

# The Relationship among Teacher Support, Learning Engagement and Mathematics Achievement of Senior High Students

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## ABSTRACT

The main purposes of this study were to explore the relationship among teacher support, learning engagement, and mathematics achievement of senior high school students. The first purpose of this study was to make a variance analysis among teacher support, learning engagement, and mathematics achievement of senior high school students from different backgrounds. The second purpose of this study was to make a correlation analysis among teacher support, learning engagement, and mathematics achievement of senior high school students. The third purpose of this study was to make a path analysis among teacher support, learning engagement, and mathematics achievement. The research participants were 510 participants of senior high school students selected by cluster sampling in one certain senior high school in central Taiwan as the pilot sample. The research tools included an adapted Teacher Support Scale, Learning Engagement Scale, and Mathematics Achievement. Mathematics Achievement was based on the second monthly-mathematics-exam scores of the second semester 2013, transformed into class T-scores. The statistic analyses adopted t-test, Pearson correlation, and path analysis. The statistic analyses adopted t-test, Pearson correlation, and path analysis. The findings of this study were summarized as follows: (a) There were significant differences between student gender and teacher support. (b) There were significant differences between student socioeconomic status and teacher support. (c) There were significant differences between student gender and learning engagement. (d) There were no significant differences between student socioeconomic status and learning engagement. (e) There were significant correlations between teacher support and learning engagement; there were significant correlations between teacher support and mathematics achievement; there were significant correlations between learning engagement and mathematics achievement. (f) Teacher support will directly affect learning engagement of senior high school students; teacher support will indirectly affect mathematics achievement of senior high school students; learning engagement will directly affect their mathematics achievement. Discussions, implications, and suggestions are provided in this paper for mathematics teacher and instructors as well as for further study.

Keywords : teacher support、 learning engagement、 mathematics achievement

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