

Relationship between Altruism and Academic Achievement of Students in Secondary Schools in Kenya

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Abstract: The number of students quitting school before passing their matriculation examination is a major cause for concern. A highly qualified workforce is necessary due to the acceleration of technological advancement and the emergence of new, more challenging job prospects. Since underachievement hinders the growth of the labor force, each student should be encouraged to perform at his best level. A perfect school environment gives better chances of a better performance. However, many students in Kenya, particularly in Githunguri Sub-County, whose performance has been very low, and the underlying Social Adjustment Indices that influence their Academic Achievement at secondary school have not received appropriate research. Determining the Influence of Social Adjustment Indices on Academic Achievement among students in public secondary schools in Githunguri Sub-County, Kenya, was the main goal of the current study. Among students in public secondary schools in Githunguri Sub-County, the following objectives were set to determine the relationship between Altruism and academic achievement. The concurrent embedded research design was used using Creswell's mixed method technique. The selection of the participating schools and students was done using stratified random, purposive, and saturation sampling procedures. A population of 2787 students, 38 deputy principals, and 38 teachers of guidance and counselling were selected for the study, from which 350 form two students, 15 deputy principals, and 15 instructors of guidance and counselling made up the study sample. For data collection, the present study included questionnaires, interview schedules, and document analysis. A pilot study used 35 form-two students from four public secondary schools in the Githunguri Sub-County. Two specialists from Jaramogi Oginga Odinga University of Science and Technology verified the validity of the instruments. Using Cronbach's alpha, internal consistency was employed to determine the instrument's reliability, and a reliability coefficient above 0.7 was found. The Statistical Package for Social Sciences (SPSS) version 22.0 examined quantitative data. Inferential statistics involved Pearson Product Moment correlation coefficient, simple and multiple regression analysis, and ANOVA, and descriptive statistics covered frequency counts, percentages, averages, standard deviation, and variance. Hypotheses were evaluated at a 5% level of significance. Thematic analysis was employed to examine qualitative data. Altruism and Academic Achievement were also found to be positively correlated ($n=308$, $r=.144$; $p=.012$). According to the present study's findings, Social Adjustment Indices should be incorporated into school guidance and counseling policies and practices since they have a major impact on academic attainment.

Keywords: Academic Achievement, technological advancement, public secondary schools.

I. INTRODUCTION

In order to be prepared for post-secondary education, all students should master the learning outcomes for 21st century skills, which include altruism. According to The Partnership for 21st Century Skills (2015), students should be encouraged to improve their leadership and responsibility skills in order to acquire the career and life skills required for success in the twenty-first century.

The leadership and responsibility domains include specific outcomes for leading by example and sacrificing for others, as well as acting with the interests of the larger community at heart. Comprehensive high schools must create programming that allows students to take part in volunteer and charitable activities if they are to attain these objectives experientially. Altruism, prosocial behavior, and volunteering are all interconnected within the theoretical framework of helping people in need. If students are to achieve these goals experientially, comprehensive high schools must develop programming that enables students to participate in voluntary and charitable activities.

Within the theoretical framework of assisting those in need, altruism, prosocial conduct, and volunteering are all interconnected (Aboramadan, 2019). The scientific community mostly concentrates on adults, college students, and young students when studying altruism and volunteering among people. Social psychology, which focuses on people's individual motivations, is built on the principle of altruism. According to the social psychology school of thought, people mostly act in their own best interests rather than out of a sincere or altruistic desire to care about others (Aboramadan, 2019). This interpretation of the selfish person is consistent with egoistic viewpoints of people acting to further their own interests, such as obtaining mental tranquility by avoiding guilt and shame (Aboramadan, 2019). Egoism is shown to be in direct conflict with a person's ability to act solely in their best interests. Altruism Schools are crucial in helping students learn values. Although there isn't agreement on the principles that will be taught to pupils at this time, a list of the values that should be taught and turned into behavior in a democratic school culture can be listed as Altruism, independence, pluralism, diligence, love, equality, tolerance, patriotism, respect for differences, compassion, benevolence, success, peace, responsibility, integrity, diligence, freedom, fairness, sensitivity, solidarity, and happiness are just a few of the virtues that people who exhibit these traits exhibit (Häyry, 2022).

Social psychologists as well as other social scientists and intellectuals have long been intrigued by the altruism conundrum. Altruistic acts for others might occasionally lead to the paradox of altruism. This goes against the tenet of motivational theories that claim people only act in their own self-interest. One of two approaches can be used to overcome the altruism issue. One tactic is to search for the underlying personal incentives that may act as a motivator for what may appear to be altruistic prosocial activity. The second is the claim that regardless of any potential for profit, an individual act in ways that benefit others. Theories and research on prosocial behavior employ both strategies to address the altruism conundrum (Berry, Hoerr, Cesko, Alayoubi, Carpio, Zirzow, & Beaver, 2020).

