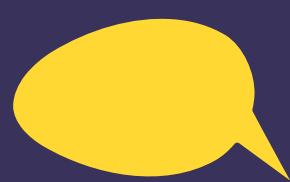


Walking another pathway: The inclusion of patterning in the Pathways to Mathematics model

Di Lonardo Burr, Xu, Douglas, LeFeure & Susperreguy

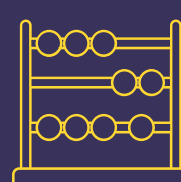
The original Pathways to Mathematics model states that children's mathematical skills can be predicted by three cognitive precursors:



Language



Attention



Quantitative

Another cognitive precursor, patterning, has also been shown to be important for mathematics achievement. We asked:



Should the Pathways model be expanded to include patterning?

To test our expanded model, Chilean children completed:

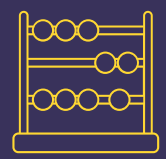
Cognitive tasks in Kindergarten



Receptive vocabulary



Spatial span



Number comparison



Repeating patterning

Math tasks in Grade 1



Arithmetic fluency



Problem solving



Number ordering

Beyond the original pathways, patterning predicted arithmetic fluency, and problem solving, but not number ordering



We conclude that the Pathways model should be expanded to include patterning and that different cognitive precursors uniquely predict different math outcomes, dependent on their demands

