

# The acquisition of nouns in children with Specific Language Impairment

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## Introduction

- Word acquisition requires the conceptualization and the generalization of words to new exemplars.
- Generalization:
  - is based on different features according to the word in question (entity word vs. relational word)
  - is helped by comparisons of several referents (Gentner, 2005)
- Children with Specific Language Impairment (SLI):
  - need more variability to generalize (Plante et al., 2014)
  - have difficulties in new word extension (Collinson et al., 2015)
  - have difficulties in relational reasoning (Leroy et al., 2014)

Do children with SLI extend new words according to relational features?



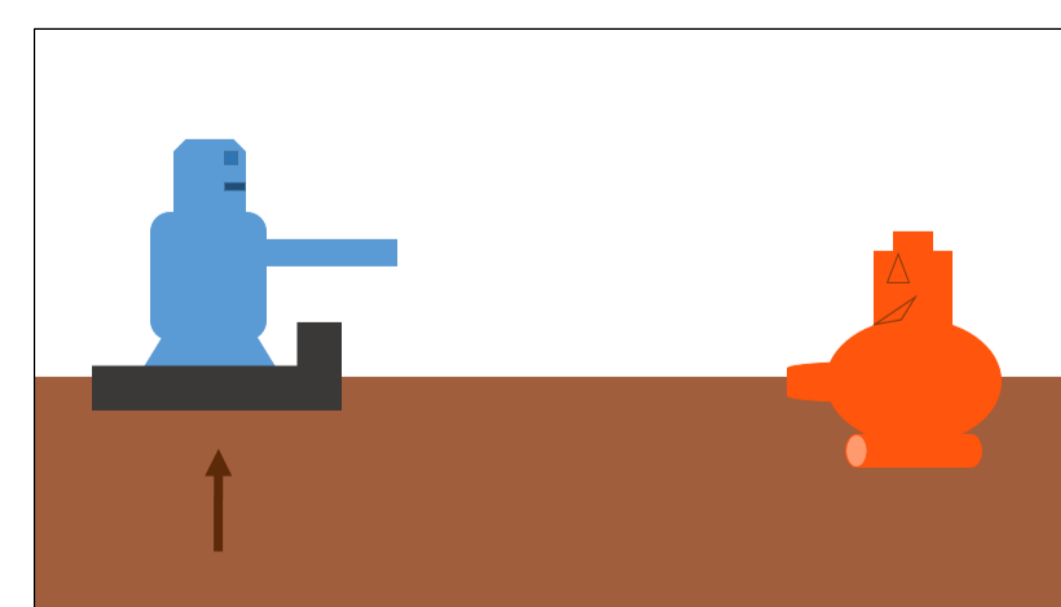
Do they benefit from comparisons of several referents of a new word to generalize it?

