

Analysis of Students' Attitudes on Mathematics Achievement- Factor Structure Approach

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ABSTRACT The purpose of this study was to identify the number of factors (mathematics self-concept, parents' level of education, home background, teaching, school climate and attitude) that represent relationships among sets of interrelated variables of students' attitudes on mathematics achievement. The study examined the contribution of each factor by explaining the variance of students' mathematics achievement and the total variance that could be explained by the determined factors. An inferential analysis was conducted by sampling 321 respondents randomly in a survey design. Based on the Scree test and Eigenvalues, over one eight factors were retained. These factors accounted for 60.1 percent of the variance. The combination of items with loadings greater than 0.49 were considered as separate factors. The results showed that seven of the eight factors under study totally accounted for approximately one fifth of the variance in mathematics achievement (20.7 percent). Mathematics self-concept, home background, teaching, and attitude explained 12.3%, 5.1%, 1.6% and 0.9% of the variance respectively. It is worth mentioning that school climate did not enter in the equation. The findings are important for the South African educational system since changing self-concept and attitude of students towards mathematics and improving the teaching procedures in the classroom are much easier to achieve than changing background factors affecting students' performance.