

# Influence of phoneme awareness on the game-based training of letter-speech sound correspondences in pre-readers

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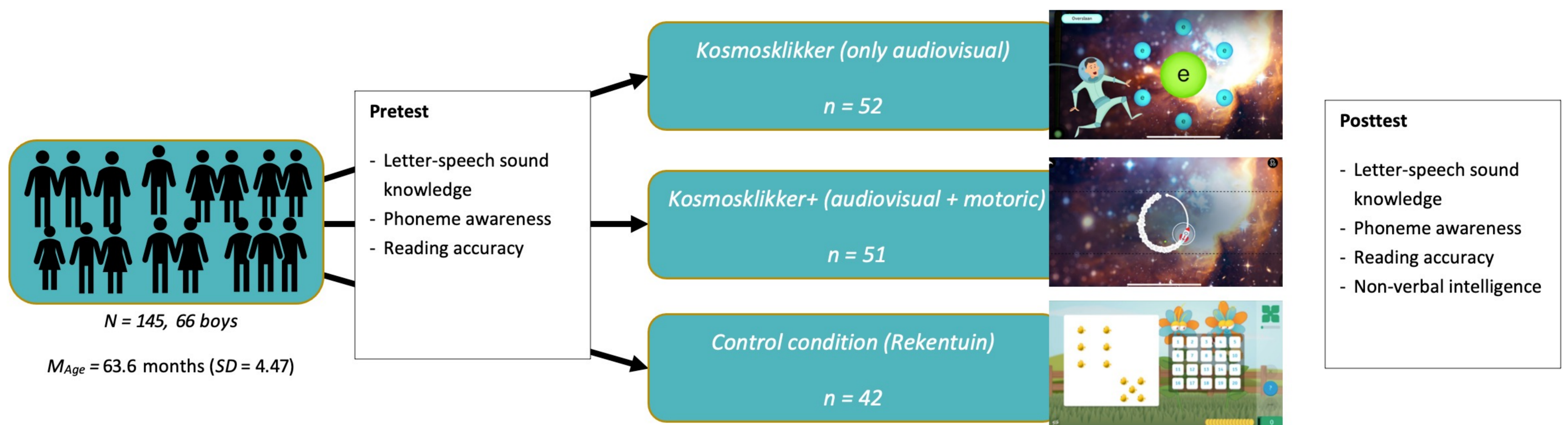
## Rationale

- Integration of letters and speech sounds essential in learning to read<sup>(1)</sup>  
 → inspiration for development serious game Kosmos Klikker<sup>(2)</sup>
- **Aim study:** examine the efficacy of this game in pre-readers

## Hypotheses

- ❑ Kosmos Klikker improves L-SS knowledge
- ❑ Motoric version leads to stronger gains<sup>(3)</sup>
- ❑ Dynamic reciprocal relationship between phoneme awareness and L-SS growth

## Method



## Results

### 1) Effect of game on L-SS knowledge

- No differences in baseline measures between conditions
- ANCOVA to check for differences in L-SS at T1 while controlling for T0  
 > Significant effect of Condition:  $F(2,141) = 4.60, p = .012$   
 > Driven by difference between KK and Control condition ( $p < .01$ )

### 2) No effect of motoric version

- No significant difference with original version or control condition ( $p_s > .14$ )

