Students' Attributions on Performance in Examinations: A Study of different Secondary School Categories in Nyeri County, Kenya

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Abstract

Students' attributions regarding the causes of their success or failure in examinations has continued to exercise the minds of educationists and policy makers in the world and Kenya in particular. There is a compelling need to address the fundamental basis of students' attributions on their performance in order to provide appropriate and effective intervention measures with a view to boost their achievement. This study examined the students' attributions on their academic attainment among different secondary school categories in Nyeri County, Kenya. The objectives of the study were to; assess the degree to which students ascribed their attributions on their performance in examinations to internal or external locus of control and compare students' attributions by different school categories in secondary schools in Nyeri County in Kenya. The study tested the following null hypothesis $H0_1$: There is no statistically significant difference in students' attributions on own performance in examinations to external or internal locus of control and; $H0_2$: There is no statistically significant difference in students' attributions by different school categories in secondary schools in Nyeri county in Kenya. The study adopted the descriptive survey research design. The target population consisted of 82,367 students in 245 secondary schools in Nyeri County, Kenya (Nyeri County office Education, 2018). The students were enrolled in different school categories as follows; national (6,531), county (29,184), sub-county (38,081) and private (8,571) secondary schools. The study adopted the stratified random sampling technique. Krecjie and Morgan (1971) sampling formula was used to determine the sample size of 384 respondents which was proportionately distributed to the four school categories as shown in Table 1. Data collection employed the use of a questionnaire on the sampled students. Two schools that were not earmarked for the research were used for pilot study with a sample of 36 students to test the reliability of the instrument. The Cronbach's coefficient alpha was computed on pilot study data whose results was r= 0.801 which was higher than the Kerlinger 0.7 recommended threshold of acceptance. Both the descriptive and inferential statistics were used to analyze data with the aid of the SPSS version 20.0. Results of data analysis established that learners in national, sub-county and private secondary schools attributed their performance in examinations to internal locus of control while students in county schools attributed to external locus of control. Results of hypothesis testing (Ho1) established that the differences were not statistically significant ($P= 0.200$, $\alpha< 0.05$) in the attributions of students to internal or external locus of control from the four school categories in Nyeri County. The study further revealed that students in national, sub-county and private secondary schools attributed performance in examination to internal locus of control while

students in county schools attributed their performance to external locus of control. The results of hypothesis testing (Ho2) established that the observed differences by school categories were statistically different (P= 0.200, α< 0.05). This implied that the differences in students' attributions on their performance in examinations by school categories was not statistically significant. The study concludes that the internal or external locus of control have a bearing on students' attributions on their performance in examinations. The study recommends the need to strengthen the students' psychosocial support systems such as coaching, mentorship, guidance, counseling and psychoeducation in providing assistance to students in order to shape their attributions especially towards acquisition of internal locus of control that involves taking responsibility of their actions.

Keywords: Attribution, Dunning-Kruger Effect, Locus of Control, Performance, Psychosocial Support

INTRODUCTION

Students' academic attainment has been a matter of great concern among stakeholders and policy makers in education in the contemporary world. Educationists and policy makers have persistently strived to develop innovations and techniques designed to promote high levels of academic achievement among learners. Hess (1987) asserts that though the causes of students' poor academic performance are indeed numerous, one contributing factor, that is rarely addressed, is the students' explanations of their good or poor performance. How students view their own capabilities have an impact on educational outcomes (Sahinkarakas, 2011). Attribution refers to the way individuals describe the reasons behind their own performances. According to Batool, Arif and Ud (2010) individuals largely attribute the reasons behind their behaviour to either internal or external influences. Internal attributions are the causes related to a person's intrinsic characteristics, for instance, ability, temperaments, personality, attitudes or efforts. This is also referred to as the dispositional attributions. The internal attribution parallels to the internal locus of control of a person. There are two types of locus of control, the internal and the external locus of control. The internal locus of control denotes the extent to which people believe they are in control over the outcome of events in their lives (Pearls, 2009). A person having an internal locus of control tends to attribute their success and failures to their own efforts. Whereas external locus of control describes a situation in which an individual ascribes the causes of their behaviour to factors that are external to oneself. The external locus of control affirms that individuals are helpless and have no influence over their success or failures. These external variables may include such phenomena such as the influences of other people, state of the environment or luck.