II. REVIEW OF RELATED LITERATURE

Altruism and Academic Achievement

According to Batson, Ahmad and Stocks (2011) altruism is the art of people having unselfish concern where their desire in doing things for the sake of helping not because one is out to help but because they want to assist as a matter of responsibility to do so. They further argue that altruism motive in an individual is that wish geared towards assisting an individual who is in distress with little or no regard for the helper's self-interest. They further argue that altruistic assistance is through a willing desire to help as motivated by the person in need's welfare.

A study by Devries, Rathmann and Gebhardt, (2018) carried out in Germany looking at how prosocial behaviour and peer problems and academic development established a significant positive association between the two variables. The study which was based on data from the German National Education Panel Study (NEPS), applied the structural equation modeling (SEM) to model the effects of prosocial behavior and peer problems on performance in both mathematics and English with populations of both 3,310 and 3,308) respectively and for both class 5 and 7 respectively. The study established that performance in the two subjects had a positive correlation with social behaviour. The study further observed that peer problems had a positive and significant association with subject grades though the model fitted poorly with a less fifty percent. Whereas this reviewed study was purely quantitative, the current study used mixed approaches and conducted locally where no literature has been recorded on the same. This is the gap that this study therefore endeavored to fill.

Meyzari and Dasht, (2016) carried out a study in Islamic Azad University to find out the relationship of altruistic behavior, empathetic sense, and social responsibility with happiness among university students. A sample size of 300 university students was used. Data obtained and analyzed using inferential statistics showed that there is a significant positive association between happiness, altruistic behaviour and social responsibility. These indicated that happy individuals demonstrated more corporative and are more satisfied with their residence. The reviewed study further found that there was a significant association between positive feelings and empathy. The study was deemed unique from the other studies

in the study area, because it drew its population from secondary schools unlike other studies which had more concentrated on the university students. The reviewed study further differed from the current study since whereas this reviewed study had established literature between positive feelings and empathy, the current study sought to establish the association between Social Adjustment Indices and Academic Achievement among secondary school students in Kenya.

A study by Yulianto and Yufiarti, (2018) which was based on the cooperative learning to train children's prosocial behavior of students using picture and picture (PAP) and Student Teams-Achievement Divisions (STAD) in Ngasem District, Kediri Regency in East Java Province observed a significant positive association between the learning model and level of independence for student's prosocial behavior. The study was carried out in two kindergartens using a quasi-experimental research method in a bid to explain the relationships between the two variables. A suitable sample of 48 learners was selected to represent the study population in the study which employed experimental design. Whereas the reviewed study which consisted both quantitative and qualitative designs generated information on cooperative learning to train children's prosocial behavior of students, it failed to fill the gaps in the possible effect of Social Adjustment Indices and Academic Achievement among learners. Further, there is a gap that needed to be filled given that the study was carried away in Indonesia, it left a geographical gap that the current study sought to fill.

A study by Siu, Shek and Lai (2012) which inquired into the variability of prosocial behavior among Chinese adolescents in Hong Kong, established a positive and significant correlation between among prosocial behavior prosocial norms, pragmatic values, moral reasoning, and empathy. The study used a study sample of 518 secondary school learners and the quantitative tool to collect data from the respondents and analysis conducted through descriptive and inferential statistics. Whereas the reviewed study used survey design in its quest to collect data, it left a gap in that descriptive survey design was not used to gain advantage of the qualitative aspect of data collection. Further the study suffers a geographical gap in that the current study is based locally in Kenya where similar studies are limited in literature.

Parchment, Small, Osuji, McKay and Bhana, (2016) in South Africa carried a study to establish how the social-emotional health living affect community's health in and how it impacts on poverty and food scarcity in the children's prosocial skills and behaviour. The study used Structural Equation Modeling in determining the association between neighborhood social cohesion and caregiver report of child's prosocial behavior with caregiver's mental health as a moderating variable. The study used a sample size of 478 children. Observations from the study indicated that the more caregivers experience their communities as socially cohesive, the better their social-emotional well-being, thus positively related to their reports of children's prosocial behavior. The study also observed that the households led by the male gender had better association social-emotional as opposed to the households led by female gender household heads. The study concluded that there were positive and significant associations between male caregivers and children mental health. Whereas there is literature available on the effect of male gender led households on mental health, there is paucity of literature in a study where qualitative aspects factored in the study given that the study herein was purely quantitative. Hence, the current study encompassed mixed methods a gap that was left in the study by parchment et al. (2016).

