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Francisco, John M.

The mathematical beliefs and behavior of high school students: insights from a longitudinal study.

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Summary: There is a documented need for more research on the mathematical beliefs of students below college. In particular, there is a need for more studies on how the mathematical beliefs of these students impact their mathematical behavior in challenging mathematical tasks. This study examines the beliefs on mathematical learning of five high school students and the students' mathematical behavior in a challenging probability task. The students were participants in an after-school, classroom-based, longitudinal study on students' development of mathematical ideas. The results show that particular educational experiences can alter results from previous studies on the mathematical beliefs and behavior of students below college, some of which have been used to justify non-reform pedagogical approaches in mathematics classrooms. Implications for classroom practice and ideas for future research are discussed.

Classification: C24 D54

Keywords: mathematical beliefs; epistemological beliefs; problem-solving behavior; high school students; longitudinal study

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