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Academic Self-Efficacy, Expectancy-Value Beliefs As Predictors Of Satisfaction And Academic Achievement Among Secondary School Students In Meru County, Kenya

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ABSTRACT
Academic achievement and satisfaction are among the learning outcomes considered as key indicators of quality education. Academic achievement of secondary school students has been an issue of concern to many stakeholders especially to the students and parents. A consistent trend of poor academic performance is evident in the summative KCSE Examinations more so in sub-county (day) secondary school students. Educationists and other stakeholders have tried to address this dismal performance by improving educational facilities and infrastructures, improving on human resource capacity among other mitigation strategies. However, little has been done to address the psychological motivational component of the students that are critical in academic achievement and satisfaction. This study seeks to examine the motivational constructs of academic self-efficacy and expectancy-value beliefs as predictors of satisfaction and academic achievement. The main purpose of the study would be to infuse self-efficacy and expectancy value beliefs into predicting and improving secondary school students learning outcomes of satisfaction (in teaching and learning process) and subsequently academic achievement. Research has found out that the more capable students judge themselves to be, the more challenging learning goals they engage in. The study is based on the social cognitive paradigm of motivation initially advanced by Albert Bandura (1986) and the modern Expectancy-value theory by Eccless & Wigfield (2002). There is need for increased attention to focus on psychological variables of motivation and their influence on learning outcomes among secondary school students. The study involved 400 students from 10 secondary schools in Meru County. Purposive sampling was used to select the 10 schools on cluster sampling basis, whereas simple random sampling was used to select 40 students in a stream. A standardized questionnaire (Students' General Academic Self-efficacy scale with 25 items, α = 0.86) was used to measure self-efficacy. Expectancy-value constructs were measured by Expectancy-value scale (with 13 items, α =0.78). Satisfaction of the teaching process was measured using a scale (with 5 items, α = 0.81). Academic achievement was measured with the exam scores by students for the first and second terms. The hypotheses were tested using Structural Equation Modelling (SEM) procedure. This study may provide new knowledge to enhance motivational constructs that blend expectancy value and self-efficacy concepts in the educational environmental contexts based on school type and subject matter analysis. Implications for educational practice can also be achieved from these findings which may provide valuable data to design instructional strategies and programmes to improve on student satisfaction and academic achievement.

KEY TERMS: *Academic Self-efficacy Expectancy-Value beliefs Satisfaction Academic Achievement*

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I. Introduction

Academic achievement and satisfaction are among the learning outcomes considered as key indicators of quality education. Academic achievement of secondary school students has been an issue of concern to many stakeholders especially the students and parents, who are the primary customers. There has been a consistent trend of poor academic performance in the summative Kenya Certificate of Secondary Education (KCSE) Examinations more so in sub-county or day secondary school students. Educationists and other stakeholders have tried to address this dismal performance by improving educational facilities and the physical infrastructures, improving on human resource capacity among other mitigating strategies. However, little has been done to address the psychological motivational factors of the students that are critical in academic

achievement and satisfaction. This study seeks to examine the motivational constructs of academic self-efficacy and expectancy-value beliefs as predictors of satisfaction and academic achievement. Research has found out that the more capable students judge themselves to be, the more challenging learning goals they engage in (Zimmerman, Bandura, & Martinez-pons, 1992)

It is noteworthy that most day-secondary school students enter high school with low marks, a number with less than 200 marks in Kenya Certificate of Primary Education (KCPE) examinations and a majority fall below 250 marks. Munanu (2016) revealed that most of sub-county secondary school students' exhibit low self-esteem compared to students found in extra-county and national schools. Conversely majority of students in extra county schools have career aspiration for high level careers as opposed to those in the sub-county schools.

Studies have found out that self-efficacy is a highly effective predictor of students' motivation. Learning students' beliefs about their academic abilities play an essential role in their motivation to achieve. Efforts to examine students self-efficacy, and expectancy value beliefs has given little attention to the role of environmental influences such as school types, contexts or domains of academic functioning, that may impact on students emotional variable of satisfaction, and academic achievement learning outcomes. In the Kenyan secondary school context, students find themselves in four school types or categories that may significantly differ in their learning environments in a number of ways.