A study by Quain, Yidana, Ambotumah, and Mensah, (2016) in Ghana which targeted to find out Pro-Social Behavior amongst Students of Tertiary Institutions: An explorative and a quantitative approach; established an association between gender and location factors as independent factors and prosocial behavior as dependent factor was highly positive amongst the students. The study was explorative in nature and based on theorization underpinning the theme of the study. The study adopted a quantitative approach with a study sample of 520 respondents with questionnaires used as the quantitative tool for data collection and quantitative analysis techniques employed in the analysis. Whereas the study by Quain et al. (2016) used university students as the study sample, there is a gap left out which the current study endeavored to establish using the secondary school students who are adolescents. Further there is a gap of the spread of the area of data collection given that whereas the study herein used one university, the current study used 13 secondary schools in collecting data.

Rosaline and Kehinde (2014) conducted a study in Nigeria and carried out an Assessment of Knowledge Sharing Behaviours of Postgraduate Students in Selected Nigerian Universities. The reviewed study assessed the knowledge sharing behaviours of postgraduate students in selected Nigerian Universities. The reviewed study focused on knowledge sharing practices of postgraduate students, media of knowledge sharing, commonly shared knowledge and factors that influences postgraduate students' knowledge sharing behaviours. The reviewed study employed a descriptive survey design. The Study used a sample size of 503 postgraduate students. The analysis of the reviewed study data revealed that (55.6%) of the postgraduate students preferred face-to-face knowledge sharing to other media. The analysis further showed that knowledge in the areas

of individual studies was the most commonly shared knowledge among the majority (92.8%). The reviewed study further revealed that of the three identified factors (individual, institution and technology factors) influencing knowledge sharing among the postgraduate students, only individual factor was shown to significantly influenced students' knowledge sharing behaviours.

The reviewed study came to the conclusion that information sharing is still a major topic of discussion in knowledge management. This is due to the fact that it has been acknowledged as the essential component of productivity and performance in both business, industry, and academia. The findings of the study under consideration demonstrated the necessity of encouraging postgraduate students at Nigerian universities to share their knowledge. The reviewed study concluded that Knowledge sharing remains a central focus in knowledge management debates. This is because it has been recognized as the key element of performance and productivity both in commerce and industry as well as in the academics. The outcomes of the reviewed study revealed the need to encourage knowledge sharing practices among postgraduate students in Nigerian universities. This is because it has the potentials to influence students' academic performance and improved learning outcomes. The reviewed study by Rosaline and Kehinde, (2014) was done using University students who are predominantly adults while the current study used students in secondary schools who are adolescents and that was the gap to fill in the literature.

Tsehay, Mulatie, Sellakumar and Begashaw, (2014) carried a study on Prosocial behaviors and Identity statuses among adolescent students, Addis Ababa Ethiopia. The purpose of the reviewed study was to investigate prosocial behavior and identity status of adolescent students in Secondary and Preparatory School. A sample size of 968 students was used. Quantitative analyses (both descriptive and inferential statistical) were used to analyze the obtained data. The reviewed study showed that most students did not achieve their identity. As compared to male students, female students participated more in overall prosocial behavior. More specifically, female students reported higher involvement in emotional, altruism, anonymous and public prosocial behaviors. There was significant mean difference in prosocial behaviors involvements among students categorized under foreclosure, moratorium, and diffusion and achievement identity statuses. Identity foreclosed students reported highest involvement in emotional, dire, compliant, and public prosocial behaviors. Besides, students who have achieved their identity reported more involvement in altruism and anonymous types of prosocial behaviors. However, students with identity diffusion reported least involvement in all forms of prosocial behaviors.

The reviewed study further found out that most adolescent students in Debre-Hial Saint Raguel Secondary and Preparatory School did not achieve their identity. As compared to male students, female students reported higher overall prosocial behavior score. A significant mean difference in the emotional prosocial behavior was found between male and female students where females' score surpasses over males. In other words, female students reported that they help others in emotionally provocative situation than males do. Though not significant, female students' mean scores in public, altruism, dire, and anonymous was also greater than female students. Much more than male students, female students reported that they help others in front of others (public prosocial behavior), help others without expecting return (altruism prosocial behavior), help others irrespective of who the needy are (anonymous prosocial behavior), and give help when others are in a crises or emergency circumstances (dire prosocial behavior). But in the case of compliant prosocial behavior, male students reported higher than females. That means, as male students reported, they better help others when they are verbally and none verbally requested by the needy. Generally, female students were found to be involved more in overall prosocial behaviours as well as in most types of prosocial behaviors.