## Method

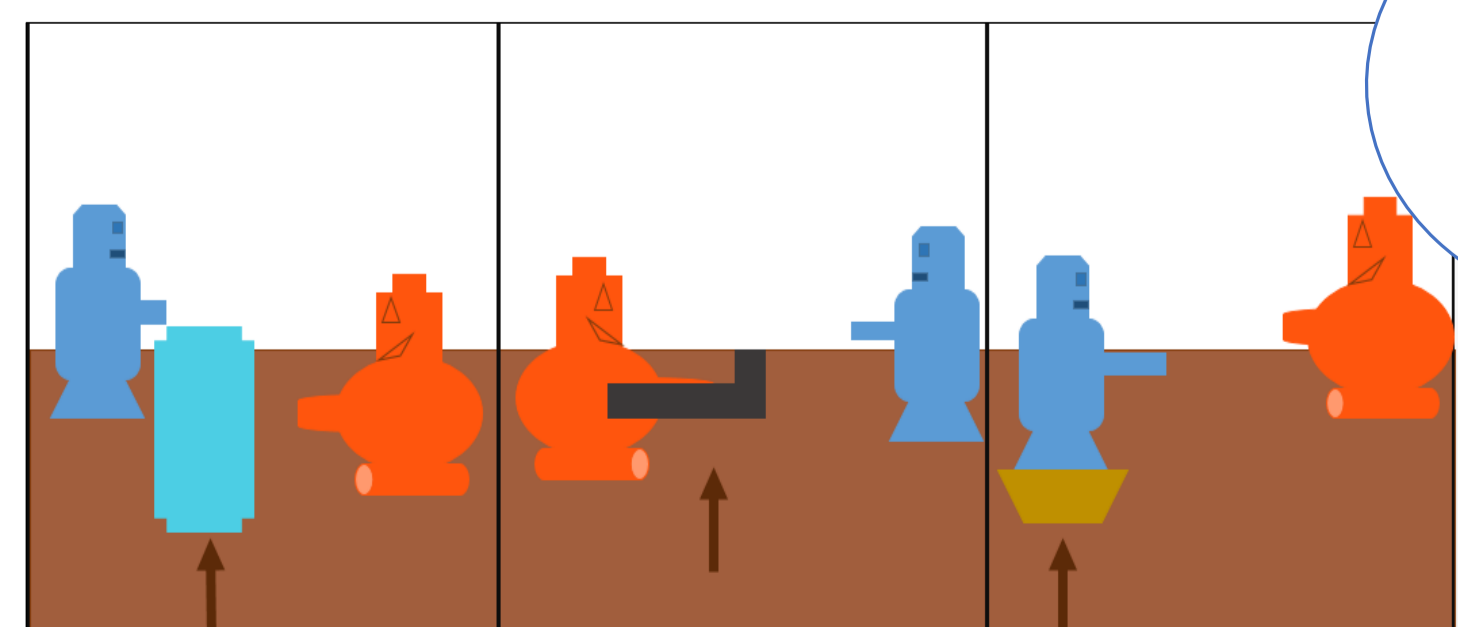
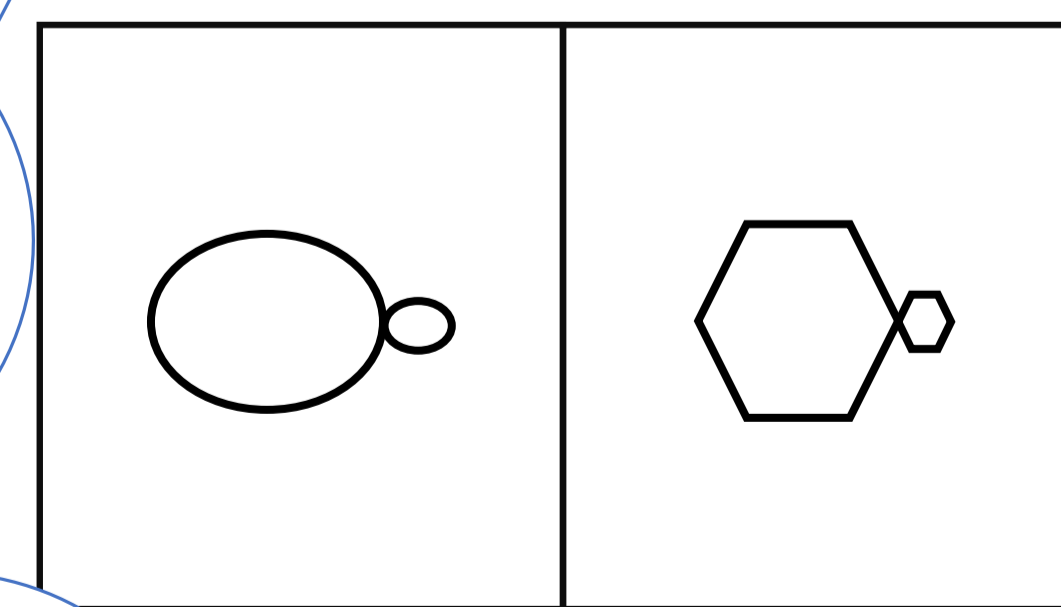
Group	SLI (N=21)	Age-matched (N=15)	Language-matched (N=17)
Age	10;6 years	9;11 years	8;3 years
EVIP	95 (8;6 years)	118 (11;6 years)	96 (8;8 years)

2 word extension tasks, new words with 1, 2 or 3 exemplars:

