An exploratory study of children’s knowledge of simple and complex letter-sound correspondences

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BACKGROUND
The iconicity of letter-names – the fact that letter-names often bear a relationship to their corresponding sound – has been important for understanding children’s letter-sound knowledge (LSK).

However, it cannot explain how children learn complex letter-sounds (e.g., PH-/f/) as these do not have names per se.

Few studies have investigated children’s acquisition of complex letter-sounds.¹

AIM
To explore how different variables are association with children’s knowledge for simple and complex letter-sounds.

The variables of interest:
1. Own name (first letter or multi-letter unit of a child’s name)
2. Letter-sound frequency
3. Letter-sound complexity (single or multi-letter unit)
4. Phoneme type (consonant or vowel)
5. Letter-sound consistency

METHOD
337 Australian children in Kindergarten to Grade 3 participated (M̄age = 91 months, SD = 15 months).

Assessed LSK using the Letter-Sound Test (LeST).²

On the LeST, single and multiple letter units are presented in isolation and children were asked to provide the associated sounds.

Only the most common (frequently occurring) sound associated with a letter or multi-letter unit was accepted as a correct response.

RESULTS
Descriptive frequency data showed that the ability to provide the target sound varied across items.
Simple letter-sounds were easier than complex letter-sounds and vowels, especially complex vowels, were the most difficult.

Data was analysed using linear mixed effects (lme4) models.³ Random effects included students, items, and school-class.

Results showed that frequency and complexity of letter-sounds and phoneme type were significant predictors of LSK.

More frequently occurring letter-sounds had a 74% higher odd of being accurately pronounced compared to less frequently occurring letter-sounds. And complex letter-sounds had a 80% lower odd of being accurately pronounced compared to simple letter-sounds.

Vowels had a 58% lower odd of being accurately pronounced compared to consonants.

Phoneme type dropped out of the model when Phoneme Type X Consistency interaction was included, but this did otherwise not affect other predictors.

CONCLUSION
Contrary to previous research, LSK was not found to be associated with own name or letter-sound consistency.

Children’s LSK was associated with the frequency and complexity of letter-sounds (and phoneme type).

IMPLICATIONS
Time spent teaching different letter-sounds may vary depending on difficulty.

Explore children’s errors to get in-depth information about children’s LSK.

REFERENCES