In addition, there was a significant mean difference in overall prosocial behavior among students with diffusion, foreclosure, and moratorium and achievement identity. Identity foreclosed students reported the highest overall prosocial behaviors as compared to other students with the rest identity status. Identity diffused students were least involved in prosocial behavior. Here sex of students did not influence their involvement overall prosocial behavior among students with the four identity statuses. Regarding differences in each prosocial behavior among students with the four identity statuses, there was significant mean difference. In public, emotional, dire and compliant prosocial behaviors, identity foreclosed students reported the highest mean score followed by identity achieved and moratorium. But students who have achieved their identity obtained highest mean score on anonymous and altruistic prosocial behaviors which is followed by identity foreclosed. The reviewed study concluded that the commitment identity dimension of identity predicts better involvement in prosocial activities and identity diffused students reported the least mean scores on all prosocial behaviors types. Reviewed study by Tsehay et al. (2014) was quantitative in nature and lacked qualitative dimension which could have presented participants' feelings and experiences. Therefore, the present study adopted a mixed methods approach to fill in gaps in literature.

Brubaker, Bocamea, Patterson and Winston, (2016) carried out a study in Rwanda to find out the effects of servant leadership on two types of organizational citizenship behaviors (altruism and courtesy). The sample for the reviewed study was 194 adult Rwandans working in non-government settings. Descriptive statistics was used to summarize data while quantitative data was analysed through linear regression. Analysis of the reviewed study showed adequate support for the full mediation effects of perceived leader effectiveness on the relationship between servant leadership and both forms of organizational citizenship. However, concerning the moderating effects of exchange ideology in the mediation models, exchange ideology only moderated the mediation model with respect to courtesy and not altruism. However, reviewed study by Brubaker et al. (2016) was done using adults unlike the present study which used students in secondary schools who are adolescents and that was the gap to fill in the literature.

Milinga and Possi, (2015) carried a study in Tanzania and analyzed sighted students' prosocial behaviour towards assisting their peers with visual impairment (VI) in inclusive secondary schools in Iringa Municipality, Tanzania. An embedded single case study design was used. The study utilized a sample of 76 respondents, consisting of teachers and students with and without visual impairment participated in the study. Data was collected through semi-structured and face to face interviews, focus group discussions, and closed-ended questionnaires. Data was analyzed through thematic analysis and presented in tables and quotations of participants' actual words. The findings of the reviewed study indicated differences in prosocial behaviours between sighted day-students and sighted boarding students with the latter being more prosocial as a result of altruistic and egoistic factors; having a positive attitude and due to the influence of religion and school administration. Similarities between sighted students and those with visual impairment were linked to sighted students' prosocial behaviour. The latter students' attributions, and misunderstandings among students, determined their prosocial behaviour towards assisting their peers with visual impairment.

The reviewed study concluded that there was need to raise awareness and sensitization of members of the community, as well as replicating the study in inclusive and coeducation schools for students with visual impairment. The reviewed study by Milinga and Possi, (2015) used a small sample size of 76 which was not comprehensive enough to draw conclusions unlike the present study which used a sample size of 350 students which was comprehensive enough to generalize the present study findings and that was the gap to fill in the literature.

Haroz, Murray, Bolton, Betancourt and Bass, (2013) carried out a study in Uganda to determine relations between prosocial behavior, perceived social support, and improvement in depression and anxiety symptoms. A sample of 102 adolescents was used. Adolescents were assessed using a locally developed screener. Regression analyses measured the association between resilience factors and mental health outcomes. The reviewed study findings indicated that high levels of baseline prosocial behaviors were associated with improvement in anxiety symptoms among adolescents with high symptom improvement. Experiencing caregiver loss modified the present association for depression symptoms. Baseline social support was not associated with improvement in depression or anxiety. The reviewed study concluded that prosocial behavior is associated with increased resilience. However, the reviewed study by Haroz et al. (2013) was quantitative in nature and lacked qualitative dimension which could have presented participants' feelings and experiences. Therefore, the present study adopted a mixed methods approach to fill in gaps in literature.

Muthuri, (2018) carried out a study in Kenya at the United States International University (USIU-A), on Predictors of altruistic behavior among sample of emerging adults. The purpose of the reviewed study was to assess predictors of altruistic behaviour among a sample of emerging adults at the United States International University (USIU-A). The reviewed study was conducted among a sample size of 141 students. Multivariate regression analysis was carried out to assess predictors of altruism.

The reviewed study findings reported that among emerging adults' altruistic behavioural trends were predicted by majorly age, presences of religion, and group size. However, gender, number of siblings, year of study and participants school were not statistically significant predictors of altruism among emerging adults. Furthermore, 71% of emerging adults suggested that socialization can be used to create awareness of altruism and its significance in society.

