

## **Sources of mathematics self-efficacy and its impact to students mathematics performance in Tanzanian secondary schools**

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Beliefs about one's ability to perform a specific educational task have the impact on SBS capability to accomplish such a task. This study investigated sources of students' mathematics self-efficacy and their impact on mathematics performance among secondary schools in Tanzania. The study involved 267 Form 3 (Grade 11) students sampled from three secondary schools in the Dar es Salaam region. Previously validated questionnaire scales comprising four factors: mastery experience, vicarious experience, physiological state (emotional arousal such as anxiety) and social persuasions were adapted to measure sources of students' mathematics self-efficacy. Meanwhile, students' mathematics performance was obtained from the National Examinations database. Structural equation modeling technique was used to estimate the model about sources of students' mathematics self-efficacy in the Tanzanian context. Descriptive results indicated that, with the exception of physiological state, students considered vicarious experience, mastery experience and social persuasions as the plausible sources of their mathematics self-efficacy. Furthermore, a four-factor structural equation model was found to best describe sources of students' mathematics self-efficacy after specification of poorly fitting variables. Further analyses showed that vicarious experience positively predicted students' mathematics performance while physiological state was a negative predictor of students' mathematics performance. It is recommended that potential interventions for improving students' mathematics performance should capitalize on improving students' vicarious experience and reducing student fear in mathematics classes.

**Keywords:** Mathematics self-efficacy; mathematics performance; structural equation modeling; secondary school