**Background**

- For Deaf children, measures of language-based analogical reasoning must include a discussion of language knowledge.
- Some researchers believe that language based analogical reasoning skills can only be attained through aural/oral language (Sharpe, 1985)
- Deaf children of deaf parents (DCDP) are able to perform similarly to typically developing hearing children of hearing parents on an equivalent task of language analogies in Polish Sign Language (PJM) (Bandurski and Galkowski, 2004)

**Predictions**

- Deaf children who use American Sign Language (ASL) will be able to reason analogically using language-based analogies in ASL
- Deaf children will show age appropriate gains in reasoning abilities
- DCDP will generally perform better on tasks of language based reasoning than DCHP

**The ANG TASK**

- One of 11 receptive tasks in the American Sign Language Assessment Instrument ASLAI (Hoffmeister et al., 2013)
- 20 m/c questions using 5 analogical construct types: Causal, Antonym, Purpose, ASL Grammar: Noun-Verb Pairs, and Whole-Part
- Sign to Sign format

**Results**

- **Mean Percent Correct for the Antonym Construct by Age Groups and Parental Hearing Status**
  - Model Gramm: Intercept, Age, PHS: (DCDP)
  - Model Gramm: Intercept, Age, PHS: (DCHP)

- **Mean Percent Correct for the Causal Construct by Age Groups and Parental Hearing Status**
  - Model Gramm: Intercept, Age, PHS: (DCDP)
  - Model Gramm: Intercept, Age, PHS: (DCHP)

- **Mean Percent Correct for the Gramm. ASL Construct by Age Groups and Parental Hearing Status**
  - Model Gramm: Intercept, Age, PHS: (DCDP)
  - Model Gramm: Intercept, Age, PHS: (DCHP)

- **Mean Percent Correct for the Purpose Construct by Age Groups and Parental Hearing Status**
  - Model Gramm: Intercept, Age, PHS: (DCDP)
  - Model Gramm: Intercept, Age, PHS: (DCHP)

- **Mean Percent Correct for the Whole-Part Construct by Age Groups and Parental Hearing Status**
  - Model Gramm: Intercept, Age, PHS: (DCDP)
  - Model Gramm: Intercept, Age, PHS: (DCHP)

**Conclusions**

- Deaf children can and do show age appropriate improvements in learning how to reason as measured by this task
- DCDP significantly outperform DCHP on every construct in the ANG task suggesting a language ability factor in those constructs
- Contrary to Sharpe (1985) and Marschak et al. (2004) many deaf children can reason well using language-based analogies
- Measuring reasoning skills only in English does not reflect the full capabilities of deaf children

**Future Avenues for Research**

- Age and Parental Hearing Status only explains a small percentage of the variability in the models
- Additional predictors will need to be added to the models to build a more robust picture on how deaf children learn to reason analogically through language

**References on request**

**Participants**

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<thead>
<tr>
<th>Age Groups</th>
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</table>

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