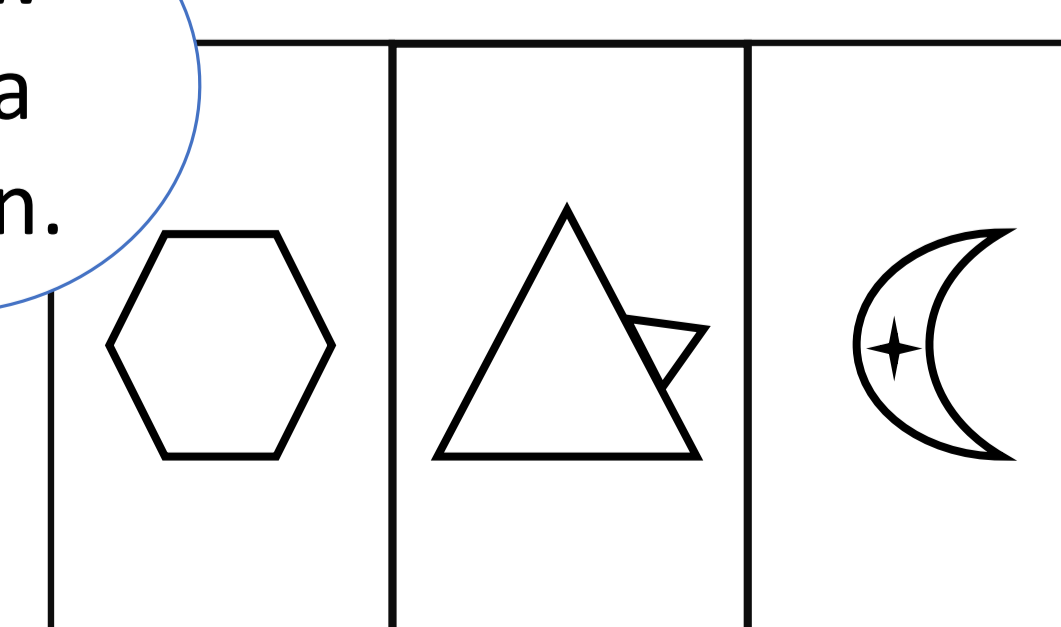
- Lexical categories defined by the role played in a specific relation
- Lexical categories defined by the spatial relations in the objects



This is a dufan.  
This is also a dufan.



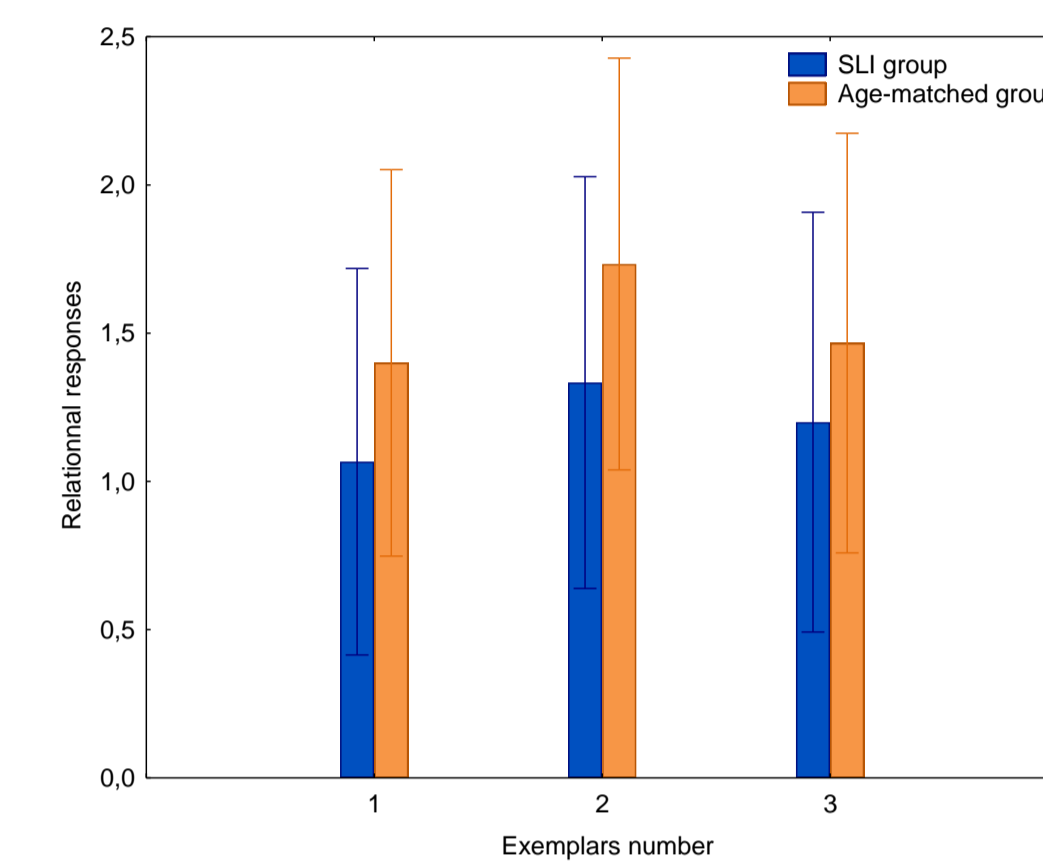
Show me a dufan.



