Studying Causality Between Reading Ability and Print Exposure

Background

Do children who read more become better readers? Do poor readers avoid reading? Or is there a reciprocal link?

Only three previous longitudinal studies tested (rather than assumed) the direction of effect \(^1,2,3\). Contrary to common belief \(^4\), they seem to suggest that reading ability predicts print exposure. We define print exposure as how much children read of their own volition and not as prescribed by school.

1. Longitudinal Study

Why are practice and performance related? Development of reading from age 5 to 15

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Under revision for *Developmental Psychology*

Rationale

Compared to the three previous studies, this study separated reading fluency and comprehension, and it spanned a longer developmental period.

Method

Participants: N = 200 Finish children from the Jyväskylä Longitudinal Study of Dyslexia

Measures:

- Reading fluency: Time needed to read a text
- Reading comprehension: In Grades 1-8 informative texts with questions; In Grade 9 PISA Reading

Results

The "print exposure \rightarrow reading ability path" in the left model can be dropped, resulting in the final model on the right.

Conclusions

• In the early school years, effects of reading ability to print exposure were stronger (implying genetic niche picking). The effect of accumulated practice only emerged in adolescence (longitudinal study).
• Individual differences in reading ability are mostly due to genetic differences, whereas individual differences in print exposure have equal genetic and environmental origins (twin study).

References:

\(^4\) van Bergen (2017). Twitter post: https://twitter.com/drElsje/status/874538280628486144