

Parents' early word choices can widen STEM gender gap

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Credit: Florida International University

The gender gap in STEM can start when children are just learning to speak – the words parents choose to describe their child's world could be the reason boys are outpacing girls, according to a new study.

However, girls don't start out at a disadvantage. Findings show boys are hearing [spatial language](#) at higher rates than girls and, by default, using it more as they grow. Early use of spatial language – the words and ways people describe things, people and places – can be a predictor of success in science, technology, engineering and math fields later in life, according to Shannon M. Pruden, Florida International University psychology professor and lead author of the study.

Spatial language includes descriptions of shapes (round, square), dimensions (big, tall, tiny, small) and spatial features (bent, curvy, edge, line, corner). This study is the first to identify a male advantage in early exposure to spatial words and increased spatial language-use.

"I would like to encourage parents to increase their use of spatial language with their young children, particularly with their daughters," Pruden said. "Increasing their use of spatial language does not require the use of expensive toys like Legos or puzzles. It is as simple as pointing out the sizes and shapes of objects in the natural world."

Pruden and co-author Susan C. Levine from the University of Chicago studied children at home starting at 14 months old and followed them until 46 months. They zeroed in on a particular set of words describing the spatial properties of objects and spaces. At the onset, researchers found parents were using more spatial language with boys than with girls even as early as 14 months. Overall, boys heard and used 25 percent more unique spatial words than girls. The difference becomes more evident between 34 and 46 months of age.

It is possible parents use more spatial language with boys because boys play more with blocks and building sets, which are spatial activities. Parents could also be providing boys with more opportunities for spatial play because of unintended stereotypes that suggest boys are better at those activities than [girls](#). Whatever the reason, there is a point at which

boys are exposed to more spatial language. Pruden says more research is needed to fully understand why this is happening.

More information: Shannon M. Pruden et al. Parents' Spatial Language Mediates a Sex Difference in Preschoolers' Spatial Language Use, *Psychological Science* (2017). [DOI: 10.1177/0956797617711968](https://doi.org/10.1177/0956797617711968)

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