

# Limited Sex Differences in Parent-Child Spatial Language Use

## Background

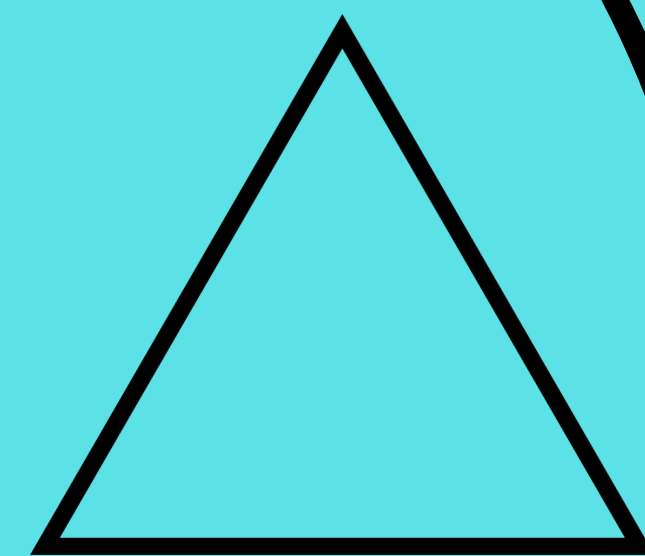
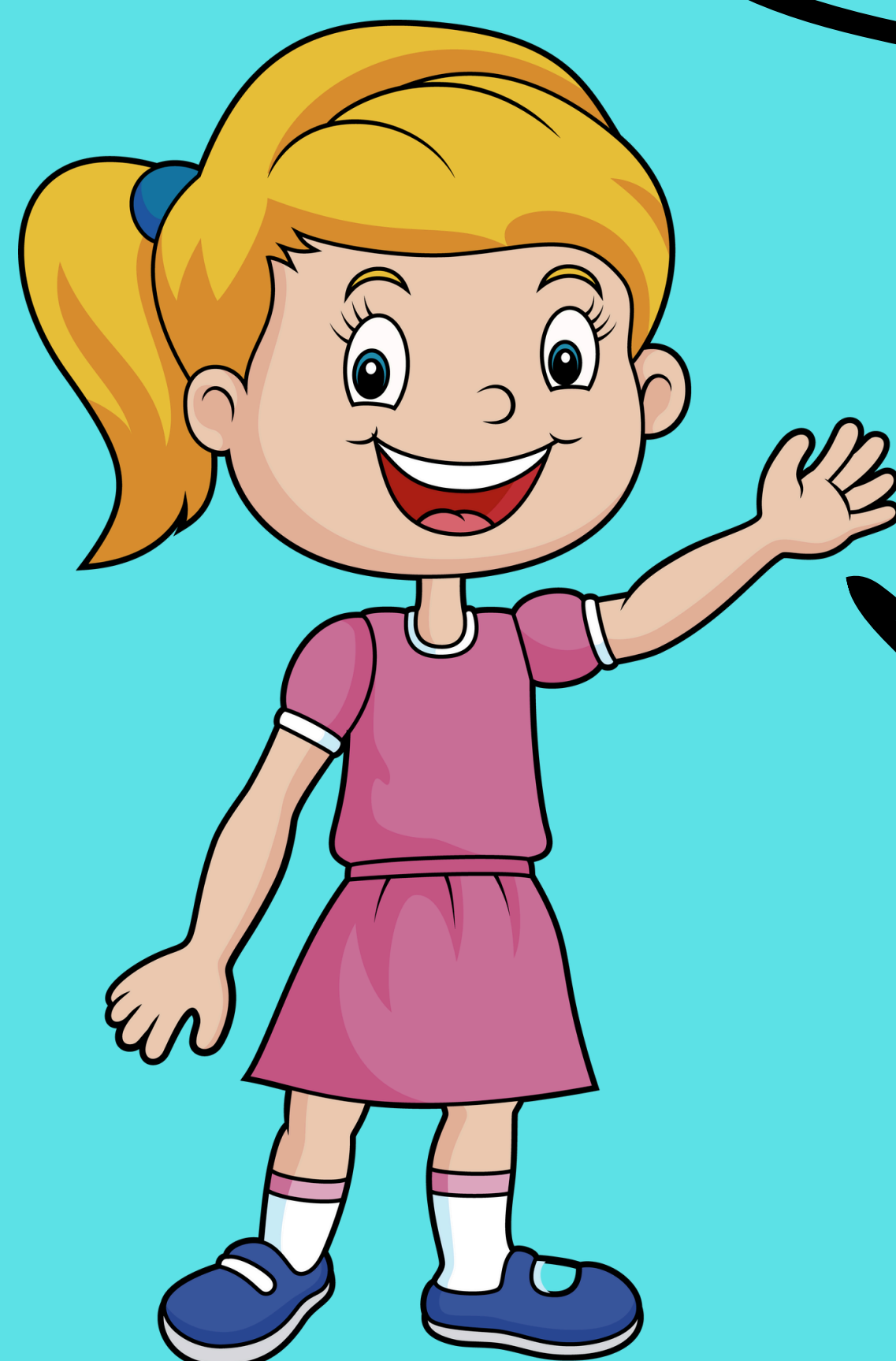
**Spatial ability** helps us understand, visualise, and remember the properties and position of objects and space. We use spatial thinking for everyday tasks like putting our shoes on the right feet, giving directions and packing a suitcase.

