

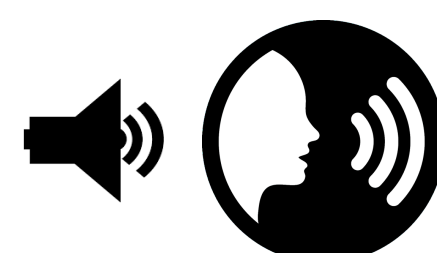
# Individual differences in heritage language experience: A meta-analysis of influences on sentence repetition

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## Background

- A **heritage language (HL)** is acquired naturalistically, independent of the **majority language (ML)** spoken predominantly in the country of residence
- Age, age of onset of the ML, and HL exposure** can affect language proficiency, widely measured through **sentence repetition tasks**
- Variation exists between studies in these results, the methods and measures
- Aim: Estimate the size of these effects across the literature**



## Research questions

- To what extent is sentence repetition affected by HL experience (**age, age of onset of the ML, and HL exposure**)?
- Is this effect moderated by whether testing is in the **HL or ML**?
- Is the main effect moderated by task design (**the number of sentences and scoring system**)?

## Methods

### 1. Identification

of **404** records identified from databases and other sources

### 2. Screening

of studies on the effect of HL experience on sentence repetition in the HL and/or ML

### 3. Inclusion

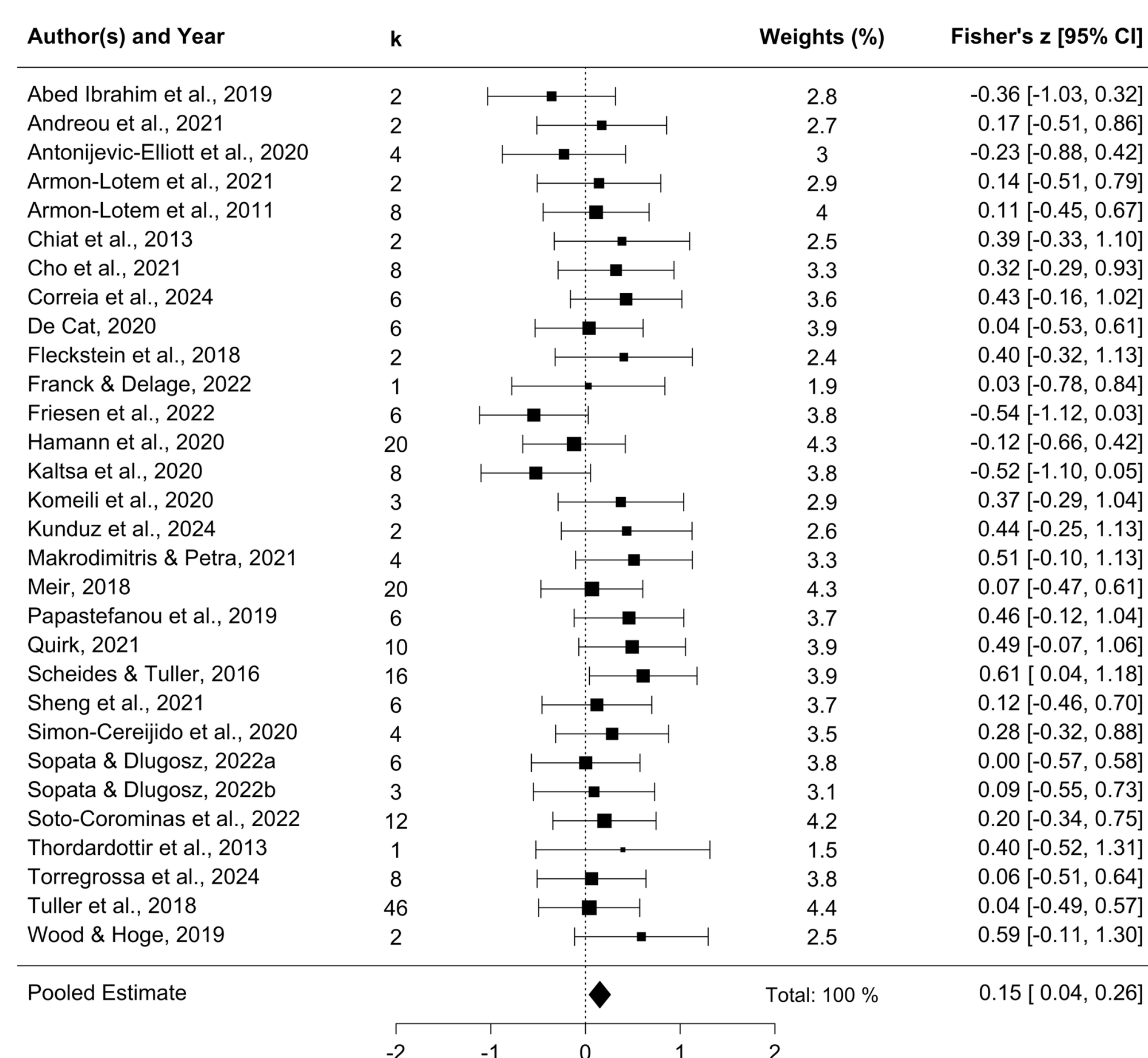
of **30** studies based on eligibility criteria

### 4. Data extraction

of publication and participant information, language exposure, task design, research quality and statistics

## Results

### Effect of HL experience on sentence repetition overall



### General findings

- $n = 30$ ,  $k = 229$
- Weak positive correlation with sentence repetition accuracy
- Moderated by testing language**
  - HL results ( $r = .36$ ,  $p < .0001$ )
  - ML results ( $r = -.02$ ,  $p < .0001$ )

### Sentence repetition task design

- No significant effect of number of sentences
- No significant effect of scoring system

### No evidence of publication bias

## Subgroup analyses

### Age

- $n = 25$ ,  $k = 72$
- Weak positive correlation** with sentence repetition accuracy ( $r = .28$ ,  $p < .0001$ )
- No significant effect of testing language

### Age of onset of the majority language

- $n = 16$ ,  $k = 56$
- No evidence that it affects sentence repetition overall
- Moderated by testing language**
  - HL results ( $r = .22$ ,  $p = .012$ )
  - ML results ( $r = -.20$ ,  $p < .0001$ )

### Exposure to the heritage language

- $n = 15$ ,  $k = 85$
- No evidence that it affects sentence repetition overall
- Moderated by testing language**
  - HL results ( $r = .35$ ,  $p < .0001$ )
  - ML results ( $r = -.09$ ,  $p < .0001$ )

## Conclusion

- Age** at time of testing **positively correlates** with language proficiency
- The **higher the age of ML onset** and **HL exposure**, the **higher the proficiency in the HL**
- The **higher the age of ML onset** and **HL exposure**, the **lower the proficiency in the ML** BUT the effect of exposure is small
- Task design** does **not** moderate these effects

### Future research:

- **More consistent and comprehensive reporting practices**
- **More research on the effect of HL input quality on language proficiency, particularly in adolescents and adults**