The reviewed study concluded that Altruism in emerging adulthood increases positively as individuals' grow from age 18 years to 25 years. Gender related stereotypes on altruism should be diminished as they do not influence self-reported altruism among emerging adults. Creation of awareness through social agents or actors will contribute greatly to nurturing altruism among emerging adults. The reviewed study by Muthuri, (2018) was done using university students who were predominantly emerging adults while the present study used data from secondary school's students who are adolescents and

that was the gap to fill in the literature. Further, the reviewed study was done using one University and so generalization of the research findings was not comprehensive while the current study collected data from 13 secondary schools of various categories.

Nyaga, (2011) carried out a study in Westlands Division of Nairobi County in Kenya on relationship between teacher altruism and the level of altruism in pre-school children. The study used descriptive and employed ex post facto design. A sample size of 24 (Twenty-four teachers), one from each of the twenty-four schools representing four categories and six children of preschools from each respective school were randomly selected for the study from a divisional schools list. Findings of the reviewed study showed that there was a significant correlation between children's display of altruistic behaviour and teachers' display and reinforcement of altruism. The main modeling attributes teachers displayed were helping, sharing and volunteering, while protecting, comforting and empathizing were least modeled. The main reinforcement attributes that teachers used were praising and thanking while patting, rewarding and hugging contributed very little. There was no significant difference between teachers' training and their display of altruism, and neither was there any difference between boys and girls in their display of altruism. Children displayed four modes of altruism, general altruism directed to anybody who is not a relative and it is not reciprocal); kin altruism; induced altruism and reciprocal altruism. The attributes most observed were sharing, helping and volunteering. Children's altruistic behaviour was correlated with teacher modeling at $r = .484$ and with teacher reinforcement at $r = .387$. Direct teaching of altruism seemed to be of little value. Display of altruism was 3.1% in children while that in teachers was 6.5% for modeling and 4.5% for reinforcement, respectively on a score scale of 0 – 18 %.

The reviewed study concluded that pre-school teachers do display altruism although the levels were low; and that children can learn altruistic behaviour from their teachers mostly by modeling and reinforcement, thus confirming Bandura's social learning theory. The reviewed study by Nyaga, (2011) was done using pre-school children who are pre-adolescents while the current study used students from secondary schools who are adolescents and that was the gap to fill in the literature. Further, the reviewed study was quantitative in nature and lacked qualitative dimension which could have presented participants' feelings and experiences. Therefore, the present study adopted a mixed methods approach to fill in gaps in literature.

Ruingu, (2014) carried out a study to establish the effects of social protection programmes on social network among the elderly persons in rural areas in Githunguri Sub-County. The reviewed study sought to realize three objectives which included: To find out effects of the social protection programmes on individual, families and community social relationships to the elderly persons; To find out changes that has occurred in beneficiaries' social networks and social status; and to establish the social impacts of social protection programmes to elderly persons. Social protection programmes are government initiatives to support the vulnerable groups such as elderly persons, orphan and vulnerable children and people living with severe disabilities. The study employed both quantitative and qualitative methods Proportionate stratified random sampling was used to identify 124 respondents for household interviews and purposive sampling to select the eight participants of key informant interviews.

The reviewed study found out that social protection programmes have positive effects on elderly persons' livelihood and well-being thus building stronger social networks in the family and community at large. Their social relationship with the family members and the entire community has improved thus strengthening their social status. The programme strongly contributes to reducing poverty, isolation, exclusion, and social economic inequality among the vulnerable groups thus improving the beneficiary's livelihood. Proper implementation of social protection programmes can enhance social networks among the elderly persons and other community members. It enables the beneficiaries to attach in the circle of their extended family and communities, decreasing the social distance between the poor and the wealthier households. The beneficiaries are now able to participate in community activities and even being given positions to lead different groups in the community. On contrary, the reviewed study found negative effects of the programme which has brought division in the family level. Other beneficiaries stated that the non-beneficiaries are jealous and that weakens their social networks.

The reviewed study concluded that government to scale up the programme to include all the deserving elderly persons in the country, ensure that assistance is given regularly and is predictable further ensure that the public understand the programme main objective and the criteria used in selection of beneficiaries to deal with the issues of division and jealous within the family and community levels. However, the reviewed study by Ruingu, (2014) was done using elderly persons unlike the present study which was done on secondary school students who are much younger than the elderly persons and that was the gap to fill in the literature.

III. METHODOLOGY

Target population

The current study focused on all 2787 form two students from the 2018 academic year in the 36 public secondary schools, 38 deputy principals, and 38 Guidance and Counseling Instructors in the Githunguri Sub-county. The form two students were the primary focus of the research because the researcher believed that they had recently transferred to secondary schools and that their final exams, which were composed of their term 1, term 2, and term 3 averages while they were in form one, would have provided helpful information about how they had been adjusting to the new environment given that these examinations were completed when they had barely turned a year old since they had transferred from primary schools. Deputy principals were selected because they deal with disciplinary concerns and can give more insight into how the students are responding to the new environment. Since the researcher believed that certain students who had a difficult time adjusting to the secondary environment could seek out or be recommended for guidance and counseling services during their studies, teachers of guidance and counseling were also targeted.