## Results

### Age-matched groups

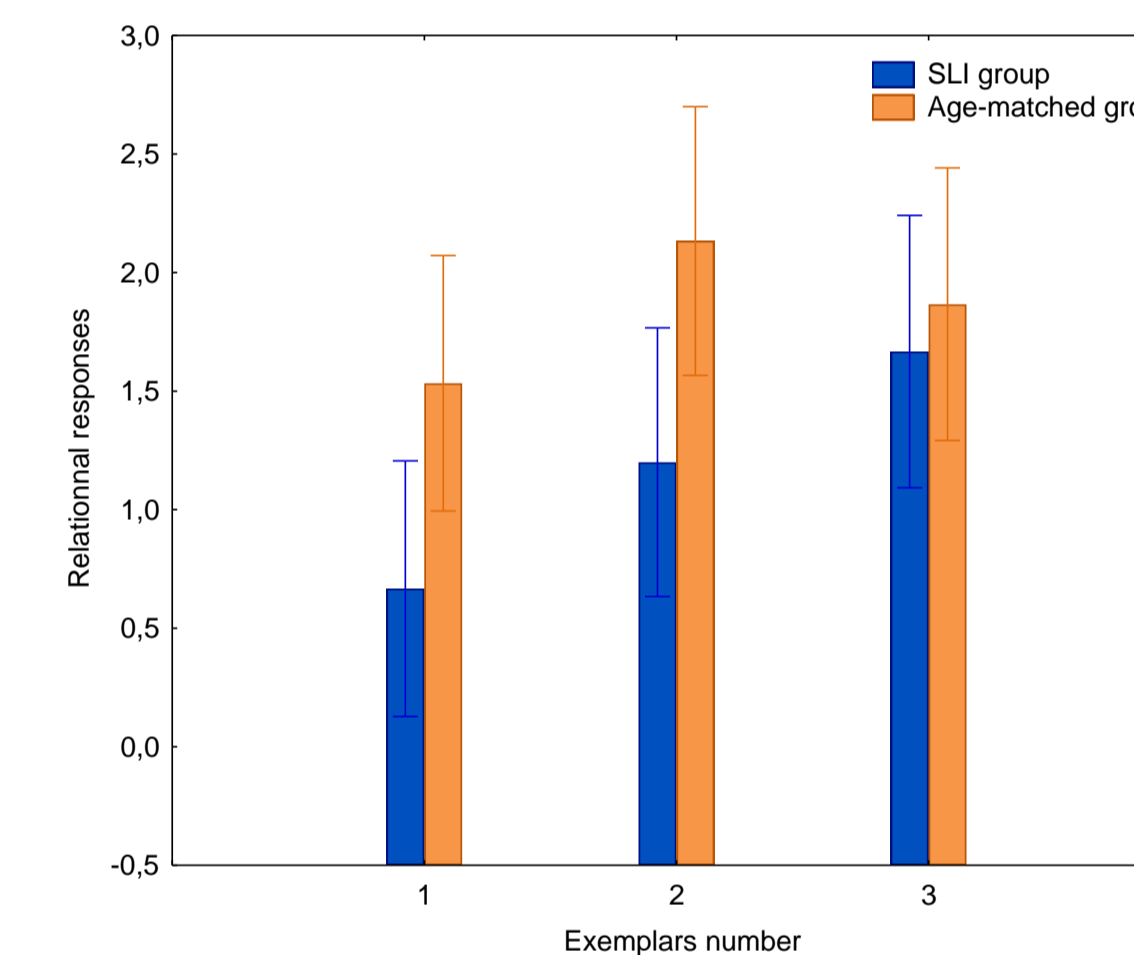
#### Role items



- No significant effect of group nor interaction
- Trend toward an effect of the number of exemplars ( $p=0.076$ )