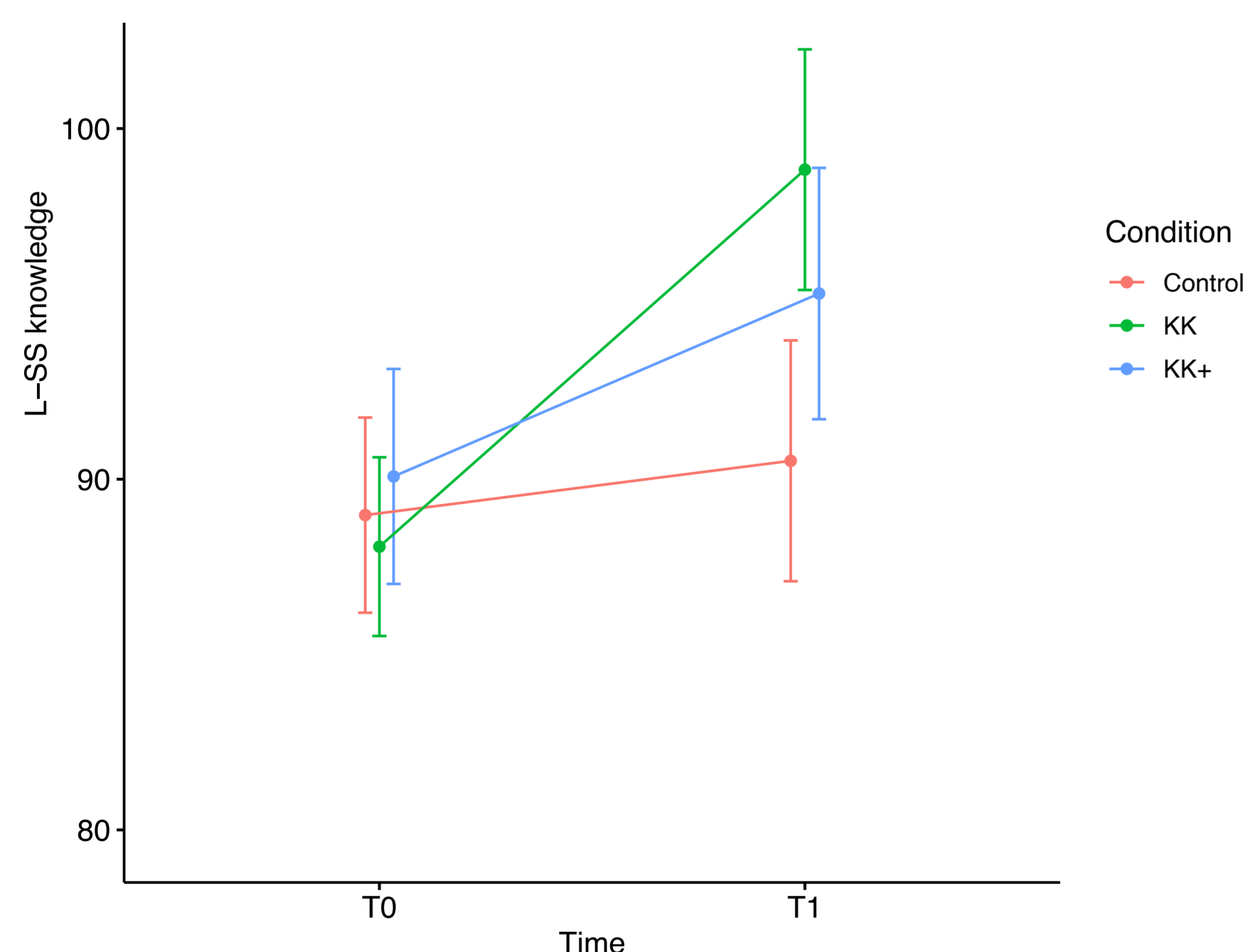
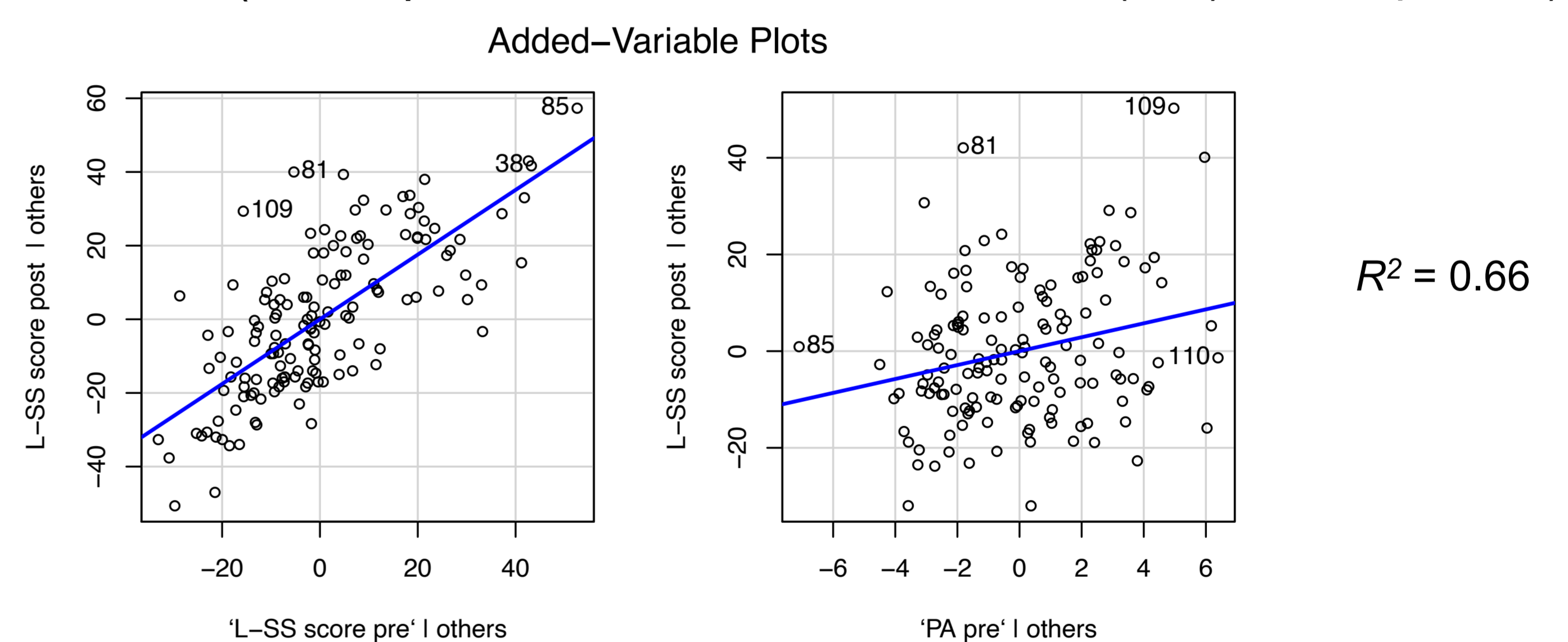