The attribution theory has been widely applied in providing explanations of underlying conceptions of academic performance among learners in academic settings. As Weiner (1985) explains, success or failure in academic undertakings is attributed to three groups of features. Individuals are inclined to describe success or failure to influences that may be internal or external, stable or unstable and controllable or uncontrollable. Where individuals have the conviction that these influences are stable, they most likely accept as true if they attempt a similar task another time then the outcome will be the same. If the influences are perceived as unstable, then it implies the outcome of presentation of a similar task may be dissimilar the next time the activity is done. Thirdly, if the causes are controllable, it implies that people have the conviction that they are capable of changing those

causes. However, if people have the conviction that the sources cannot be controlled, the implication is that it is not possible to change it (Laherand & Putnina, 2007). Also,Weiner (1985) acknowledged four factors of attribution that were associated to academic success or failure. These factors include a person's ability, effort, task difficulty and luck. Effort is perhaps the most significant factor that learners can have a lot of control. Task difficulty is a stable and an external variable that is evidently beyond the control of the learner. Despite ability being an intrinsic state, the student can have a lot of control over it since it is stable and cannot be changed easily. Luck is unstable and an external factor on which the learner has limited control. Persistence is an important element for a student to succeed in academic tasks. In a similar study, Lei (2009) argues that students tend to be more determined in their studies when they have the conception that academic performance is within their control. Consequently, for learners to have persistence in academic activities, they require a strong believe in their competence and believe that hard work can lead to success. Learners are likely to excel in their studies if they hold the attitude that failure results from absence of appropriate individual effort (Mkumbo & Amani, 2012). The teacher's role in such a situation is to nurture a confidence in learners that they have the capability to perform better in their academic endeavors if they put extra effort. Therefore, it is more fruitful when learners believe in their individual actions as opposed to attributing success or failure to external factors. It is also correspondingly imperative for learners to realize the significance of the environment in their performance and consequently avoid overrating their abilities (Pearls, 2009). The cognitive bias in which individuals overrate their competence or ability is referred to as the Dunning-Kruger effect. The Dunning-Kruger effect, which refers to a mental condition in which people with low ability at a task overestimate their ability needs to be avoided. This type of cognitive bias involving illusory superiority where individuals are unable to recognize their own ability can be avoided when appropriate psychoeducation is provided to people in order to help them rely genuinely and correctly on their internal locus of control.

A comparative study of students' attributions of success and failure was conducted on learners' academic achievement in the USA, China, Taiwan, Korea, Australia, Hong Kong, Japan, Singapore and Malaysia among high school learners. The results of those studies indicated that students from some Asian countries posted generally good performance. Researchers tried to find the causes as to the Asian students' excellent academic performance where Hess (1987), found that mothers in China attributed their children's failure more to lack of effort than the mothers from the United States. As Biggs (1992) analyzed, the learning approaches of Asian students, he pointed out Chinese students' explanations of the causes of their academic performance to the effort they put into their work.

The concerns of stakeholders in education regarding possible causes of student's performance in education provided the impetus for this study. Students' performance in examinations in Kenya and especially in Nyeri County prompted this study. The achievement in the Kenya Certificate of Secondary Education (KCSE) examination among students in Nyeri County has declined consistently between 2013 and 2017 (Nyeri County Education Office, 2018). Parents and students have expressed serious concerns regarding the academic performance, every time the KNEC releases national examination results. Diverse explanations are offered in respect to the causes of the learners' performance. The perceived causes range from poor teaching methods, assumed lack of commitment by teachers and poor facilities among other causes. There is need to address the fundamental

factors regarding student's attributions to the poor performance. Establishing these students' beliefs about the causes of their success or failure could provide more insight into understanding the vicious cycle of academic under-achievement. Although several studies have been carried out to examine the causes of poor academic performance in Nyeri County, none of these investigations have addressed students' attributions of their academic performance. This study examined the attributions of learners regarding the causes of their success or failures in examinations in secondary schools in Nyeri County in Kenya.

