

Bilingual Math Talk in the Home Environment

AWARD#2453119

PIs: Catherine Tamis-LeMonda (NYU),
catherine.tamis-lemonda@nyu.edu

Student and Postdoc Researcher: Shanttell
Fernandez sf4064@nyu.edu, Huanhuan Shi
hs3035@nyu.edu, Kristy Lai khl393@nyu.edu,
Robert Zhang gz2060@nyu.edu

Project Website Link:

<https://wp.nyu.edu/catherinetamislemonda/>

Audience & Settings

Audience: Researchers

Discipline type: Psychology

Learning environment:
Home

Project Description

Toddlers' language interactions in the everyday home environment support "math language" and math cognition (e.g., concepts/words for number, space, magnitudes, quantifiers). Families from different linguistic and cultural communities may differ in the words and associated concepts they talk about with toddlers, which may in turn shape toddlers' math learning. We video recorded 90 English-Spanish (n = 47) and English-Mandarin (n = 41) bilingual toddlers ages 18 to 30 months with mothers during structured play. We transcribed interactions and tested associations between mothers' language input and toddlers' math language development during structured play.

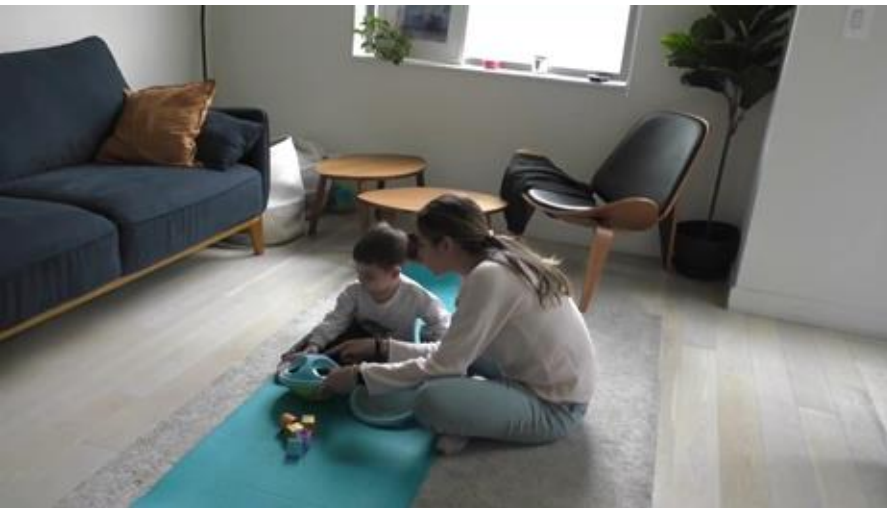
Key Achievements

We identified the ways different cultural communities describe linguistic-specific ways that math concepts are encoded. We characterized and compare: (1) four types of math language that Mandarin and Spanish bilingual mothers and toddlers use during interactions; (2) Investigate associations between mothers' math language input and children's math language use.

Bilingual Math Talk in the Home Environment

AWARD # 2453119

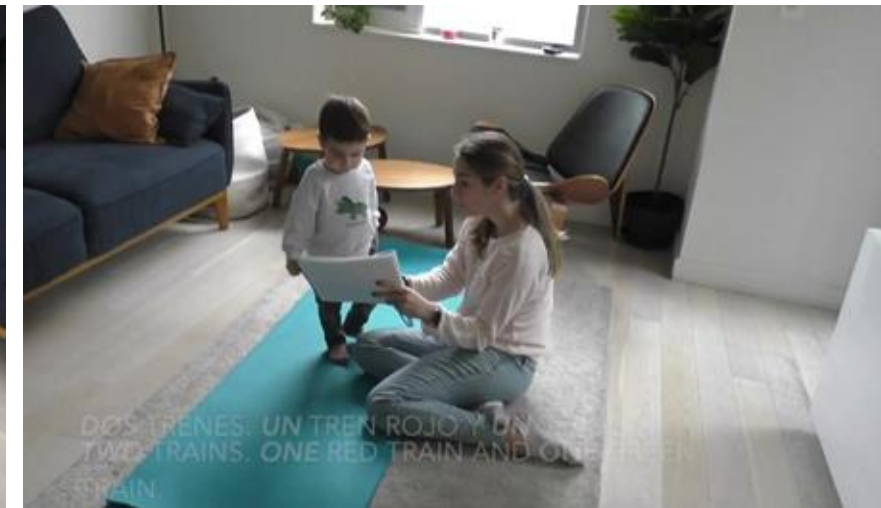
This material is based upon work supported by the National Science Foundation under grant [award 2453119]. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.



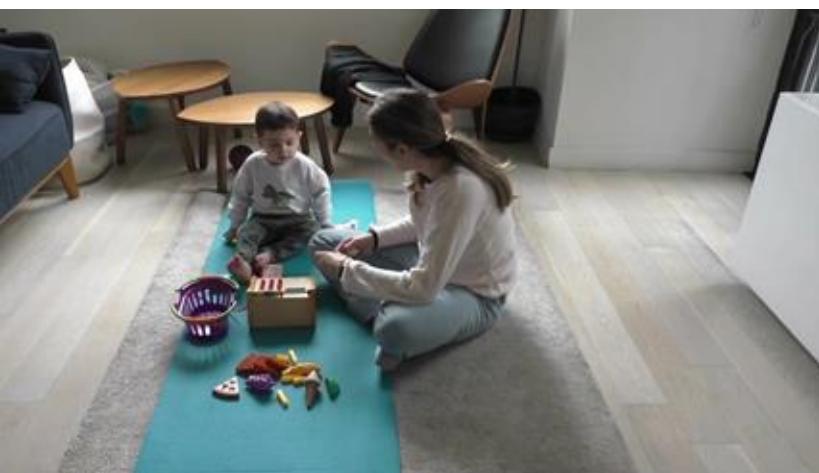
Shape Sorter



Snack Time



Number Book



Grocery Shopping

Counting Book



Shape Sorter



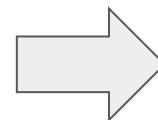
Grocery Set



Snack



Identify the Math words, Referents, and Social Cues



transcribe	mathwords	mathcontext	mc_behavior
		1 00:00:00:080 00:00:08:520 (2, ah there's a snake here, yes, toy box, ., 2d, mom pointing at the box, <other_notes>)	
1 00:00:03:408 00:00:03:408 (m, m, XXX)			
2 00:00:05:520 00:00:05:520 (m, m, ah there's a snake here)	1 00:00:05:520 00:00:05:520 (one, 2, y, n, n, n, n, n, n, n, n, n, n, n, n, n)		1 00:00:05:520 00:00:05:520 (y, n, n, n, n, n, n, n, n, point)
		2 00:00:07:080 00:00:13:080 (3, hey what is this?, yes, toy box, ., 2d, mom touching the toy box, <other_notes>)	
3 00:00:10:080 00:00:10:080 (m, m, hey what is this?)	2 00:00:10:080 00:00:10:080 (here, 1, n, n, n, n, n, n, n, n, y, n, n, n, n)		2 00:00:10:080 00:00:10:080 (y, n, n, n, n, n, n, n, n, point)
4 00:00:12:720 00:00:12:720 (m, m, owl flew)			