Beyond math anxiety: positive emotions predict mathematics achievement, self-regulation, and self-efficacy.

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Summary: Research on the affective dimensions of mathematics learning and achievement has tended to focus on negative emotions and on mathematics anxiety in particular, with much less work on positive emotions. Drawing from a positive education perspective, we aim to contribute to the growing literature on positive emotions and learning. We hypothesize that positive emotions are associated with learning and achievement in mathematics, even when mathematics anxiety is considered. Filipino students enrolled in a college trigonometry course completed the Academic Emotions Questionnaire-Mathematics and scales assessing their self-efficacy and self-regulation in trigonometry. Students' final grades for the course were recorded with their informed consent. Hierarchical regression analysis indicated that enjoyment and pride explained a significant amount of variance in the final grades, self-regulation, and self-efficacy, even after accounting for the variance explained by gender and anxiety. Although the results cannot be interpreted as indicating a causal relationship between positive emotions and achievement, the results indicate how positive emotions in mathematics learning can contribute to a more balanced picture of the role of affective states in mathematics learning.

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