Kindergarteners' statistical learning is influenced by instruction

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Kindergarteners’ statistical learning is influenced by instruction
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**Research questions**
Can we replicate our findings that kindergarteners learn a meaningful agreement marker on the basis of distributional properties?
Does explicit instruction influence the acquisition of such a marker?

**Participants**
102 Dutch speaking children (51 females, M = 5;7), 50 were explicitly instructed, 52 were not instructed

**Method**
**Exposure**
Miniature language:
Four proper names, three verbs, two grammatical markers,
six frequent nouns and twelve infrequent nouns
Exposure: 108 training sentences (+ 12 fillers)

**Rule**
Pli: probability that the noun has multiple referents = 1
Tra: probability that the noun has multiple referents = .5

**Test**
Picture matching task with eye tracking

**Results**

**Eye tracking**

**Picture matching task**

**Replication?**

<table>
<thead>
<tr>
<th>Effect</th>
<th>OR</th>
<th>95% CI</th>
<th>z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study 1</td>
<td>9.5%</td>
<td>1.515</td>
<td>1.071…2.257</td>
<td>2.178</td>
</tr>
<tr>
<td>Study 2</td>
<td>7%</td>
<td>1.347</td>
<td>0.975…1.863</td>
<td>1.843</td>
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<tr>
<td>Current study</td>
<td>7.4%</td>
<td>1.370</td>
<td>0.927…2.023</td>
<td>1.614</td>
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</tbody>
</table>

**Conclusion**
Explicit instruction did not increase accuracy, but it did lead to earlier predictive eye movements
In a follow-up experiment, we will test children on a delayed post-test, to investigate the effect of sleep on the development of kindergarteners’ knowledge

**References**