The performance Attributions by Students

In relation to the sources of their success or failure in examinations student attribution of this phenomenon is not clearly known and documented in the world and Kenya in particular. Available literature indicates that students tend to ascribe the causes of their behaviour to internal characteristics, referred to as dispositional attributions or the external factors also named situational attributions. The person's internal attributions and external attributions both parallel to the external and internal locus of control that significantly contributes to an individual's explanation on the cause of their actions. In the world and Kenya in particular, there is paucity of empirical data that explains the contribution of a person's internal or external locus of control to their academic performance especially for students in Nyeri County. In Nyeri County, learners' academic achievement in the Kenya Certificate of Secondary Education (KCSE) examination has declined consistently throughout the years to the present. The Ministry of Education, students and stakeholders have tended to provide diverse explanations regarding the causes of the learners' performance in the KCSE examination. The explanations offered reverberate on either internal or external attributions in respect to the learners' performance. This study examined the attributions of learners on their performance in examinations in secondary schools in Nyeri County. The study examined the students' external and internal locus of control regarding the causes of their performance in examinations. It also compared the student's attributions by school categories on the causes of their performance in examinations in secondary schools in Nyeri County. The findings of this study provide valid reliable data as to the cause of students' performance resulting from either students' external or internal locus of control.

Objectives of the Study

The study was guided by the following objectives:

i. Assess the extent to which students ascribe their attributions on their performance in examinations to internal or external locus of control.
ii. Compare students' attributions by different school categories in secondary schools in Nyeri county in Kenya.

Hypothesis

The study tested the following two null hypothesis:

i. $H0_I$: There is no statistically significant difference in students' attributions on their performance in examinations to internal or external locus of control.
ii. $H0_2$: There is no statistically significant difference in students' attributions by different school categories.

Theoretical Framework

The study was based on the attribution theory developed by Heider (1958), and later modified by Rotter (1975). This theory describes that the reasons people provide about the causes of their actions and behavior can be classified as either emanating from internal or external characteristics. The external and internal attributions are

also referred to as the internal and external locus of control respectfully. The attribution model was further improved by Weiner (1985; 1986; 1992; 2005; 2006) research which undoubtedly specified people's varied opinions pertaining to the reasons why certain events happened to them. Weiner's model has been found to be very informative in research related to students learning in school contexts.

The model gives an outline of the procedures that students form underlying their beliefs (Weiner, 2005). Thus, the theory of attribution presents a significant framework for probing and understanding peoples' beliefs with regard to how particular events happen and associates those views to consequent motivation that may predict performance. The theory provided the model for examining the students' attributions for their failures and success in examinations in secondary schools in Nyeri County, Kenya.

Students Learning Outcomes

The theory of attribution is based on the assumption that individuals attribute their performance or behavioural outcomes to influences that allow them avoid undesirable emotive feedbacks or hurt feelings to their ego. Naturally, human beings have a predisposition to attribute achievement to their personal abilities or efforts. On the other hand, people are inclined to attribute disappointments to outside influences that are beyond their control (Augoustinos, 2005). Consequently, learners have a tendency to attribute good performance in tests to their abilities or efforts, while at the same time attributing poor performance to environmental influences. The environmental influences may include such variables as poor instruction, lack of instructional resources or just bad luck. This suggests that the attributions of individuals to their success or failure determines the effort the individual puts towards a certain activity (Sahinkarakas, 2011). In this regard, individuals who attribute the cause of a certain event to external factors are unlikely to put extra effort on the task as compared to the person who attributes internally. The attribution theory has been applied in explanations of how people explain causes of their success or failures in tasks and in providing insights why low and high achievers exhibit different levels of motivation (Murray & Thomson, 2009). There are diverse scholars who have attempted to explain how attribution theory can be used in explaining the causes of behavior of individuals.