The target population is divided down into extra county, county, and sub-county schools in Table 3.1.

Table 3.1: Target Population

School Category	Number of public schools	Population of form two students	Population of Deputy Principals	Population of guidance and counseling teachers
Extra County	02	910	04	04
County	09	936	09	09
Sub-County	25	937	25	25
Total	36	2787	38	38

Source: Githunguri Sub- County Education Office, 2019

Sample Size and Sampling Technique

Sample Size

A sample size is a subset drawn from a population in order to generate statistical approximations of the characteristics of the complete population (Tiwari and Chilwal, 2014). It accurately reflects the entire sample (Campbell, Murray, Darbyshire, Emery, Farmer, Griffiths & Kinmonth, 2018). The researcher used the formula to determine the sample size. According to Creswell, (2013), Slovin's formula is a random sampling technique for estimating sample size as computed below;

$$n = \frac{N}{1 + Ne^2}$$

Where

n=number of samples

N=total population-2787

e=error margin/margin of error (0.05)

The sample size for the students was therefore computed as follows:

$$n = \frac{2787}{1 + 2787(0.05)^2}$$

$$= 350 \text{ Students.}$$

The present study employed a confidence interval of 95% and a margin of error of 5%.

The results are as tabulated in table 3.2

Table 3.2: Sample Size

Respondents	Target population (N)	Sample Size (n)
Form two students	2787	350
Interviews		
Deputy Principals	38	15
Guidance and counseling Teachers	38	15

Total	2863	380
School Category		
Sub- County	25	8
County	9	3
Extra-County	2	2
Total	36	13

Source: Researcher 2019

Interviews with 15 deputy principals and 15 guidance and counselling teachers from the 13 sampled schools were undertaken to gather qualitative data. The recommended sample size for qualitative interviews, according to Mason (2010), is 10–30 participants.

Altruistic measurement Scale

The fourth subscale measured Altruistic. Items to measure Altruistic were adopted from the Prosocial behaviour Scale (Harris, Houston, Vazquez, (2015) and it had 11 items scale composed of items such as ‘I try to help others.’ The scale was considered suitable because prosocial behaviours is the same as being altruistic person.

The responses ranged from strongly disagree to strongly agree on a five-point Likert scale with the following ratings: 1=Strongly Disagree (SD), 2= Disagree (D), 3=Neutral (N), 4=Agree (A), and 5=Strongly Agree (SA). The scores from each item were added to determine the final score for this subscale. A score of 10 showed low levels of altruistic behavior, while a score of 50 indicated great levels of such behavior. The scale spanned from 10 to 50.

IV. RESULTS

Altruistic Behavior among Public Secondary School Students

To examine the level of altruistic among high school students, the sampled students were provided with a questionnaire whose items were indicators of altruism? The questionnaire items were in a 5 point Likert format scale rating from 1 (strongly disagree) to 5 (strongly agree). The present study presented the ratings of students as summarized in Table 4.1.

Table 4.1: Altruistic behavior

Indicators of altruistic behaviour	1	2	3	4	5	Mean	SD
1. When someone is depressed, I strive to cheer them up.	16.6	21.8	12.7	36.4	12.7	3.51	0.54
2. My friends and I hang out a lot.	17.5	26.0	12.7	32.8	11.0	3.07	1.32
3. I try to empower other people.	15.6	24.4	11.7	32.1	16.2	2.94	1.32
4. I am kind in that I enjoy volunteering my time to teach other pupils what I know, with no expectation of compensation.	4.9	17.5	14.6	36.0	26.9	3.09	1.35
5. I cry over insignificant things.	5.5	11.4	10.1	39.0	34.1	3.64	1.18
6. I show my friends items I find interesting.	6.8	16.9	8.1	36.7	31.5	3.86	1.18
7. I share the stuff I like with my friends.	4.9	16.2	10.7	41.9	26.3	3.70	1.27
8. I offer homework assistance to others.	6.2	13.0	10.1	44.8	26.0	3.69	1.17
9. I allow others to use my possessions.	14.3	22.4	14.0	32.8	16.6	3.71	1.17
10. I enjoy playing with other people.	29.9	23.4	8.1	20.5	18.2	3.15	1.33
11. I have faith in other people.	16.6	21.8	12.7	36.4	12.7	2.91	3.34
Mean average rating of altruistic behaviour among the students						3.44	0.49

Key – 1 –Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree

Source: Survey data (2019)

From the results of the survey in Table 4.1, the present study found out those high school students in Githunguri Sub-County exhibit above average level of altruistic behaviour. Using the scale of 1 to 5, the level of altruistic behaviour among the respondents was rated at 3.44 (SD = 0.49), with most of the indicators of rated above 3.00. In the present the implication was that a number of students generally do certain things for the others and for the others sake, but not for self-satisfaction or internal well-being. For instance, the findings of the study in Table 4.1 show that many of the students often display behaviour which is directed towards helping others. Behaviours which is directed towards helping others was reflected by a mean rating of 3.69 on the statement that 'I help others with their homework', with 70.8% of them accepting they had helped someone in homework. Further, close to one out of every two (48.2%) of the surveyed students confirmed that they always try to help others, reflecting altruistic behaviour mean rating of 2.94.