Self-efficacy is anchored in the social cognitive theory by Bandura (1977a, 1997). Bandura initially focused and elaborated human motivation basically in terms of outcome expectations. Other researchers built on this foundation with expectancy value beliefs (e.g. Eccles, 1992). The achievement need motivation should be enhanced among students to utilize the possible self-beliefs that will propel them to self-actualization. Psychosocial strategies and enhancement programmes should be reinforced at the onset of students' entry into secondary schooling, more so in the sub-county schools. Teachers and parents must be in the forefront to remedy and boost positive self-perceptions among students. The conditions of worth experiences and social comparisons in the primary schooling environment need to be critically assessed and addressed. Primary school negative psychosocial baggage among students should not be carried forward to high school environment. When this is not addressed, it may be aggravated by the "substandard" quality sub county secondary schools, predicting low satisfaction in the learning environment. This may influence the student's self-efficacy and expectancy-value beliefs predicting low satisfaction and poor academic achievement.

Expectancy-Value (EV) theory by Eccles (1983) proposes that motivation consists of two factors that predict outcomes: Expectation and Value. Expectation reflects how much a student believes he/she can succeed in a task (e.g. related to grades) while Value denotes how the student perceives a given task as important and worth of being accomplished (e.g. related to future interests). Individual expectancies for success and importance of the course perceived by students are important determinants of their motivation to perform different tasks (Wigfield, 1994). One single question may sum up the expectancy component "Can I do the task?" Barron and Hulleman(2014) asserts that when students believe that they can do something, they are more likely to engage in that behaviour. Day secondary school students mostly enter form one with low KCPE marks. Munanu (2016) in his study relationship between school type, self-esteem, career aspirations and academic achievement among secondary school students found that most secondary school students with low self-esteem are found in day schools. The current study would be interested to find out if there is a correlation in students' expectancy value belief and school type attended. Is the poor academic achievement in day schools merely due to educational resources and entry behaviours, or there is some degree of Academic Achievement related to psychological motivational behaviours of Expectancy Value beliefs, Academic Self-Efficacy and Satisfaction? On the other hand, the Value component is highlighted by this single question "Do I want to do the task?" Barron and Hulleman (2014) argue that when students hold the belief that they value something, they are more likely to engage in that behaviour. The issue of Cost component reflects the negative aspects of engaging in an activity for example perceptions of the effort and time required to be successful, or negative psychological state such as struggling or failing at the activity (Kosovich et.al., 2014)

II. Literature Review

Bandura (1997, p3) defined self-efficacy as "an individual's belief in his or her own ability to organize and implement action to produce the desired achievements and results. Previous studies have provided strong evidence that self-efficacy is a positive predictor of performance outcomes in different subjects (Schunk et.al. 2008; Usher and Pajares, 2008). Usher and Pajares (2008) states that self-efficacy "predicts student's academic achievement across academic areas and levels" Although there has been substantial evidence that support the direct effects of self-efficacy beliefs on academic achievement, there is a scarcity of studies that have explored the motivational mechanism that mediates self-efficacy and academic achievement relationship. It imperative to understand how and why self-efficacy affects students' academic achievement, with a view to develop and eject instructional actions and programs to improve academic achievement. Academic Self-efficacy (ASE) refers to a students' global belief in his/her ability to master the various academic challenges. Nielsen et al., (2018) asserts

that ASE is an essential antecedent of wellbeing and performance. Various studies have shown that ASE is a strong predictor of students overall task performance in terms of proficiency to do well in academic tasks through making the right choices, taking the initiative to perform the most important or core tasks central to academic studies on time and to specification (Campbell& Hackett,1986; Lim &Bang, 2018; Tossavainen et.al.,2021). When students feel competent in their own academic abilities, they are better able to utilize their capabilities to prioritize the completion of competing academic tasks more effectively, are less likely to be discouraged by setbacks, less likely to procrastinate, and invest more effort into their studies (Richardson et al., 2012; Tossavainen et al., 2021)

Fernando, Laura and Amparo (2017) did a study on Self-efficacy, Satisfaction, and Academic Achievement: The mediator role of students' expectancy-value beliefs. A sample of 795 Spanish secondary education students from 36 educational settings and three schools was used. Self-efficacy and expectancy-value beliefs scales were administered at the beginning of the course, while student satisfaction and achievement was measured at the end of the course. Structural Equation Modeling (SEM) was used to analyze the data. The findings revealed that students' expectancy-value beliefs (subject value, process expectancy, achievement expectancy, cost expectancy) played a mediator role between academic self-efficacy, academic achievement and satisfaction relationship. The findings gave empirical evidence to better understand the mechanism that mediates self-efficacy-academic achievement and self-efficacy-course satisfaction relationship. The current study focuses on similar variables in a Kenyan context more so on day secondary schooling with a view of improving academic achievement.