The Weiner (2006) model explains how attribution theory can be used to describe the causes of students' learning outcomes. A fundamental hypothesis of Weiner's theory is that the environment and individual differences among students influence performance. Environmental factors comprise of such variables as learner's home and school, while personal factors consist of previous experiences and knowledge. The features of attribution are categorized using three dimensions: stability, locus and controllability which define Weiner's theory (Leferancois, 2000). These vital dimensions influence a students' ensuing motivation in performance of an activity or task.

Locus of control dimension ascribes the causes of a person's behavior to either intrinsic or extrinsic characteristics. For instance, a student who believes that his failure in an examination was as a result of lack of ability, then he is indicating an intrinsic origin (Batool, Arif & Ud, 2010). In contrast, a student who believes that her failure in the examination was as a result of poor teacher incompetence, she is indicating an external cause. The stability dimension denotes whether the source of the cause is unstable or stable across situations and time (Nenty, 2010). If a student believes that her failure in a mathematics examination is due to her lack of ability in

mathematics, then her cause is stable, specifically if she believes that her lack of ability in mathematics is forever. On the other hand, if a student believes that his failure in the examination is due to illness during the examination, then the source of failure is unstable since illness is a passing factor (Wilson & Linville, 1982). When a learner attributes success, to stable causes this leads to optimistic expectations that in future success can still be achieved.

When a student is faced with almost sure failure, his failure attributions to stable causes leads to pessimistic outlook into the future. Controllability dimension denotes if the causes of the events are perceived as within individual's control (Weiner, 2006). In athletics a runner who believes that he has lost a competition on account that the practice he did was inadequate, then the cause can be taken as controllable due to the fact that it was within his reach to decide to spend additional time practicing. On the contrary, if the athlete is of the opinion that his failure in the race is simply because he does not have the ability as a competitor, then in that case the cause cannot be controlled. In this regard only intrinsic attributions are controllable (Weiner, 2006). The internal attributions strongly ascribe the causes of a person's behavior outcomes as emanating from the individuals' dispositional attributions that is the internal locus of control as opposed to situational attributions that is the external locus of control.

Like the Weigner theory further specifies, some emotive responses are related to numerous causal dimensions (Weiner, 2006). The theory confirmed that the dimension of locus of control is associated to self-esteem or pride. Individuals experience a feeling of pride in success if they have confidence that internal characteristics were the cause of their achievement. The dimension of stability dimension is associated with feelings of pessimism or optimism. The controllability dimension is connected to feelings for instance shame, anger, guilt, pity and gratitude. The Weiner (2006) model thus provides a framework for analyzing a person's causes of their behaviour as being caused by either internal or external attributions.

METHODOLOGY

The study adopted the descriptive survey research design. The target population consisted of 82367 students in 245 secondary schools in the Nyeri County, Kenya (Nyeri County Education Office, 2018). The students were enrolled in different school categories as follows; national (6,531), county (29,184), sub-county (38,081) and private (8,571). The study adopted a stratified random technique. Using Krecjie and Morgan (1970) sampling formula, to determine the size, a sample of 384 respondents which was proportionately distributed to the four school categories as shown in Table 1 was picked. Data collection involved a questionnaire from the sampled students. Attribution was measured by means of eight items in a Likert scale that ranged from strongly agree (4), agree (3), disagree (2), and strongly disagree (1) contained in the questionnaire. The mean scores of the eight items were computed for each school category. The minimum possible mean score was one (1), the highest was four (4) and the midpoint was 2.50. The mean scores were operationalized and interpreted as follows; mean scores below 2.50 indicated external locus of control while those from 2.50 and above indicated internal locus of control (Welch, 2011). Two schools that were not earmarked for the research were used for pilot study with a sample of 36 students to test the reliability of the instrument. The Cronbach's coefficient alpha was computed on pilot study data whose results was r= 0.801 which was higher than the Kerlinger 0.7 recommended

threshold of acceptance. Data analysis used both the inferential and descriptive and statistics using SPSS version 20.0.