The present findings concurred with study carried by Yulianto et al. (2018) in China who reported that at early childhood learning methods have a direct influence on students prosocial attitudes and that learning method in forming students' prosocial attitude was cooperative learning because it embodied student-centered teaching and learning activities, especially by helping the ones that have problems working with other, aggressive and the ones that do not care about others.

Additionally, qualitative findings further supported these findings in that one of the deputy principal interviewed told the present study;

'There are a few students who feel free to share their belongings with others (for instance: they share their monies with those who are less privileged) and you will often find them volunteering to go to the board and teach their peers regardless of whether they have mastered a certain subject or not. To them they are just intrinsically motivated to share the knowledge they have with the entire class because they believe success is for 'ALL' [DPT 4]

Another excerpt from a respondent also noted;

'There are students who are very generous with their items and they are seen sharing their shopping with students who feel like they are lacking in some items. We have always encouraged such good gestures as teachers because we feel it promotes oneness and unity.' [G\$CTr 12]

From the excerpts of [DPT 4] and that of [G\$CTr 12], the present study found that acts of altruism are being embraced in our schools and the indication by this excerpts suggested that students do empathize with others and they advocate sharing their belongings voluntarily even with those who may be lacking because to them they believe in so doing they will be able to uplift the lives of others so that they can forge forward together. Such are very important attitudes and values outcomes of schooling. They provide the framework for guiding our actions outside and inside the classroom. Such altruistic behaviours are important in helping learners acquire from the curriculum the basic attitudes and values they need to think independently inside and outside of the classroom.

The present study findings further concurred with study carried by Siu et al. (2012) in China who reported that Putting in place selfless acts for others leads to a healthy relationship and that healthy and positive relationship among students is the main influence on student's academic performance. In many cases, students who have been involved in doing well for their fellows have been subjected to better school performances. When doing well for others, one feels free and has a peace of mind which makes him or her have fresh minds for studies. Also, when one is subjected to good treatment by his or her fellow students, he or she refreshes up well and is always at peace reading and seeking for good performance.

Similarly, Table 4.1 established that behaviour of some of the students who were sampled for the survey is sometimes not accompanied by the need for external reward but are purely voluntary. For instance, a respectable proportion (62.9%) of the surveyed students alluded that they are gentle because they like (mean=3.09) to volunteer teaching other students what they know without expecting any reward. In addition, 49.1% of them indicated that they always (mean=3.51) strive to cheer people up when they are depressed. Table 4.1 showed from the results of the survey that 49.8% of the students usually exhibit behaviour that involves a high risk or sacrifice without care, equivalent to altruistic behaviour rating of 3.71. As an indication of sacrifice, these students let others use their things without any restrain or control. Moreover, 49.1% of them alluded that they have full trust on others and 68.2% of them confirmed that they always share things they like with their friends. The findings of the present study concurred with study carried by Quain at al. (2016) in Ghana who reported that the relationships between gender and location factors as independent factors and prosocial behavior as dependent factor was highly positive amongst the students.

Additionally, qualitative analysis from interview schedules further confirmed the findings as one of the respondents told the present study;

'Some students volunteer or offer to teach others especially when they have mastered a certain concept in a given subject and this is so voluntary on the sense that such students do not expect any reward or any form of payment.' [DPT 7]

Another excerpt also noted;

'Some students volunteer to revise a given paper when it is given back by the subject teacher. In such a case a teacher may give the marking scheme and some students can volunteer to go to the board and take other students through the marking scheme without the teacher being there to supervise.' [DPT14]

From the excerpts of [DPT 7] and that of [DPT 14], the present study noted that there were learners who volunteer to teach others without expecting any reward either from the teachers or fellow students. To them they feel that by sharing knowledge that they have gain will impact positively to others because they believe in success for all. During such forums when they are teaching others it is expected there to be a very positive interaction in terms of asking questions than would otherwise not have been if the situation was with a teacher. Learners can comfortable ask questions for clarity purposes without fear and the students spearheading this will equally feel that they have accomplished the task of helping others to attain their best without wishing or expecting any kick back in forms of rewards. The present study findings also concurred with study carried by Milinga et al. (2015) in Tanzania who reported that that peer interaction was central to the success of learning as it related to cognitive understanding. They further noted that comprehension is facilitated. The present findings also concurred with study carried by Nyaga, (2011) in Kenya who again emphasized learners, some of who might normally 'turn out' or refuse to speak out in a traditional setting, become actively involved in the learning process through group interaction implying that every altruism behaviours, when used appropriately, can enable students to move beyond the text, memorization of basic facts, and learning lower level skills which leads in cognitive restructuring hence an increase in understanding of all students in a cooperative group.

