

**FACTORS RELATED TO THE MOTIVATION TO LEARN
MATHEMATICS AMONG SECONDARY SCHOOL
STUDENTS IN KENYA'S NAIROBI PROVINCE AND THREE
DISTRICTS OF RIFT VALLEY PROVINCE**

By

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ABSTRACT

The relationship between students' background factors, mathematics self-concept, their perceptions of evaluation in mathematics, mathematics classroom environmental factors and teachers' quality on one hand and students' motivation to learn mathematics (SMOT) on the other among boys and girls in Kenya's secondary schools is not clearly understood. This study sought to examine and analyse students' background factors, mathematics self-concept, perceptions of evaluation in mathematics, mathematics classroom environmental factors and teachers' quality and assess their relationship to students' motivation to learn mathematics. Such information would help education stakeholders in alleviating the students' problems associated with mathematics achievement and participation. A random sample of 32 (19 public and 13 private) secondary schools stratified by gender, school category, school location and school social set up were drawn from 171 public and 85 private schools in Nairobi Province, and parts of the Rift Valley Province. A proportionate random sample comprising 649 students and 87 teachers of mathematics were drawn from the 32 schools. In this descriptive-correlational study design, students' mathematics self-concept, their perceptions of mathematics evaluation, mathematics classroom environmental factors and the quality of the teacher formed the independent variables. Motivation to learn mathematics was the dependent variable. Closed-ended, forced-choice questionnaires were group administered after pilot testing to determine their suitability, face validity and reliability. The threshold for acceptable Cronbach's alpha reliability coefficient was set at .70. Descriptive and inferential statistics were used for data analyses. Multiple regression and ANOVA were used to determine the degree of relationships and variability among variables. The confidence level was set a priori at $\alpha = 0.05$. The findings indicated that school's social set-up, students' mathematics self-concept, their perceptions of evaluation in mathematics, teacher's feedback, impact of instructional approaches and classroom physical conditions had significant, positive relationship with SMOT. The relationship between students' motivation to learn mathematics and impact of instructional media was positive but not significant. No relationship was detected between teachers' quality and SMOT. Students' mathematics self-concept combined with students' perceptions of evaluation in mathematics and overall impact of instructional methods were the most important factors related to SMOT. The two factors explained 71.8% of the variation in SMOT. There were statistically significant gender differences in students' motivation to learn mathematics, mathematics self-concept, perception of evaluation in mathematics, and in preferences for some instructional approaches. No gender differences were detected in the effect of teachers' feedback and in the preferences for instructional media. The researcher concluded that school's social set-up, mathematics self-concept, perceptions of evaluation, teacher's feedback, instructional methods and instructional media are important variables in explaining SMOT. There are gender differences in SMOT, MSC, SPEM and in students' preferences for instructional methods. Teachers' output rather than quality is related to SMOT. To improve students' motivation to learn mathematics, teachers should make the subject relevant and more interesting; assure them of success, teach boys and girls separately using instructional media, group work, give assignments and mathematical games; give constant feedback and enhance their self-concept through encouragement. The researcher recommends that educational administrators, teacher educators, mathematics teachers and researchers in education should consider factors that lead to gender differences in learning mathematics and those factors that have been found to be related to SMOT in their different roles in mathematics education. Further research should be conducted to account for the unexplained 28.2% variance in SMOT.

TABLE OF CONTENTS

	PAGE
DECLARATION	i
APPROVAL OF THESIS	ii
COPYRIGHT	iii
DEDICATION	iv
ACKNOWLEDGEMENT	v
ABSTRACT	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xii
LIST OF ABBREVIATIONS AND ACRONYMS	xiii
 CHAPTER	
1.0 INTRODUCTION	1
1.1 Background Information	1
1.2 Statement of the Problem	5
1.3 Purpose and Objectives of the Study	7
1.4 Research Hypotheses	8
1.5 Significance of the Study	9
1.6 Assumption and Limitation of the Study	10
1.7 Definition of Terms	11
 2.0 LITERATURE REVIEW	 17
2.1 Introduction	17
2.2 Students' Self-concept	18
2.3 Teacher's Quality	20
2.4 Instructional Methods Used in Mathematics Classrooms	21
2.5 Instructional Media	31
2.6 Academic Motivation	33
2.7 Gender Differences in Mathematics Achievement in Kenya's Secondary Schools	 53
2.8 Gender Differences in Mathematics Participation	54
2.9 Conceptual Framework	56
 3.0 RESEARCH METHODOLOGY	 62
3.1 Introduction	62
3.2 Research Design	62
3.3 Location, Population and Sampling Procedures	65
3.4 Sample Size	70
3.5 Instrumentation	73
3.6 Data Collection and Analysis	75
 4.0 RESULTS AND DISCUSSION	 82
4.1 Introduction	82
4.2 Relationship Between Students' Background Factors and their Motivation to Learn Mathematics	 82

4.3	Relationship Between Students' Mathematics Self-concept and their Motivation to Learn Mathematics	91
4.4	Relationship Between Students' Perceptions of Evaluation in Mathematics and their Motivation to Learn Mathematics.....	95
4.5	Relationship Between Mathematics Classroom Environment Factors and Students' Motivation to Learn Mathematics	99
4.6	The Relationship Between Students' Motivation to Learn Mathematics and Each of Students' Background Factors, Mathematics Self-Concept, Perceptions of Evaluation in Mathematics and the Four Factors in Mathematics Classroom Environment.....	113
4.7	Gender Differences in Learning Mathematics among Secondary School Students	120
4.8	The Relationship Between Teachers' Quality and Students' Motivation to Learn Mathematics	133
4.9	Discussion of Results.....	137
5.0	CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS	147
5.1	Introduction.....	147
5.2	Summary.....	147
5.3	Conclusions.....	148
5.4	Implications of the Study.....	150
5.5	Recommendations	152
	REFERENCES	156
	APPENDICES	174
	APPENDIX A: RESEARCH INSTRUMENTS	174
	A1: Research Questionnaire for Secondary School Mathematics Teachers..	175
	A2: Research Questionnaire for Secondary School Students.....	187
	APPENDIX B: LETTER OF AUTHORITY TO CONDUCT RESEARCH	207