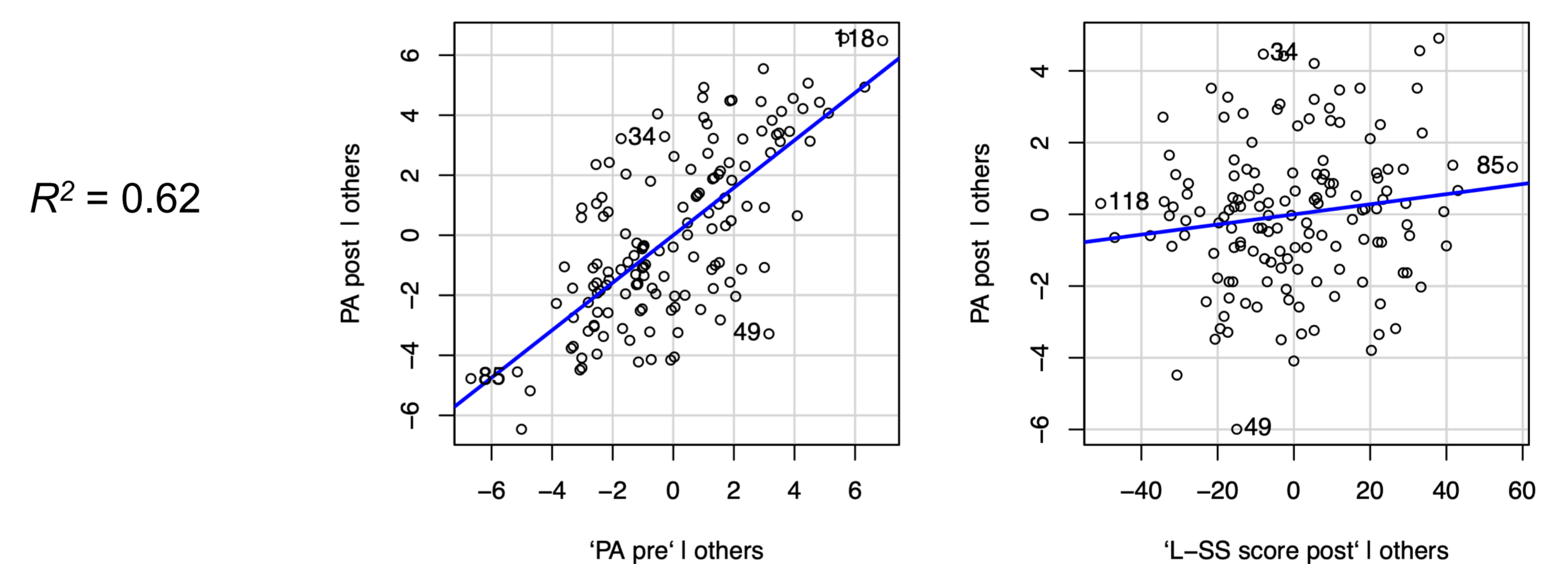
Fig. 1. Average L-SS scores at pre- and posttest for the three conditions separately. Bars represent standard errors.

### 3) Relationship PA and L-SS growth

- Multiple regression analysis showed significant contribution of PA at T0 on L-SS at T1 (above predictive value of L-SS at T0;  $t(140) = 3.07, p < .01$ )



- PA at T1 was only significantly predicted by PA at T0 ( $t(140) = 11.69, p < .001$ ) and not by L-SS at T1 ( $t(140) = 1.71, p = .09$ )



## Discussion

- Children that played Kosmos Klikker increased in L-SS knowledge
- Contrary to hypothesis: motoric version of Kosmos Klikker did not lead to better L-SS knowledge compared to the original version  
 → Intervention too short to find effect?  
 → Lost necessary play time due to writing exercise  
 → Fine motor skills not yet completely developed in pre-readers
- Phoneme awareness at T0 contributed to L-SS knowledge growth
- L-SS growth did not lead to growth in phoneme awareness  
 → Moderated by reading?

## References

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## Funding

This work was supported by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie (grant number 813546)