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The longitudinal influences of peers, parents, motivation, and mathematics course-taking on high school math achievement.

Learn. Individ. Differ. 50, 252-259 (2016).

Summary: Little is known about how parent expectations and math motivation work in concert with math course taking to promote math achievement. This longitudinal structural equation modeling (SEM) study examined expectancy-value and self-determination theory motivation constructs and math development among a nationally representative sample of U.S. high school students. The role of mathematics course-taking was also examined. As predicted, parent expectations, student expectations, and peer interest predicted math intrinsic motivation in 9th grade, which predicted student mathematics achievement in 11th grade, even when controlling for SES, race/ethnicity, gender and prior math achievement. Intrinsic motivation for math and parent expectations also predicted taking higher-level math courses (e.g., trigonometry or calculus) over the next 2.5 years, which predicted further math achievement. Parent expectations were a stronger predictor than student expectations of intrinsic motivation for math, course taking, and achievement. Implications for math achievement interventions are discussed.

Classification: C60 C20 C30

Keywords: adolescents; expectations; motivation; parent involvement

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