Are there SES differences in two-year-olds’ language skills on a newly developed tablet-based screener?

- Early language skills: foundational for academic and social success (Pace et al., 2019).
- Large SES differences in language skills by age 3 (Dollaghan et al., 1999; Levine et al., in press).
- Prior to age 3, SES differences found in language production (Hart & Risley, 1995; Vasilyeva et al., 2008), however:
  - Children understand more than they produce (Golinkoff et al., 2013).
  - Production alone is poor predictor of language impairment (Ellis & Thal, 2008).
- Need to identify children early for risk of language impairment.
- Based on Quick Interactive Language ScreenerTM (QUILSTM; Golinkoff et al., 2017) for ages 3-5, we designed a tablet-based language screener measuring 2-year-olds’:

  - Vocabulary: Product: the language children know
  - Syntax: Process: how children learn new language items

- MANCOVA with factors Gender, SES, and covariate age
  - No gender effects or interactions
  - SES differences on Vocabulary, Syntax, and Process (ps < .01)

**RESULTS**

- Effect Size of SES Differences
  - Vocabulary
  - Syntax
  - Process
  - Hedge’s g [95% CI]
    - 0.65 [0.21, 1.09]
    - 0.63 [0.19, 1.07]
    - 0.47 [0.03, 0.90]

**DISCUSSION**

- Magnitude of SES differences is smaller for 2-year-olds on Baby QUILSTM vs. 3- to 5-year-olds on QUILSTM for Vocabulary (Hedge’s g = 1.06), Syntax (Hedge’s g = 0.93), and Process (Hedge’s g = 0.94) (Levine et al., in press).
- Consistent with widening SES differences in language production from age 2 to 3 (Hart & Risley, 1995; Vasilyeva et al., 2008).
- Language interventions for children from low SES families may be more effective if they:
  - Begin earlier, when differences are smaller.
  - Consider language system as a whole.
- Baby QUILSTM could revolutionize early language assessment and inform interventions aiming to mitigate SES disparities.

**REFERENCES**


**PARTICIPANTS**

- 98 children were tested on Baby QUILSTM
  - M_age = 29.8 months, SD = 2.9
  - 51 girls, 47 boys
  - 30 Low SES, 68 Mid SES
  - SES based on primary caregiver education
    - Mid SES: ≥ Bachelor’s Degree
    - Low SES: < High School—Associate’s Degree

**FIGURE**

- Effects of SES on 2-year-old Language Skills

**TABLE**

<table>
<thead>
<tr>
<th>VOCABULARY</th>
<th>PROCESS</th>
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<tbody>
<tr>
<td>PRODUCT</td>
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<tr>
<td>NOUNS</td>
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<tr>
<td>VERBS</td>
<td>VERB LEARNING</td>
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<tr>
<td>PREPOSITIONS</td>
<td></td>
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</tbody>
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**FIGURE**

- Which one is cold?
- Can you find the tulip?
- Can you find another tulip?