

## Parent Child Interaction (PCI)

Parent child interaction (PCI) is recorded to allow researchers to code qualitative aspects of the observed interaction between parent and child based on explicitly defined behaviors. The PCI consists of age appropriate structured tasks that include a common mildly stressful event (clean-up and a teaching task), and a pleasant event (unstructured free play). The PCI tasks take about 15 minutes to complete.

### **Broad rationale for including PCI**

There is wide recognition that the development of social competence and behavioral control, and the fundamental underlying capacity for self-regulation, are shaped in the context of interactions with the social environment, especially the parents (e.g., Kopp, 1982; Karreman, van Tuijl, van Aken , & Dekovic, 2006). To assess the quality of parent-child interactions, observational data are widely considered to be a gold standard (e.g., Scott, Briskman, Woolgar, Humayun, & O'Connor, 2011). Observing parent-child interactions provides researchers with an objective window on real processes and outcomes of interest. It allows researchers to code observed interaction patterns based on explicitly defined behaviors, and subsequently verify the consistency and reliability of those codes. This is a valuable addition to parent- and self-reports, which are based on definitions likely to be specific to that individual, and are more easily influenced by systematic biases related to mood or expectations (Aspland & Gardner, 2003). Parent-child interactions were recorded during brief structured observational tasks. While such tasks are more artificial than naturalistic observations, they

offer more consistency of sampling between participants across time, and increase the likelihood of certain behaviors to arise within time limits that are feasible in the current large scale longitudinal study (Lytton, 1971; Aspland & Gardner, 2003).

More specifically, we used the two types of observation tasks that are commonly used to study parent-child interactions (Aspland & Gardner, 2003): structured tasks that include a common mildly stressful event (teaching tasks and clean up, see e.g., Kochanska, 2002; Kemp, Lunkenheimer, Albrecht, & Chen, 2016), and unstructured free play (see e.g., Kemp, et al., 2016; Eisenberg et al., 2010; Calkins & Johnson, 1998).

### **General procedure**

The PCI was conducted in a sparsely furnished room lined with curtains to optimize sound. The interaction area was marked by a playing rug on the floor. The interaction was filmed using 3 Dome cameras that could be controlled by the test-assistant in order to optimize the video image, and one fixed camera that provided an overview of the situation. The dome cameras were positioned in such a way that one camera focused primarily on the child (including the face), one camera focused primarily on the parent (including the face), and one camera captured the entire scene. The camera positions were explained to the parents in advance and they were asked to sit in a position that would not block one of the camera's. The desk with the computer where the TA was seated during the PCI was positioned behind a screen so as not to distract the parent or the child.

Each assessment started with a general instruction that was read out by the test-assistant. The instruction included a brief explanation of the upcoming tasks. The TA explained that (s)he would sit behind the laptop to control the camera's, and to provide instructions on when to start with the next task. Parents were asked to interact with their child as they would at home, try to ignore the camera's and imagine that the TA was not present.

Prior to the task the TA prepared the room by placing various items on the playing rug and in a basket that was placed next to the rug. The positioning of all items was the same for each participant.

During each wave (R0\_5mo, R0\_10mo, R3, and R6) parent and child were filmed for a total of 15 minutes, subdivided in 3-minute episodes of successively 1) free play with age appropriate toys, 2) an age appropriate teaching task, 3) book reading, 4) free-play, and 5) clean-up.

At the R0\_5mnd the child was seated in a bouncer during the first two tasks. For the teaching task parents were instructed to teach their child to play with a teething ring and explore what their child could do with it. Parents were then instructed to get the child out of the bouncer and to playing with the book from the basket for 3 minutes. After this they were allowed to free play again. After three minutes the TA silently and in a calm tempo one by one put all the toys that were not being played with at that moment in the basket. Finally without saying anything the TA took the toy that was being played at and put it in the basket as

well. The TA then left the basket and took place again behind the screen. Three minutes after the TA started to clean up the toys the task was finished.

The procedure at R0\_10mo was identical to that of R0\_5mnd with the exception that for the teaching task parents were instructed to teach their child to play with a shape sorter and explore what their child could do with it.

At R3 the procedure was similar to the previous assessment, with two exceptions. For the teaching task parents had to teach their child how to complete a set of challenging puzzles. Parents were instructed to try to help their child complete at least 3 puzzles, without touching the pieces themselves or moving their children's arms. For the cleaning task, parents and their children were told that it was to put all toys in the basket.

At R6 the procedure will be similar but the selection of age appropriate tasks is still to be decided.

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