. This is one of the many theoretical aspects of early relationships and interaction that needs to be further explored.

Another very interesting result in the paper by Frosch et al. about the WECS is that the results indicated that there was no association between whether an emotional connection was established during toy-based play at six months of age and later behavioural problems. This is of particular interest when observing and using tools to analyse early interactions between infants and caregivers.

This finding also agrees with earlier research that recommends analysing interactions between infants and the parents without toys, for example in the Lausanne Trilogue Play (8). However, we still have methods that do involve using toys, to analyse interactions. One incidental finding that emerged from a study of 20 families by our team was that toys were used by parents when they experienced difficulties interacting with their infant and establishing reciprocal interactions (10).


The paper by Frosch et al. makes a useful contribution to the use of the WESC. I also agree with their suggestion that the WECES could be combined with measurements of physiological data, like heart rate, vagal tone and cortisol levels, to understand how infants' brains react when they receive a response from a caregiver. This could provide us with useful clues about how positive and negative interactions can have an impact on their physiological and psychological development.

#### CONFLICTS OF INTEREST

The author has no conflicts of interest to declare.

#### FINANCE

None.

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