Attachment and SES at Newborn, Two, and Four Months Related to Communication Development at Nine and Twelve Months

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Introduction
Previous literature has linked secure attachment in infants to subsequent communication competency at 24 months (Murray & Yingling, 2000). Other studies have found that when exploring the neurocognitive abilities of healthy, age-, gender- and ethnicity-matched kindergartners of low and middle SES, disparities in communication and memory ability are most pronounced (Farah et al., 2006). Few studies have explored the relationship between attachment and communication in families of varying SES. We hypothesized that both income and attachment at birth, 2, and 4 months of age will positively correlate with communication development at nine and twelve months of age. A secondary aim of this study examines the predictive value of the preliminary Attachment domain items of PediaTrac 1.0 compared to an existing validated measure of attachment (i.e. Parent Bonding Questionnaire).

Methods
PediaTrac™ is a caregiver-report web-based tool for tracking infant development.

Participants
Pooled sample of longitudinal (n = 30) and cross-sectional (n = 102) mother-infant dyads at newborn (NB), two months (2m), four months (4m), nine months (9m), and 12 months (12m).

• NB (n = 41)
• 2m (n = 38)
• 4m (n = 37)
• 9m (n = 38)
• 12m (n = 36)

The groups did not differ significantly except that the cross-sectional group had a higher income (p = .01).

Measures
• Social economic status (SES)
• Household Income
• Attachment
• Postpartum Bonding Questionnaire (PBQ): Brockington, Fraser & Wilson, 2006
• PediaTrac™ Attachment Items (Lajiness-O’Neill et al., 2018)
• Communication Development
• PediaTrac™ Communication Items (Lajiness-O’Neill et al., 2018)

Example Questions from PediaTrac™ survey:
Attachment (NB)
• “My relationship with my baby feels special to me.”
• “I value the time I am able to spend with my baby.”
• “I feel the time I spend with my baby is important.”
• “My relationship with my baby feels special to me.”

Communication (9m)
• “Does your infant use at least 3 consonant sounds such as /b/, /d/, /k/, /g/, /m/, /p/?”
• “Does your infant understand “No!”?”

Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Longitudinal</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Income</td>
<td>4.93 (3.02)</td>
<td>6.22 (2.19)</td>
</tr>
<tr>
<td>Infant Sex</td>
<td>1.59 (50)</td>
<td>1.42 (51)</td>
</tr>
<tr>
<td>Birth Weight (g)</td>
<td>116.67 (20.05)</td>
<td>115.04 (36.44)</td>
</tr>
<tr>
<td>NB Attachment: PediaTrac™</td>
<td>171.25 (10.99)</td>
<td>163.27 (16.53)</td>
</tr>
<tr>
<td>NB Attachment: PBQ</td>
<td>-.42 (21.31)</td>
<td>6.27 (8.42)</td>
</tr>
<tr>
<td>2m Attachment: PediaTrac™</td>
<td>162.00 (15.43)</td>
<td>153.42 (18.58)</td>
</tr>
<tr>
<td>2m Attachment: PBQ</td>
<td>-.72 (20.67)</td>
<td>4.91 (2.51)</td>
</tr>
<tr>
<td>4m Attachment: PediaTrac™</td>
<td>161.61 (17.04)</td>
<td>157.00 (9.42)</td>
</tr>
<tr>
<td>9m Communication</td>
<td>16.88 (5.33)</td>
<td>16.56 (5.40)</td>
</tr>
<tr>
<td>12m Communication</td>
<td>17.30 (4.77)</td>
<td>14.44 (3.57)</td>
</tr>
</tbody>
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Means (SD) of study V-attributes by sample

Fig 1. Standardized fixed effects (standard error). Birth weight was measured in grams. Household income represents annual income: 1 = Under $10,000; 9 = Over $150,000.

Conclusions
• Attachment at 2 months (measured by the PBQ) significantly predicted communication development at 9 months.
• A significant relationship between SES and communication development was not found in this study. This may be because those communication disparities found in school aged children are not yet distinguishable at 9 and 12 months of age.
• Though previous research has linked both SES (Farah et al., 2006) and attachment (Murray & Yingling, 2000) to subsequent communication development as early as 24 months of age, further research is needed to better understand how attachment and SES impacts communication development across varying stages in development, including infancy.
• These findings highlight the importance of parent-infant relationships on the child’s development, calling for further research on tools that can promote secure attachment and positive parent-infant interaction.
• One limitation of this study was that there was little variability in the sample. Attachment scores were relatively uniform as was household income.

References

Contact
For more information contact Kirsten Oard at k.oard@emich.edu. Presented National Academy of Neuropsychology (2019) annual conference.