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A Vicious Loop? Longitudinal Relations Between Math Anxiety and Math Performance for Grade 2 and 3 Students

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Abstract

Math anxiety is a common correlate of math performance. However, the causal direction of this relation is unclear. Research with young students is limited but critical for determining patterns of development. Students ($N = 147$) completed math measures (i.e., number comparison, arithmetic fluency, and math problem solving) and math anxiety assessments twice, first in grade 2 (Mage = 7 years:10 months) and then a year later in grade 3. Correlational analysis revealed that math anxiety is related only to arithmetic fluency, related to other types of math performance. Cross-lagged analyses were conducted to evaluate causal relations between math anxiety and arithmetic fluency. These analyses showed that arithmetic fluency in grade 2 predicted change in math anxiety from grade 2 to grade 3, however, math anxiety in grade 2 did not predict the change in arithmetic fluency from grade 2 to grade 3. These results suggest that math anxiety may be the result of poor math performance.