Learning in multisensory environments:
Individual differences. Developmental trajectories.

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PERCEPTION

ATTENTIONAL SELECTION

MEMORY
MULTISENSORY PROCESSING FOR LEARNING: Only learnt benefit?

Matusz et al. (2015 EJN)
• Some multisensory processes (that affect learning) likely not critically dependent on it;
  • arbitrary multisensory pairings OK
  • can affect (ie. facilitate) learning **involuntarily**, despite irrelevance of the multisensory ‘exposure’ context
  • sensitive to individual factors - **state or trait??** - but presence of benefits **predictable**.

• Some multisensory processes facilitating learning do depend on learning;
  • learnt, naturally co-occurring audiovisual pairings, eg. naturalistic objects (living, man-made)
  • affect learning involuntarily **across individuals**
  • **What exactly can learning change in the processing of such pairing?**
Learning for multisensory processing: THE MECHANISM(S)

Does limited selective attention reduce children’s distraction from MS distractors when the selective task becomes demanding?

Matusz et al. (2015 Cognition)
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• Studying learning in within-modal contexts may portray inaccurate picture on the information processing in the real world: Object processing & learning follows different rules in multisensory contexts.

• Multisensory processing typically makes learning ‘easier’ – no need for the intent to benefit from the multitude of sources of information.

• In turn, learning facilitates the multisensory processing that robustly facilitates learning.

• How? Multisensory object representations likely become activated involuntarily with experience (learning).
Thank you for your attention! 😊