**Spatial language** is the language we use to talk about space.



“**What**” words - describing objects and their properties, like calling a triangle “pointy” or mentioning its “corners”.

“**Where**” words - describing positions, such as “above”, “next to”, or “near”.



There is mixed research on whether there are differences in spatial thinking between boys and girls with some research suggesting boys have stronger spatial skills than girls. One possibility is that parents might talk differently to their children about space, which could influence how boys and girls develop spatial skills.

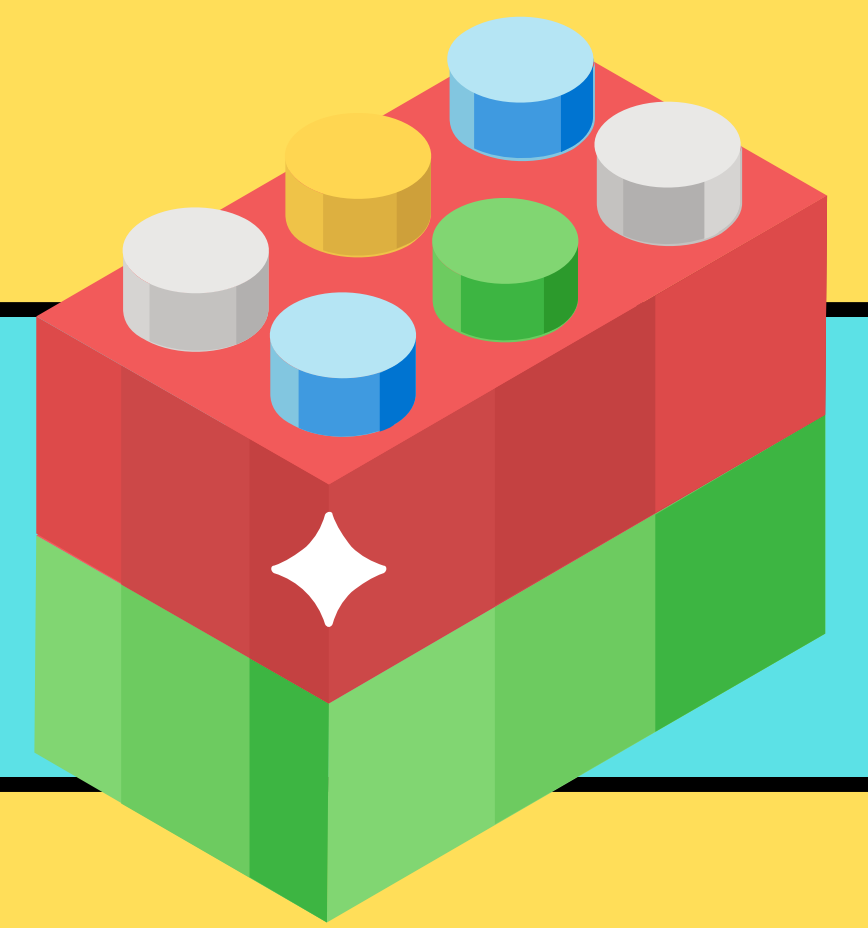
This study investigated whether parents use spatial language differently with boys and girls during playtime, and whether this affects how children use these words themselves.

# About Our Study



- **Who took part?** 187 families with young children (105 boys, 82 girls). The families completed a research visit when the children were 24 months old, and 115 families participated again when the children were 48 months old.
- **What did they do?** Parents (both mothers and fathers) and their children were recorded while they played with DUPLO bricks.
- **How was spatial language measured?** Researchers watched the recordings and counted how often parents and children used spatial words. They then compared differences between boys and girls, and mums and dads.

## Key Findings



### No major differences between boys and girls

- Boys and girls used spatial words just as often as each other.
- Parents also used spatial language with their sons and daughters at similar rates

