

**INFLUENCE OF ATTITUDES, PERCEIVED ABILITY AND SELF ESTEEM ON  
CONCEPTUALIZATION OF SCIENCE SUBJECTS IN  
ELDORET MUNICIPALITY AMONG FEMALE SECONDARY STUDENTS**

**BY**

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## ABSTRACT

This study investigated the influence of attitudes, perceived ability and self-esteem on Kenyan female secondary schools students' conceptualization of Sciences. The study further examined the correlations between these variables and established the effects of students' age and school type on students' on these same variables. The geographical focus of the study was Eldoret Municipality, a cosmopolitan city with a sizeable population of about 5,200 secondary school female students studying in all types of schools. This study was based on ex-post facto design and was guided by the Situated Learning theory propounded by Lave and Wenger (1991) that underscores the importance of psycho-social factors in creating meaning in the learning enterprise. The study sample comprised of 298 Form IV female students selected through a random sampling method from the accessible population of 1311 Form IV female students studying in various schools in Eldoret Municipality. The selected students completed an inventory of Science subjects' evaluation questionnaires, which consisted of attitudinal, perceived ability and self-esteem statements. The study found out that students had an average conceptualization of science subjects. The students were also found to have ambivalent attitudes, average perceived ability but ambiguous self-esteem towards science subjects. Students' attitude was found to significantly and positively affect the conceptualization of physics ( $\beta=.68$ ), biology ( $\beta=.79$ ) and chemistry ( $\beta=.76$ ). Perceived ability also significantly influenced their conceptualization of physics ( $\beta=.70$ ), biology ( $\beta=.72$ ) and chemistry ( $\beta=.73$ ) as did their self-esteem on the conceptualization of physics ( $\beta=.71$ ), conceptualization of biology ( $\beta=.84$ ) and conceptualization of chemistry ( $\beta=.79$ ). Significant correlations were found between students' attitudes and perceived ability (.85), attitudes and self-esteem (.89), and perceived ability and self-esteem (.81), which indicated that a student who had a positive attitude towards Sciences was also likely to have high perceived ability and self-esteem and vice versa. Students aged between 14 and 16 years were found to have better attitude ( $t=3.83$ ,  $p<.001$ ), perceived ability ( $t=3.15$ ,  $p=.002$ ) and self-esteem ( $t=2.58$ ,  $p=.01$ ) about sciences compared to those aged between 17 and 19 years. They were also found to conceptualize biology ( $t=2.39$ ,  $p=.017$ ) and chemistry ( $t=2.90$ ,  $p=.004$ ) better than the older students. However, conceptualization of physics was found not to differ between the 14 – 16 year and 17 – 19 year students ( $t=0.60$ ,  $p=.55$ ). The ANOVA revealed that girls in pure boarding schools were found to have better attitude ( $F=33.1$ ,  $p<.001$ ), perceived ability ( $F=25.7$ ,  $p<.001$ ), self-esteem ( $F=25.5$ ,  $p<.001$ ) and science conceptualization (physics:  $F=13.5$ ,  $p<.001$ ; biology:  $F=27.8$ ,  $p<.001$  and chemistry:  $F=22.3$ ,  $p<.001$ ) compared to those in either mixed schools or mixed day and boarding schools. The study concluded that the female students' attitudes, perceived ability and self-esteem are critical in the improvement of their understanding of science subjects. Hence it recommends that all stake holders especially teachers, boards of management and parents should put in place programmes that improve female students' attitudes and self-esteem towards sciences subjects.