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On the relationship between math anxiety and math achievement in early elementary school:  
the role of problem solving strategies.  

Summary: Even at young ages, children self-report experiencing math anxiety, which negatively relates to  
their math achievement. Leveraging a large dataset of first and second grade students’ math achievement  
scores, math problem solving strategies, and math attitudes, we explored the possibility that children’s math  
anxiety (i.e., a fear or apprehension about math) negatively relates to their use of more advanced problem  
solving strategies, which in turn relates to their math achievement. Our results confirm our hypothesis  
and, moreover, demonstrate that the relation between math anxiety and math problem solving strategies is  
strongest in children with the highest working memory capacity. Ironically, children who have the highest  
cognitive capacity avoid using advanced problem solving strategies when they are high in math anxiety and,  
as a result, underperform in math compared with their lower working memory peers.  

Classification: C22 C32 F32  
Keywords: math anxiety; math performance; arithmetic strategies; working memory; strategy development;  
processing efficiency  
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