BACKGROUND

NADL: Nonadjacent dependency learning:

- Implicit learning
- Learning success evaluated by offline grammaticality judgement of artificial language [e.g. 1]
- Online measures of NADL scarce, but potentially more reliable [2]

Can reaction time (RT) be used as an online measure of implicit NADL in children?

Rationale

Online word monitoring task: Button press for target (AXB) if NAD learned → faster RTs

METHOD

Participants

- 46 Dutch TD children (M = 7.3 years, Female = 22)

Task

- Child friendly NADL adaptation [1,3]
- Two non-adjacent dependencies (tep X lut / sot X mip)

RESULTS

- Block*Type: rule items behave different from fillers
  \(F(4,42) = 6.69, p < .001\)
- Correlation disruption and recovery score
  \(r = 0.68, p < .001\)
- Offline judgment does not exceed change level (51% correct \(p = 0.8\))

DISCUSSION

- Removal and reimplementation of rules affected RTs of rule items but not of filler items
- RTs to word monitoring are a reliable measure of online NADL in TD children
- Discrepancy between online and offline measure
  - Resonates findings in SRT [cf. 4]
  - Learning is implicit

References