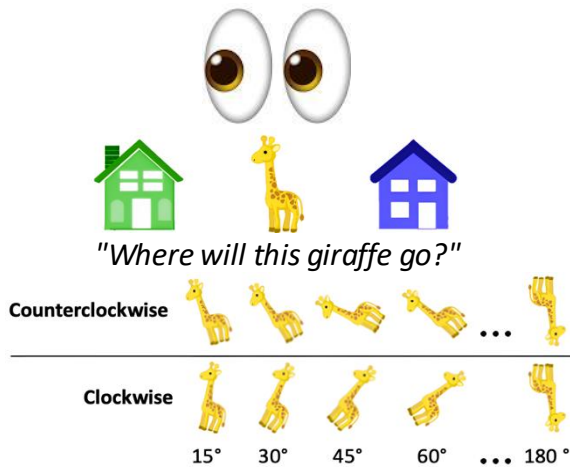


The relation between spatial language and mental rotation in toddlers: It's complicated

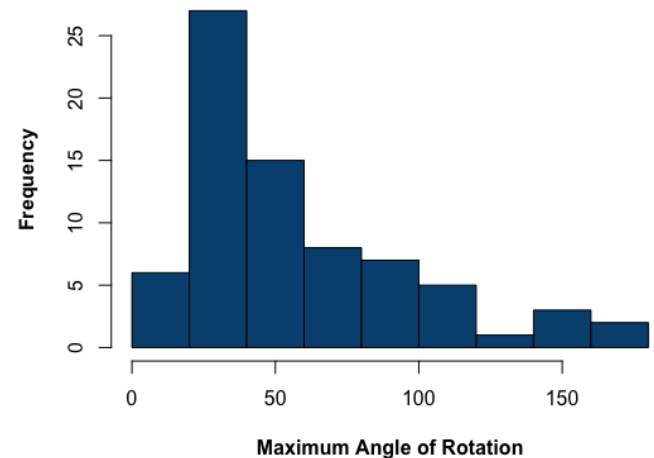


2201033: *Promoting Spatial Skill Development*

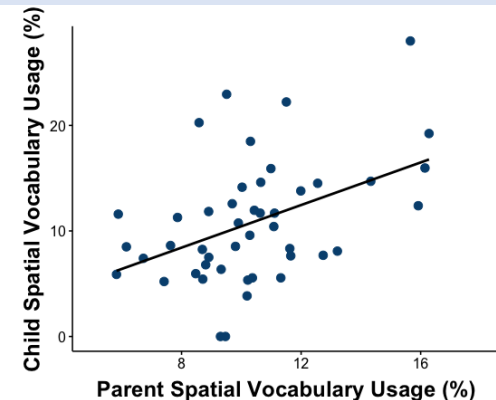
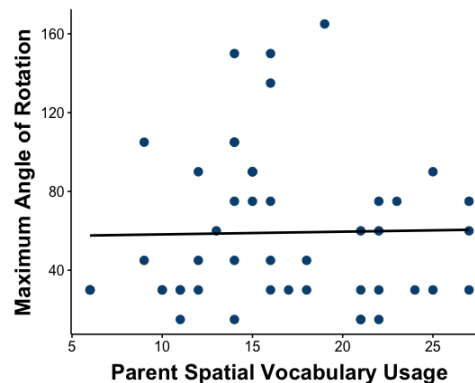
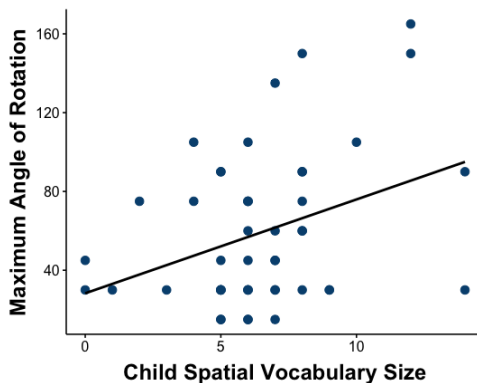
Question 1) How to measure mental rotation skills in toddlers?



Anticipatory eye-movement task minimizes verbal demands, is doable for most toddlers, and captures individual differences in mental rotation skills



Question 2) What predicts differences in mental rotation skills?



Toddler's unique spatial word usage during play predicts mental rotation skill but the relation between mental rotation skill and spatial language input from caregivers is less clear

Methods

Mental rotation

Toddlers

- Data collected from 123 2-year-olds → 82 had valid eye-tracking data → 74 had a max angle > 0
- Mental rotation assessed via anticipatory looking task (Beckner et al., 2023, *Journal of Intelligence*)
- Parent-child dyads also played with blocks for 5 minutes and read a picture book → sessions were transcribed and coded for language and gestures

Challenges Overcome

Eye-tracking

- Initial mental rotation task for infants was not reliable so needed to find a new task ... after collecting data from >100 infants
- Eye-tracking with 2-year-olds is hard! How to interpret very low scores?
- Many different ways of measuring spatial language knowledge and input



Ariel Starr, Eylül Turan, Claudia Wimsatt, Carol Lu

← Lab website: <https://sites.uw.edu/lcdlab/>

✉ abstarr@uw.edu

@lcdlab-uw