Table 1: Population and Sample

	School Category	No. of Schools	No. of Students	Learners Sampled
1	National	4	6531	31
2	County	55	29184	136
3	Sub County	173	38081	177
4	Private	13	8571	40
	Total	245	82367	384

RESULTS AND DISCUSSION

The results and discussion of the study are presented in accordance with the stated objectives and hypotheses upon which the research was anchored. This was conducted as follows;

The first objective assessed the degree to which learners ascribed their attributions on performance in examinations to internal or external locus of control. Attribution was measured by means of eight items in a four-point Likert scale that ranged from strongly agree (4) agree (3), disagree (3) and strongly disagree (4). The mean scores and standard deviation of the eight items were computed for each school category. The minimum possible mean score was one (1), the highest was four (4) and the midpoint was 2.50. The mean scores were operationalized and interpreted as follows; mean scores in the range 1.00 - 2.50 indicated external locus of control while those in the range of 2.50-4.00 indicated internal locus of control (Welch, 2011). Analyzed data presented on Table 2 revealed that the mean scores of students according to school categories were as follows, national ($\bar{x}$=2.45), county ($\bar{x}$=2.36), sub-county ($\bar{x}$=2.20) and private ($\bar{x}$=2.35). The mean scores of all the four school categories gave mean scores in the range 1.00 – 2.500. These results implied that learners attributed their success or failure in examinations to external locus of control. Results of the study established that learners in national, county, sub-county and private secondary schools attributed the causes to their performance in examinations to external locus of control. These results have significant suggestions to educational practice and learner motivations. According to attribution theory, propounded by Weiner, (1985), failure or success in learning tasks is related to external or internal influences, thus, due to factors that have their origin from within the person or due to influences that originate in the environment. Persons with internal locus accept as true that events that occur in their lives originate largely from their individual activities. For instance, if persons with internal locus of control fail to perform to their expectations in an examination, they would blame themselves for inadequate preparation. Whereas if the test performance was good, they would attribute this to their capability to learn (Murray & Thomson, 2009). Similarly, when a person with external locus of control fails in a test, he may attribute the failure to the test items being difficult. While when such a person performs well in a test, he may contemplate that he was lucky or the examiner was lenient (Ryan & Deci, 2000). Table 2 presents a summary of the findings.

Table 2: Students' Attributions for Failure and Success in Examinations to Locus

Category of school	Mean ($\bar{x}$)	Standard Deviation (s)
1. National	2.45	.25
2. County	2.36	.34
3. Sub County	2.20	.32
4. Private	2.35	.36

It had been hypothesized that there was no statistically significant difference in the extent to which students in different schools attributed failure or success in examinations to locus of control. Descriptive data analysis revealed that differences existed in the students' attributions according to school category. In order to establish whether significant statistical differences existed among students' attributions of academic performance to locus of control in the four school categories, the first null hypothesis was tested, which was;

Ho_1: There is no statistically significant difference to the extent to which students in different school categories attribute success and failure in examinations to locus of control.

To test the hypothesis, the one-way Analysis of Variance (ANOVA) was computed. Results presented in Table 3 show that there was statistically significant difference in the attributions of students to locus of control from national, county, sub-county and private secondary schools in Nyeri County. The computed P value = 0.200 was greater than the alpha value ($\alpha < 0.05$). Therefore, the null hypothesis was rejected. The conclusion was that the students' attribution regarding success or failure in examinations among learners from the four school categories was different.

Table 3: Results of Analysis of Variance of Attribution in performance in Examinations to Locus of control

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23.468	19	1.235	1.293	.200
Within Groups	118.469	124	.955		
Total	**141.938**	**143**			

The second objective compared students' attributions by different school categories in secondary schools in Nyeri County. Ability was measured by means of 10 items in a Likert scale that ranged from strongly agree (4), agree (3) disagree (2) and strongly disagree (1). The responses obtained were used to compute a mean score and standard deviation which were used to rate learner's attributions of failure or success to ability. The minimum possible mean score was one (1), the highest was four (4), the greater the mean the greater the students' attribution of examination failure or success to ability (Welch, 2011). The results of the study revealed that learners from national secondary schools had the highest mean score ($\bar{x} = 2.70, s = .32$), county schools ($\bar{x} = 2.67, s = .30$), sub-county and private schools had a mean score of ($\bar{x} = 2.53$). The mean scores indicate that the students' attribution of success or failure in examinations due to ability progressively decreased from national schools, county to sub- county secondary schools. The results are presented on Table 4.

