Insights from novel measures of visual statistical learning in children

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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%

PRESENTATION QUESTIONS

1. Are children able to extract statistical regularities from visual input?
2. Can we improve the methodology to measure statistical learning in children?

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


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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