Introduction

Repetitive behaviours (RBs) are symptoms of ASD and are highlighted as potential indicators in current clinical practice. They are commonly seen amongst typical developing infants; however, little information exists concerning normal variation and developmental trends in infancy. We asked three questions:

• Does repetitive behaviour decline with age?
• Are motorically advanced infants less likely to show repetitive behaviour?
• Are repetitive behaviours negatively associated with infants' social and communicative skills?

Method

The participants (N=243) are a subsample from the Cardiff Child Development Study (CCDS), a nationally representative community sample of firstborn children in Cardiff, UK.

Repetitive Behaviour Coding Scheme (RBCS) was used to record instances of motor stereotypes and repetitive manipulation of objects during a 20-minute free play session with peers. See Table 1 for behaviour categories.

Locomotor Development. Parents (90% mothers) rated their infants locomotor development.

Social and Communication Skills

• Joint attention skills were measured using a modified Responding to Joint Attention (RJA) task from the Early Social Communication Scales (ESCS; Mundy et al., 2003).

• Turn-taking abilities were measured in two trials where the experimenter attempted to engage in a game using either a ball (modified from the ESCS) or rings (Hay & Murray, 1982).

Does repetitive behaviour decline with age and locomotor maturation?

Age. Cross-sectional comparisons showed that older infants were less likely to engage in motor repetitions, F(3,238) = 6.99, p < .01 (Figure 1). There were no age differences in repetitive actions on objects.

Locomotor. Infants who were more motorically advanced exhibited fewer repetitive behaviours, F (3,229) = 4.24, p < .01 (Figure 2).

Are repetitive behaviours negatively associated with infants' social-communicative skills?

<table>
<thead>
<tr>
<th>Repetitive motor actions</th>
<th>Repetitive actions on objects</th>
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</thead>
<tbody>
<tr>
<td>Age (months)</td>
<td>- .25 **</td>
</tr>
<tr>
<td>Locomotor Development</td>
<td>- .19 **</td>
</tr>
<tr>
<td>Turn Taking Score</td>
<td>- .15*</td>
</tr>
<tr>
<td>Joint Attention Score</td>
<td>- .06</td>
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</tbody>
</table>

**Correlation is significant at the .05 level.
*Correlation is significant at the .01 level.

Future attempts to diagnose ASD in the toddler years should distinguish between the two categories of repetitive behaviour.

Conclusion

• The cross-sectional age differences suggest that there might be a normative decline in motor stereotypes between 11 and 14 months but no similar decline in repetitive manipulations on objects, which remain common in typically developing one-year-olds.

• The higher rates of motor stereotypes shown by infants with less mature locomotor and social skills suggests the continued use of repetitive motor actions in the second year of life might possibly be a sign of developmental delay and problems in social interaction relevant to ASD.

• In contrast, repetitive operations on objects were age-normative, and not associated with motor immaturity or lack of social skill. Thus repetitive exploration of objects is not likely to be informative for attempts to identify early signs of ASD in this age range.

References


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Correspondence to primary author at Fyfieldr1@cardiff.ac.uk