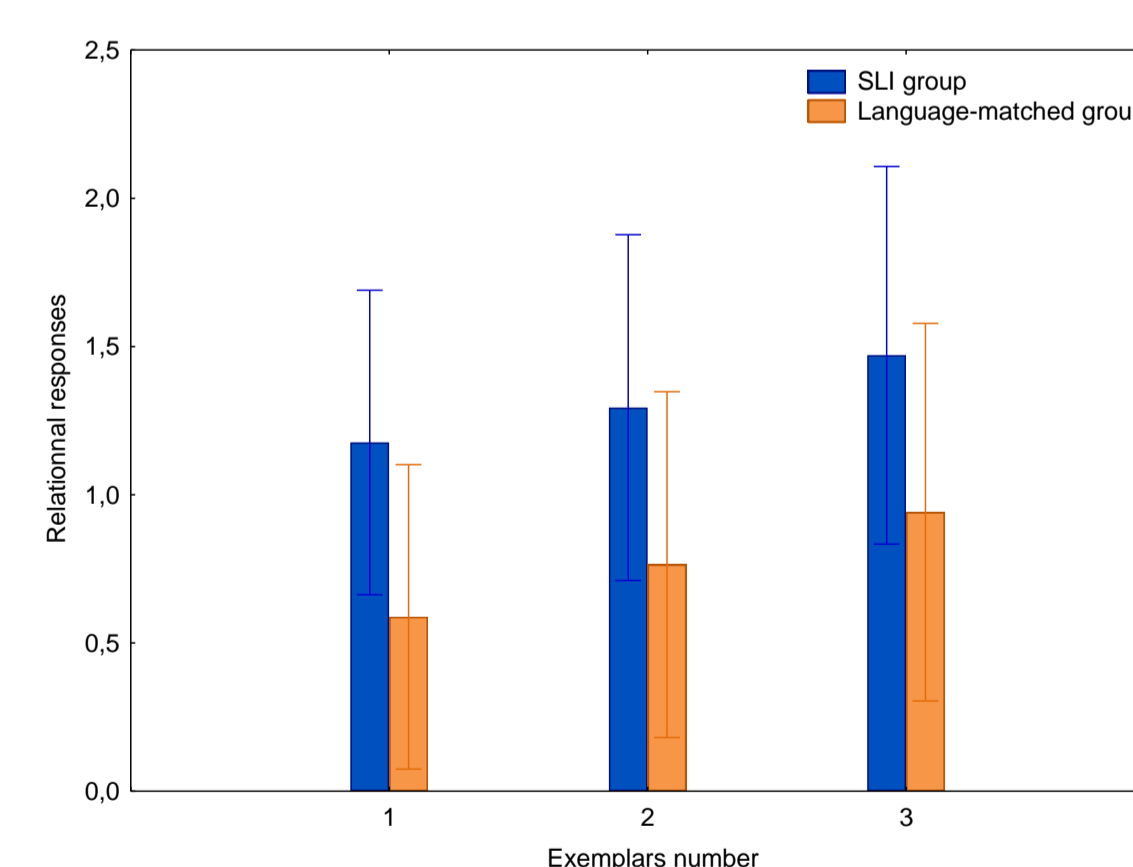
#### Spatial items

- Main effect of group ( $p=0.049$ )
- Main effect of the number of exemplars ( $p=0.001$ )
- Trend toward a significant interaction ( $p=0.092$ )