Table 4: Students' Attributions on performance in examinations by School Category

		Ability	
	Category of school	**Mean score ($\bar{x}$)**	**Standard Deviation (s)**
1.	National	2.70	.32
2.	County	2.67	.30
3.	Sub-county	2.53	.30
4.	Private	2.53	.28

The same patterns and trends are observed in national examinations; national schools post the highest mean scores followed by county and lastly sub-county schools. Since students differ in terms of intellectual ability, they also differ in terms of causal attributions to academic achievement. High achievers in examinations often attribute the causes of their victory to intelligence and ability while low achievers attributed grounds of poor performance to inability and examinations being difficult (Le Foll, Rascle & Higgins, 2006). Additionally, causes of failure or success are either unstable or stable. If individuals have the faith that the influences are stable, they most likely have the conviction that the result of their achievement will be the similar when they try an identical task in future. If the influences are considered to be unstable, it implies that changes can occur and thus the results of achievement can be dissimilar when the activity is carried out the next time. This concurs with Boekaerts, Otten, and Voeten (2003) whose study revealed that poor performance in majority of academic disciplines was attributed to the learners' lack in ability. These findings support previous studies such as Siegle and McCoach (2007) who established that when learners attribute their achievement to capability or obtain reaction that links their achievement to ability, then they acquire greater self-efficacy which leads to opportunities and success in future.

In order to establish whether statistically significant differences existed among students' attributions of academic performance to ability in the four school categories, the researchers tested the first null hypothesis which was;

$H0_2$: There is no statistically significant difference in students' attributions by different school categories in secondary schools in Nyeri County in Kenya.

One-way Analysis of Variance (ANOVA) was computed to test the hypothesis. The statistical relationship between the levels of attribution of success and failure in examinations among learners in the four categories of schools to ability was presented as shown in Table 5. The findings revealed that the differences in the attributions of students for examination success and failure from the four school categories of schools in Nyeri County were statistically significant. The computed P value = 0.380 was greater than the alpha value ($\alpha < 0.05$). Thus, the null hypothesis was rejected. The conclusion was that the students' attribution of their performance in examinations was different from the national, county, sub-county and private schools.

Table 5: Results of Analysis of Variance of Students' Attributions on performance in Examinations by School Category

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.773	3	.258	2.883	.038
Within Groups	12.510	140	.089		
Total	**13.283**	**143**			

These results profoundly give important implications on students' motivation and subsequent education attainment in different school categories. Though there are many desirable outcomes when learners attribute success to ability, there are hidden perils associated with it. A study conducted by Del Siegle, Rubenstein, Pollard and Romey (2009) on 262 students found out that learners' insights of their aptitude were positively associated to their confidence that capability contributes to good performance. These findings implied that learners who perform very well academically tend to view ability as imperative, whereas learners with poor performance tend to perceive ability as unimportant. Extensive scholarship reveals that the way students view ability may predict academic performance.

CONCLUSION AND RECOMMENDATIONS

The study established that students in all the categories of secondary schools attributed examination performance to external locus of control. Test of the first null hypothesis indicated that the difference was statistically significant ($P= 0.200$, $\alpha< 0.05$) in the attributions of students' performance in examinations due to their locus of control from national, county, sub-county and private secondary schools in Nyeri County. The study further revealed that the students' attributions on failure or success in examinations to internal locus of control was highest in national schools, followed by county, sub-county and private secondary schools. Tests of null hypothesis revealed that the differences between students' attributions on account of their locus of control and school categories were statistically significant.

From the study findings, it was recommended that there is need to strengthen the psychosocial school support systems on students in order to deepen their internal locus of control so as to internalize individual responsibility on personal actions and behavior outcomes. This implies the need to strengthen psychosocial support systems such as mentorship, psychoeducation, coaching, guidance and counselling programmes in schools with a view to inculcate in students' mental cognitions especially the internal locus of control regarding their academic performance.

Conflict of Interest

The authors declare no conflict of interest.

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