The study by Fernandos et.al (2017) focused on course subject that used extrinsic value (utility, importance, and interestingness) and cost benefit component of value, conceptualized as a negative determinant in engaging a task due, for instance, to performance anxiety and fear of failure, and to the amount of effort needed to succeed. Extrinsic subject value refers to the perceived utility, importance, and interestingness of the subject. The students may pose the question, "what value does this subject have for me"? The expected cost-benefit relationship to pass the subject would generate a question from the student like "Will it be worth the time and effort that I will have to invest to pass the subject? Students' expectancy-value beliefs may have been generated before classes began, from previous experiences, or first days of class when students meet the teacher and find out about the study syllabus, evaluation requirements, teacher methodology etc (Domenech,2006,2011,2012,2013)

Relationship between Self-Efficacy and Expectancy- Value beliefs

Students usually ask themselves some questions when faced with a new academic task. "Can I perform the task?" (self-efficacy) and "Why should I do this task?" (Task value). If their answer to the first question is "Yes" they proceed to the next question (Keskin, 2014). This kind of rationality denotes that self-efficacy is seen to be a predictor of task value and not vice versa.

Previous research has also shown direct effect of students' self-efficacy on academic expectations. Chemers et.al (2008) argues that students with high self-efficacy have greater academic expectations and display better academic performance than those with low self-efficacy. These findings are consistent to Bandura's assertion that Self-efficacy is causally prior to outcome expectancy- that the results individuals anticipate depend mainly on their judgments of how well they would be able to perform in a given situation. (Bandura, 1997). Therefore it is assumed that, the perceived capability to perform a given behaviour (self-efficacy) causally influences expected outcomes of behaviour, but not vice versa. These findings on self-efficacy and expectancy-value variables support the notion that competence beliefs may drive students' expectations and task/subject values in the school context. That is why a keen analysis on the day schooling environment is necessary to try to understand the psychological motivational variables that may impact on the low academic achievement among day school students.

Relationship between Expectancy-Value beliefs and Academic Achievement

From previous studies, there is empirical evidence that expectancies and task-values are correlated to academic choices and achievement in specific domains like mathematics (Marsh and Yeung, 1997: Spinath et al., 2004) and Language and arts (Spinath, et.al, 2004). Recent cross-sectional and longitudinal studies indicate that expectancy beliefs significantly influence achievement, whereas subject value substantially influences choice, effort and persistence (Nagengast et al., 2011; Gasco and Virrarroel, 2014; Guo et al., 2015)

Relationship between Expectancy-Value beliefs and Satisfaction

Little has been explored on the relationship between students' expectancy value beliefs and emotional outcomes such as students' satisfaction. However, some studies seem to support that satisfaction is well explained by task value (Arttino, 2008, Diep, 2016) and by grade expectancies (Svanum and Aigner, 2011). Most researches focus on the teacher role and teacher-student interaction (Wu et al., 2010) in regard to

instructional and emotional supports as the main responsible factors of students course satisfaction. Process expectations, majorly related to the feelings that students experience during their interaction with the teacher may play the critical role to explain students' satisfaction. However, the process expectancy formed by students may be influenced in turn by self-efficacy beliefs.

Students with strong Self-efficacy beliefs perceive success outcomes, which give supportive resources, and directed performance (Bandura, 1993). Consequently, such students tend to experience more satisfaction with the teaching process than students with low self-efficacy. According to Munanu (2016) students with low-self-esteem aspired for low level careers that attracted students with below average academic performances. This would denote low self-efficacy among students in day secondary schools as opposed to students in national schools who aspired for the more high level competitive careers

Domenech-Betoret et al.,(2014) conducted a study in the University context which showed that students' academic self-efficacy had a significant and direct effect on achievement expectations, enjoyable learning expectations and expected dedication (cost) and, in turn achievement expectation, had a significant and direct effect on avoidance strategies (student outcomes).

The above discussed empirical evidences may point to a conclusion that motivational beliefs found from the expectancy-value theory may mediate the relationship between self-efficacy and learning outcomes like academic achievement and student satisfaction.

Purpose of the study

This study seeks to establish the relationship between self-efficacy, expectancy value beliefs and student's satisfaction (in the teaching/learning process) and academic achievement. The main purpose of the study would be to infuse self-efficacy and expectancy value beliefs into predicting and improving secondary school students learning outcomes of satisfaction (in teaching and learning process) and subsequently academic achievement. There is need for increased attention to focus on psychological variables of motivation and their influence on learning outcomes among secondary school students in Kenya.

