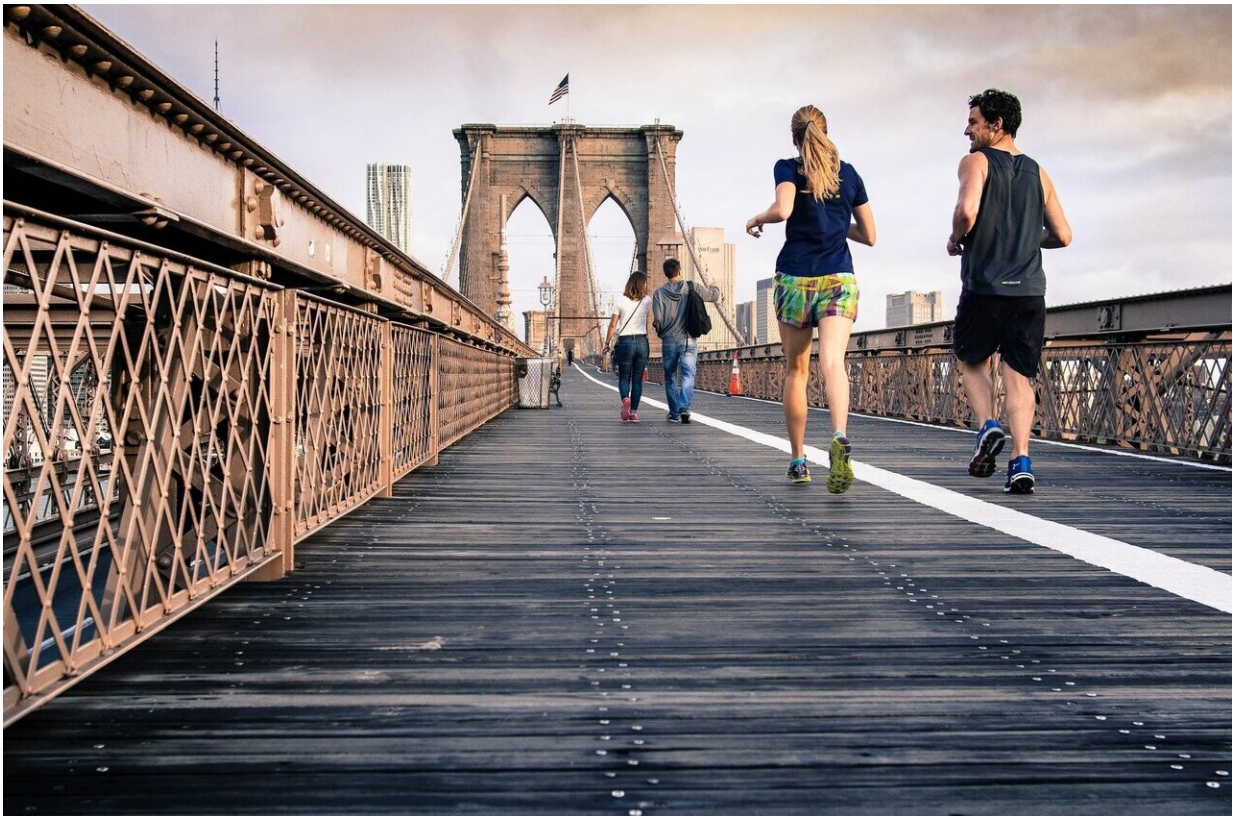


# How fitness helps children develop deeper vocabularies

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Swimming a few laps likely won't turn your child into the next Katie Ledecky or Michael Phelps, but it just might help them become the next J.K. Rowling or Stephen King.

A recent study by University of Delaware researchers suggests [exercise](#) can boost kids' vocabulary growth. The article, published in the Journal of Speech Language and Hearing Research, details one of the first studies on the effect of exercise on vocabulary learning in children.

Children aged six to 12 were taught new words before doing one of three things—swimming, taking part in CrossFit exercises or completing a coloring sheet. The children who swam were 13% more accurate in follow up tests of the vocabulary words.

It makes sense to the lead researcher, Maddy Pruitt, herself a former college swimmer who now regularly takes CrossFit classes. "Motor movement helps in encoding new words," she said, explaining that exercise is known to increase levels of brain-derived [neurotrophic factor](#), a protein Pruitt describes as the "Miracle-Gro of the brain."

Why then, did swimming make a difference while CrossFit did not? Pruitt attributes it to the amount of energy each exercise demands of the brain. Swimming is an activity the kids could complete without much thought or instruction. It was more automatic, while the CrossFit exercises were new to them. The children needed to learn the moves, which required mental energy.

Pruitt conducted the research as part of her Master's Capstone Project and graduated in 2020. She now works as a speech language pathologist at an elementary school in South Carolina, where she puts her findings into practice.

"My sessions are very rarely at a table," she said. "I'll take my kids out to the playground or we'll take a walk around the school."

Pruitt's adviser and coauthor Giovanna Morini is building on the findings in her lab. Morini, an assistant professor in the Department of

Communication Sciences and Disorders, said most research into exercise examines it from the angle of a healthy lifestyle, not much enters the domain of language acquisition. She said she sees this as a rich line of inquiry and has another student running a similar experiment now with toddlers.

"We were so excited about this study because it applies to clinicians, caregivers and educators who can put it into practice," Morini said. "It's simple stuff, nothing out of the ordinary. But it could really help boost the outcomes."

**More information:** Madison Pruitt et al, Examining the Role of Physical Activity on Word Learning in School-Aged Children, *Journal of Speech, Language, and Hearing Research* (2021). [DOI: 10.1044/2021\\_JSLHR-20-00359](https://doi.org/10.1044/2021_JSLHR-20-00359)

Provided by University of Delaware

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