ABSTRACT

Performance in Mathematics among Secondary school students in Nyakach sub-county has been relatively low. Very scanty literature is available on possible effects of personality traits on mathematics achievement in Nyakach Sub County. The purpose of the study was to establish the relationship between Eysenck Personality traits and Mathematics achievement among students in Secondary schools in Nyakach Sub-county, Kenya. The study's objectives were: to determine the relationship between extrovert personality trait and Mathematics achievement among students in secondary schools in Nyakach sub-county, Kenya; to establish the relationship between introvert personality type and Mathematics achievement among students in secondary schools in Nyakach sub-county, Kenya ; and to examine the relationship between neurotic personality type and Mathematics achievement among students in secondary schools in Nyakach sub-county, Kenya. The study was guided by Eysenck's theory of Personality and Goal attainment Theory. The study employed Concurrent triangulation design of the mixed method approach. The sample size comprised of 20 Deputy Principals, 900 form three students, 20 Mathematics teachers and 20 H.O.D's – Guidance & Counseling. Sampling techniques used obtaining the required sample size were: stratified sampling for sampling schools into the respective categories, simple random sampling for both students and Mathematics teachers and purposive sampling techniques for Deputy Principals and teacher counselors. Quantitative data was collected through Eysenck questionnaire, while qualitative data was obtained using interview schedule and Mathematics achievement was obtained using a Standardized Mathematics exams for the schools. Content and construct validity was ensured by use of research experts, while reliability was ascertained by internal consistency method with Cronbach's correlation (r) value of 0.510, 0.531, 0.678 and 0.572 for extrovert, introvert, neuroticism and mathematics achievement respectively. Trustworthiness of qualitative instruments was ensured according to the four criteria proposed by Shenton, (2004). Quantitative data from questionnaires was analyzed by both descriptive statistics and inferential statistics such a Pearson product correlation coefficient and regression analysis, while qualitative data was analyzed using thematic framework. Correlation results indicated that there was: Extroversion (r=0.353), introversion (r=-0.116) and neuroticism (r=0.078). Multiple regression analysis revealed that selected Eysenck's personality traits were good predictors of achievement in mathematics at 15.8%, this was a statistically significant determinant of Mathematics achievement since the sig.level was found to be $0.000 > 0.05$. The researcher recommended that teacher counselors should develop a structured programme of personality assessment to identify students at risk of low Mathematics achievement.