Hypotheses

HO1: There is a significant direct influence of expectancy value beliefs on Satisfaction and academic achievement of secondary school students

HO2: There is an indirect influence of academic self-efficacy on academic achievement and satisfaction through expectancy-value variables. That is, there is prediction that expectancy-value beliefs would play a mediator role between self-efficacy and academic achievement (H1) and between self-efficacy and satisfaction (H2)

III. Research Methodology

The hypotheses was tested using Structural Equation Modelling (SEM) procedure with the EQS Program (Blentler, 2006)

The participants for the study would be 400 form 2 students drawn from 10 secondary schools distributed in Meru County. (1 national school, 3 extra county schools and 6 sub-county secondary schools)

Self-efficacy and expectancy-value beliefs, and satisfaction and academic achievement will be measured in form 2 first term. Academic achievement will in mathematics end of term examinations scores

This study may provide new knowledge to enhance motivational constructs that integrate expectancy value and self-efficacy concepts in the educational environmental contexts based on school type and subject matter analysis. Implications for educational practice can also be achieved from these findings which may provide valuable data to design instructional strategies and programmes to improve on student satisfaction and academic achievement which exemplifies vital learning outcomes and prominent indicators of quality education.

Data collection instruments

i. A standardized modified questionnaire (Students' General Academic Self-efficacy scale with 20 items, α = 0.86) will be used to measure academic self-efficacy. This scale is used to assess student's perception of how competent they were in academic field. The scale is based on a 4 point likert scale on their level of agreement with 1 (Strongly Disagree) to 4 (Strongly Agree) ranges.
ii. Expectancy-value constructs would be measured by Expectancy-value scale (with 10 items, α =0.78). Students would respond to the 10 items on their level of agreement on a 5-point likert scale from 1(Strongly Disagree) to 5(Strongly Agree) ranges.
iii. Satisfaction of the teaching process was measured using a scale (with 7 items, α = 0.81). Students would indicate their level of satisfaction with the teaching process using a 4-point likert scale 1(Very unsatisfied) to 4 (very satisfied) ranges. This scale was originally designed by Domenech (2011, 2012) in assessing

university students' satisfaction with the teaching process followed in the classroom for a specific subject matter.

iv. Academic achievement was measured with the marks by students for the first and second terms.

IV. Findings

Table 1: Demographic information

Variable	N	%
Male	25	58.1
Female	18	41.9
12-14	3	6.9
15-17	37	86.0
18-20	3	6.9
0ver 20	1	2.3
D and below	14	32.5
D+	12	27.9
C- C 6	10	23.2 13.95
B- & Above	1	2.3

V. Analysis and Results

Table 2. Regression Weights: (Group number 1 - Default model

		Estimate	S.E	C.R	P
Satisfaction	**Efficacy**	.144	.255	.564	.573
Grade	**Efficacy**	.082	.510	.160	.873
Satisfaction	**Expectancy**	.770	.402	1.915	.055
Grade	**Expectancy**	-.104	.809	-.129	.898

Table 3. Means: (Group number 1-Default Model

	Estimate	S.E	C.R	P
Efficacy	3.029	.069	44.062	.000
Expectancy	2.033	.040	51.265	.000

Table 4. Intercepts: (Group number 1 - Default model)

	Estimate	S.E	C.R	P
Satisfaction	1.178	1.021	1.154	.249
Grade	2.244	2.052	1.094	.274

Hypotheses analysis

HO1: There is no significant relationship between Academic Self-Efficacy and Satisfaction and Academic Achievement. p = .573, Academic Self-Efficacy and Academic Achievement, p = .873

Failed to reject HO1 (Accepted HO1). There is no significant direct influence of expectancy value beliefs on Satisfaction and academic achievement of secondary school students

HO2: There is no significant direct influence of Expectancy Value Beliefs on Satisfaction and Academic Achievement among Secondary School students

Expectancy Value Beliefs and Satisfaction, p= *.055*, Expectancy Value Beliefs and Academic Achievement, *P=.898*

Failed to reject the HO2 (Accepted HO2): There is no significant direct influence of Expectancy Value Beliefs on Satisfaction and Academic Achievement among Secondary School students

-ASE and EVB-There is a significant relationship between self-efficacy and expectancy value beliefs, p=.000

VI. Discussions

The findings differ from other previous studies (e.g.Domenech-Betoret et al, 2017). This may be explained by the small sample size and probably hawthorne effect or social desirability of the respondents. Students may have favourably answered the questions because it was administered by one of the school administrators. The study sample size may be increased to ascertain the results. As a recommendation for future research, the mediating effect of Expectancy Value Beliefs will also need to be explored between Academic Self-Efficacy and Academic Achievement and Satisfaction in Day secondary schooling within the Kenyan or African contexts.

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