Insights from novel measures of visual statistical learning in children

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METHODS

Participants
53 Dutch children aged 5;9 – 8;7 (mean = 7;3)

Self-paced VSL task

- **Familiarization:**
  - Continuous stream of individually presented aliens
  - Four triplets, presented 24 times divided over 4 blocks [4]
  - Online measure: RT to each alien is recorded. We expect that RT’s to unpredictable aliens (alien 1) are longer than RT’s to predictable aliens (aliens 2 and 3) [3]

- **Offline test phase:**
  - 1. Pattern recognition: 24 2-AFC (“Choose the familiar group”) Chance = 50%
  - 2. Pattern completion: 16 3-AFC (“Complete the missing alien”) Chance = 33%

RESULTS

**Offline test phase measures**

- Comparison children’s performance to chance level:
  - Not above chance on 2-AFC questions ($p = .372$)
  - Above chance on 3-AFC questions ($p = .042$)

**Online RT measure**

- Main effect of alien:
  - Alien 1 > Alien 2 ($p < .001$)
  - Alien 1 > Alien 3 ($p < .001$)
  - Alien 3 > Alien 2 ($p = .037$)

REFERENCES

[3] Siegelman, Bogaerts, & Frost (Submitted)

CONCLUSIONS

1. 3-AFC and online measures show that children are able to learn the structure.
2. Online measure provides additional insights about the learning trajectory.

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