### Language-matched groups

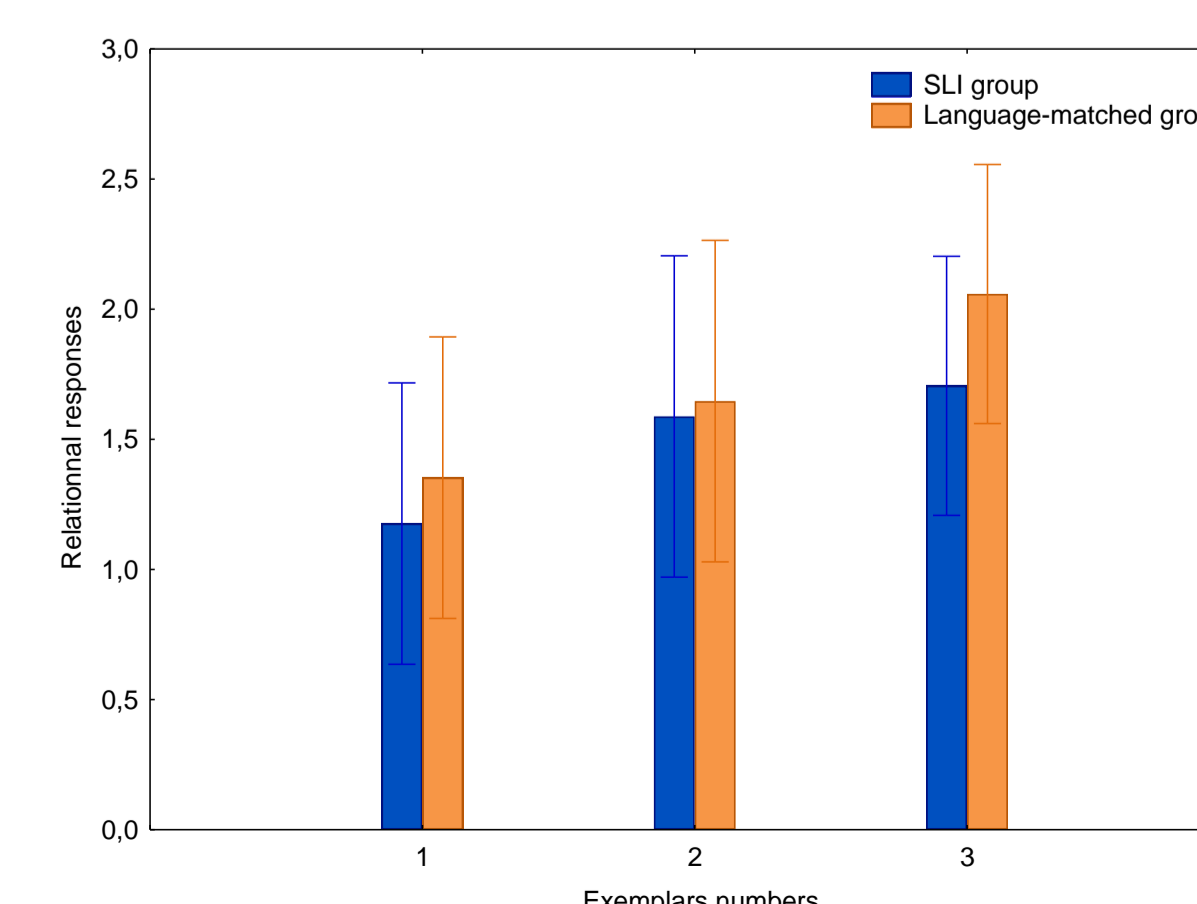
#### Role items



- No significant effect of group nor interaction
- Main effect of the number of exemplars ( $p=0.040$ )

#### Spatial items

- No significant effect of group nor interaction
- Main effect of the number of exemplars ( $p=0.011$ )



## Discussion

- Children are **better able to extend relational words when presented with several referents** of these words, which confirms what has already been found in other experiments (Gentner, 2005).
- When the feature to be used is a spatial relation between the parts of the objects, children with SLI:
  - have **more difficulties than age-matched controls extending new words**, which confirms that SLI is linked to an impairment in the processing of relations and a greater dependence on perceptual information (Leroy et al., 2014),
  - tend to **benefit more than age-matched children from the presentation of several referents of a new word** in order to extend it, what would mean that they greatly benefit from comparison and variability in order to identify relational similarities.
- It would be interesting to see if children can learn from several items that relational feature can be pertinent to define categories and extend words, as young children without SLI can do it with shape while children with SLI cannot (Collinson et al., 2015).

## References

- Collinson, B. A., Grela, B., Spaulding, T., Rueckl, J. G., & Magnuson, J. S. (2015). Individual differences in the shape bias in preschool children with specific language impairment and typical language development: theoretical and clinical implications. *Developmental Science*, 18(3), 373–388.
- Gentner, D. (2005). The development of relational category knowledge. In L. Gershkoff-Stowe & D. H. Rakison (Eds.), *Building Object Categories in Developmental Time* (pp. 245–275). Mahwah, NJ: Lawrence Erlbaum Associates.
- Leroy, S., Maillart, C., & Parrisé, C. (2014). Analogical mapping across modalities in children with specific language impairment (SLI). *Research in Developmental Disabilities*, 35(9), 2158–2171.
- Plante, E., Ogilvie, T., Vance, R., Aguilar, J. M., Dailey, N. S., Meyers, C., ... Burton, R. (2014). Variability in the language input to children enhances learning in a treatment context. *American Journal of Speech-Language Pathology*, 23, 530-545.

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