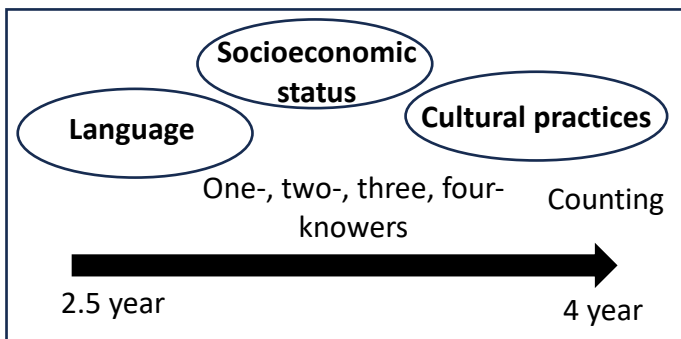


Cross-cultural Differences in Children's Early Numerical Abilities

2201960 Collaborative Research: A Multi-Lab Investigation of the Conceptual Foundations of Early Number Development

Background

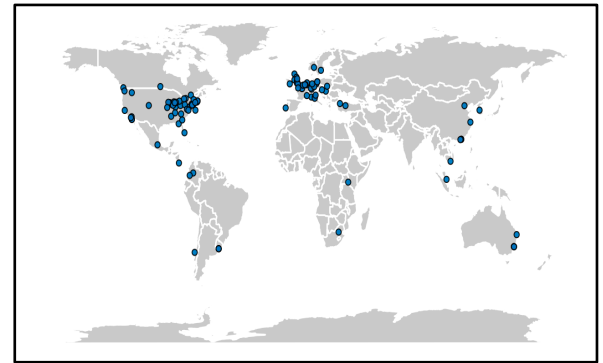
- Early numerical abilities are foundational for later Science, Technology, Engineering, and Mathematics.
- Early numerical abilities include rote counting, number word understanding, and numerical quantity discrimination.
- Variability in these skills emerges in pre-kindergarten (3 to 5 years).



Knower-Level Framework
(Wynn 1990)

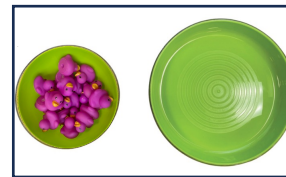
Main Limitation: Research focuses on middle-class English-speaking children from Western countries

The ManyNumbers Project

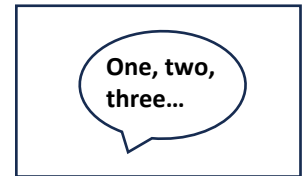


More than 150 institutions, covering ~ 30 countries and 20 languages

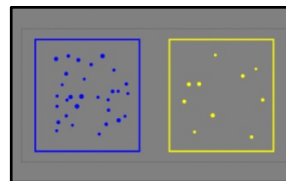
Assessments



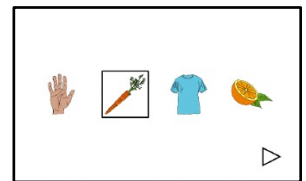
Give-A-Number Task



Highest Count Task



Dot Comparison Task



Visual Memory Task

Methods

Registered Report

- **International, multi-lab, cross-sectional study**
- **~ 3500 30- to 60-month-old children**
- **Open science practices:** open software, open materials, and registered report
- **Incubator for exploratory projects**

Challenge Areas

- Developing materials that can be administered in a diversity of contexts (e.g., translations, IT equipment)
- Ensuring the quality of data collection (e.g., training researchers)
- Data sharing workflow