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### **Proceedings of the Annual Meeting of the Cognitive Science Society**

#### **Title**

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#### **Permalink**

<https://escholarship.org/uc/item/95s103kp>

#### **Journal**

Proceedings of the Annual Meeting of the Cognitive Science Society, 42(0)

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#### **Publication Date**

2020

Peer reviewed

# **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.