### Parents used more types of spatial words with daughters

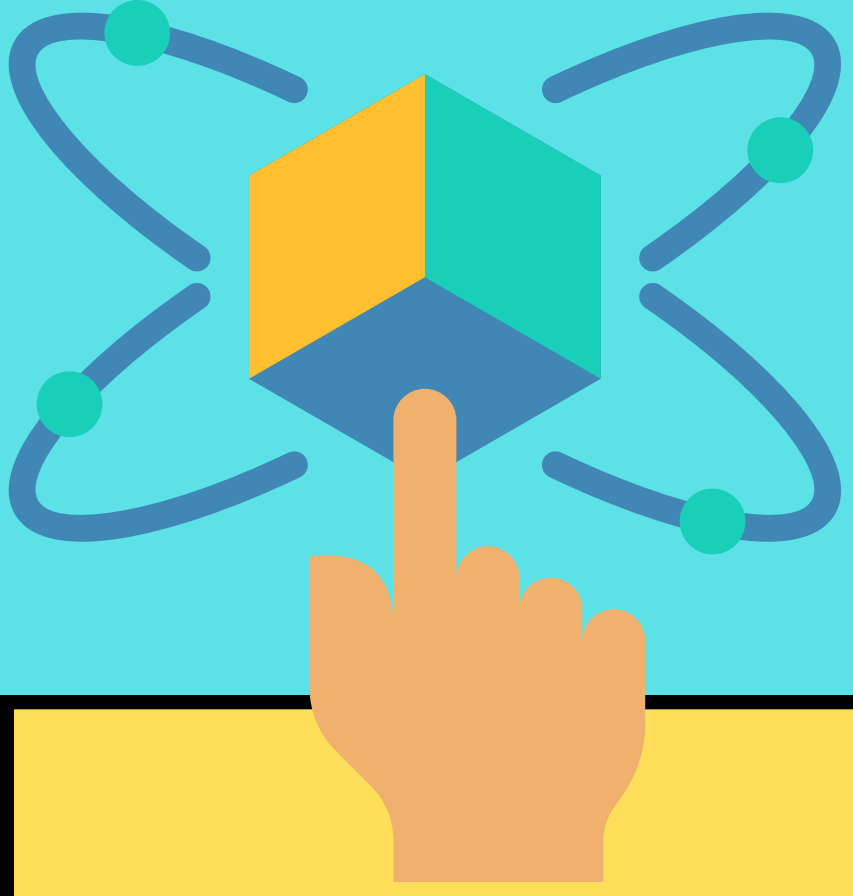
- Parents spoke to their children at similar rates, regardless of gender, but they used a greater variety of spatial words with daughters.
- This suggests that parents may believe girls need more support in understanding space.

### Parental influence over time

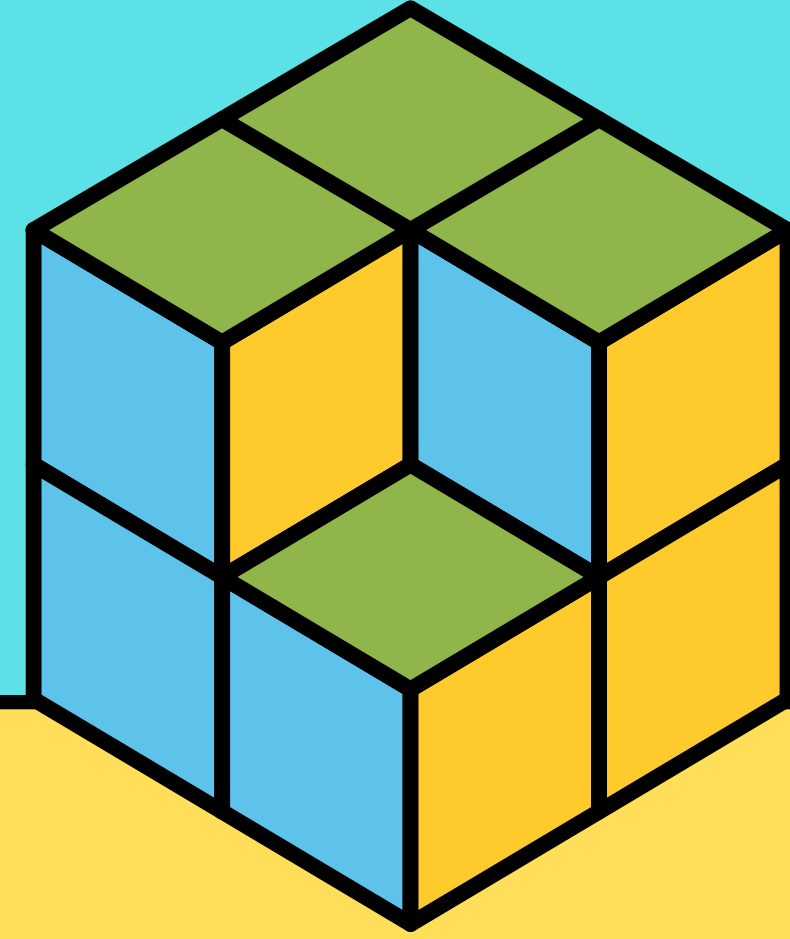
- The way parents spoke at 24 months did not strongly predict how children used spatial language at 48 months.
- However, mothers' use of spatial words at 24 months might have had different effects on boys and girls, though this effect was weak and should be interpreted with caution, as the weak effect could be due to chance or other unmeasured factors.

### No difference between mothers and fathers

- Both mothers and fathers used spatial words with their children in similar ways



## Conclusion



- Overall, boys and girls **used** spatial language **equally**, suggesting that differences in spatial skills are not due to how often spatial language is used.
- Parents may use more detailed language with daughters because they think girls need more support in understanding space.
- In this study, gender differences in language exposure did **not** appear to shape how children **developed** spatial language skills over time.
- Mothers and father both contributed similarly to their children's spatial language development, highlighting that both parents play an important role in this process.

The full research publication can be found at: [Limited sex differences in spatial language in parent-child dyads](#) by Emily K. Farran, Elian Fink, Claire Hughes, Katie A. Gilligan-Lee, The NewFAMS team.



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