

Mixed Method Study

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February 24, 2018

“I hereby declare upon my word of honor that I have neither given nor received unauthorized help on this work.”

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### Reference

Wu, S. S., Barth, M., Amin, H., Malcarne, V., & Menon, V. (2012). Math anxiety in second and third graders and its relation to mathematics achievement. *Frontiers in Psychology, 3*.

<https://doi.org/10.3389/FPSYG.2012.00162>

### Summary

This multi-method study questioned the validity of assessments of math anxiety and observed the impact of math anxiety on achievement and the relationship between trait anxiety and math anxiety. As with several other studies, researchers found that the majority of investigations dealing with math anxiety dealt with college-age students. With this in mind, researchers decided on participants in second and third grade. In these grades, students have just begun learning math concepts and operations. One hundred and sixty-two students from the greater San Francisco Bay Area were recruited with an average age of eight years old and a majority of male students. Of this group, only one participant satisfied the requirements for a mathematical disability. Researchers administered the Scale for Assessing Early Mathematics Anxiety (SEMA) questionnaire, which was based on the Math Anxiety Rating Scale - Elementary (MARS-E). In a one-on-one setting, students took the twenty question questionnaire and rated the anxiety they felt after each problem by selecting faces or replying verbally. Parents, close relatives, and guardians were not left out of the equation as they completed the Child Behavior Checklist (CBCL) of one hundred and thirteen questions about their student. One last assessment, the Wechsler Individual Achievement Test (WIAT-II) assessed the child's math, reading, and cognitive abilities. Results indicated that math anxiety and trait anxiety held no significant

relationship while math anxiety was significantly and negatively correlated with mathematical reasoning. Overall, studies such as this help comprehend the beginnings of math anxiety in younger students.

### Implications

Through this study, teachers receive more facts dealing with math anxiety. It begins earlier than the first standardized tests, so it appears to be influenced by the teacher and subject more than simply performing well on an assessment. Alleviating anxiety may not be as simple as disregarding standardized assessment.