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**Preservice teachers' understanding of variable.**

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Summary: This study examines the research on middle school students' understanding of variables and explores preservice elementary and middle school teachers' knowledge of variables. According to research studies, middle school students have limited understanding of variables. Many studies have examined the performance of middle school students and offered suggestions on how to improve instruction in middle school. This study considers preservice elementary and middle school teachers' knowledge of variables. A total of 73 preservice teachers, all candidates for early childhood – 6 certification, were given the same variable assessments completed by middle school students. Many of the misconceptions displayed by middle school students were also present in the results from preservice elementary and middle school teachers. This suggests that another means of improving middle school students' performance in algebra is by strengthening the preservice elementary and middle school teachers' understanding of variables.

*Classification:* H23 H29 E43 E49 D73 D79

*Keywords:* preservice teachers; middle-school students; understanding of variables; knowledge of variables; variables; performance; misconceptions