

Table 1 provides a summary of all behavioural variables and Table 2 presents the descriptive statistics on additional demographic and key variables.

Table 1. Summary of behavioural measures

Paradigm	Coded behaviour
Welch Emotional Connection Screen (4-month corrected age)	<p><i>Attraction:</i> Gaze, proximity to each other and touch</p> <p><i>Vocal communication:</i> Warmth in vocal tone and amount of vocal behaviour for mother; clear and consistent vocal or behavioural responsiveness for the preverbal infant</p> <p><i>Facial Expressiveness:</i> Use of expressed emotion via the face to establish or maintain a connection, includes expressions of positivity, laughter, joy and empathy</p> <p><i>Sensitivity/Reciprocity:</i> Social sensitivity to each other's expressed emotions or anticipated/identified needs; can include gaze following, reciprocal vocal or facial behaviour or maternal instrumental care that is serving to establish or maintain a connection to one another</p> <p><i>Emotionally connected:</i> The presence (EC+) or absence (EC-) of connection. A dyad cannot receive a 'yes' if one member of the dyad is seeking connection, while the other is rejecting it</p>
Maternal caregiving behaviour in the NICU (36-week gestational age)	<p><i>Maternal sensitivity:</i> Degree to which mother is attentive to infant needs and responded accordingly</p> <p><i>Quality of vocal contact:</i> Degree to which mother uses affectively warm, infant-directed speech when communicating with infant</p> <p><i>Quality of touch:</i> Mother's quality of handling the infant, including gentle, non-intrusive touch</p>
Mother–infant social engagement during face-to-face interaction (4-month corrected age)	<p><i>Maternal positive affect:</i> Proportion of time mother smiled at/laughed with infant</p> <p><i>Infant social engagement:</i> Proportion of time infant spent looking at and vocalising to mother.</p>

Paradigm	Coded behaviour
Infant responding to the still-face paradigm (4-month corrected age)	<i>Infant approach</i> : Coded in observational software for proportion of time the infant was smiling and gazing at mother before and after the still-face episode (i.e. stressor)

Table 2. Summary of demographic and key observational variables

Variable	N	M	SD
Demographics			
Gestational age at birth	76	30.80	2.28
Birth weight (in grams)	76	1468.50	381.88
Maternal age	76	33.89	4.98
Paternal age	76	37.08	7.04
Key observational variables			
36-Week observation			
Maternal sensitivity	68	5.14	1.14
Quality of vocal contact	68	4.07	1.40
Quality of touch	68	5.07	0.89
4-Month observations			

Variable	N	M	SD
WECS-Mother	76	10.67	1.56
WECS-Infant	76	8.43	1.96
Maternal positivity	58	0.06	1.02
Infant social engagement	58	0.00	0.76
SFP Infant approach episode 1	48	0.01	1.01
SFP Infant approach episode 2	48	-0.06	0.90
SFP Maternal approach episode 1	48	0.00	1.0
SFP Maternal approach episode 2	48	0.01	1.00
SFP Maternal approach episode 3	48	-0.01	1.00

- SFP = still-face paradigm; WECS = Welch Emotional Connection Screen.

Table 3. Interrelations among WECS dimensions

	1	2	3	4	5	6	7	8
1. Mother attraction	–	0.67**	0.65**	0.41*	0.40**	0.24*	0.23*	0.39**
2. Mother affective vocal		–	0.68**	0.34**	0.41**	0.16	0.27*	0.35**

	1	2	3	4	5	6	7	8
3. Mother affective facial			–	0.55**	0.39**	0.25*	0.44**	0.47**
4. Mother sensitivity/reciprocity				–	0.55**	0.31**	0.50**	0.61**
5. Infant attraction					–	0.38**	0.50**	0.85**
6. Infant affective vocal						–	0.45**	0.47**
7. Infant affective facial							–	0.54**
8. Infant sensitivity/reciprocity								–

- df = 74 for all coefficients; *p < 0.05; **p < 0.01.

For the binary ratings of Emotional Connection using