Statistical Relationship between Altruistic behaviour and Academic Achievement among Public Secondary School Students

To investigate whether there was any statistical significant relationship between altruistic behaviour and academic achievement among students in secondary schools, the null hypothesis was tested. The hypothesis was tested as follows;

H₀₄: There is no statistically significant relationship between Altruistic behaviour and academic achievement of students in secondary schools in Githunguri Sub-County, Kenya.

The bivariate Pearson Correlation was conducted to test the hypothesis, with scores of social withdrawal as the independent variable and academic achievement among as the dependent variable. The independent variable was computed from the student responses, where high scale ratings implied high perceived level of altruistic behaviour and vice-versa. The dependent variable was the students' academic achievement, which was calculated as average mean from the three examination results administered to the students termly. A significant level (p-value) was set at .05 such that if the p-value was less than 0.05, the null hypothesis would be rejected and conclusion reached that a significant difference does exist. Table 4.2 showed a correlation analysis output between altruistic behaviour and academic achievement among students in secondary schools.

Table 4.2: Correlation between Altruistic behaviour and Academic Achievement among Students in Secondary Schools

		Altruistic Behaviours	Student Academic Achievements
Altruistic Behaviours	Pearson Correlation	1	.144*
	Sig. (2-tailed)		.012
	N	308	308
Student Academic Achievements	Pearson Correlation	.144*	1
	Sig. (2-tailed)	.012	
	N	308	308

*. Correlation is significant at the 0.05 level (2-tailed).

In Table 4.2, correlation analysis established a positive ($n=308$, $r = .144$; $p = .012$) correlation between altruistic behaviour and academic achievement among students in secondary schools. This means that the null hypothesis that: 'There is no statistically significant relationship between altruistic behaviour and academic achievement among students in secondary schools in Githunguri Sub-County, Kenya,' was rejected. The present study therefore concluded that there was statistically significant positive relationship between the two variables. As whole there was a positive correlation between altruistic behaviour and academic achievement among students in secondary schools. Increase in altruistic Behaviour increased academic achievement among students in secondary schools. The present study findings concurred with study carried by Devries et al. (2018) in Germany and reported that grades correlated more strongly to social behaviour than test scores do at younger ages, and that specifically peer problems had stronger relationship to academic performance. The present study findings also resonated with study carried by Tsehay et al. (2014) in Ethiopia which reported that emotional, dire and compliant of prosocial behaviours reported highest mean score.

Additionally, qualitative analysis from interview schedules further confirmed the present study findings as one of the respondent told the present study;

'I have witnessed a situation in form four going ahead to help his counterparts accomplish milestones by reminding them at intervals about expectations of a given teacher. He made his duty to check the work of fellow students and correct where he thoughts necessary. When the teacher in question arrives, the work is very well done. He does not go ahead to blow his own trumpet by saying he facilitated it. It is the other students who show their appreciation by informing the teacher of the role played. The teacher organizes appreciation in terms of claps and when given the chance to say something, the student says it was a joint effort' [G&CTr 6].

From the excerpt of [G&CTr 6], the present study noted that one lone ranger can help remove obstacles from counterparts who later come in and together they make a difference and develop unity which leads to academic improvement. Another respondent told the present study;

'...i have at one point come across students who notice that their counterparts in class are less to do. They lack basic needs and keep quiet about it. These students take initiative to garner support from likeminded endowed students and start up a contribution of the most basic needs available. They meanwhile keep it to themselves and give these provisions secretly, by saying for instance that it was just one of them who volunteered to do it. The recipient does not get to feel down trodden or a burden' [DPT1].

From the excerpt of [DPT1], the present study observed that human nature in such a situation comes out as very pleasant; one is appreciative more when their problem is not shared out to spectators who know nothing about it. They are encouraged by secretiveness that helps them and such impacted positively on the academic performance of the student in question.

The findings of the present study further concurred with the study carried by Rosaline et al. (2014) in Nigeria who concluded that knowledge sharing remained a central focus in knowledge management debates. The present study findings further agreed with the study carried by Muthuri, (2018) in Kenya who reported that altruism in emerging adulthood increased positively as individuals and that gender stereotypes on altruism should be diminished as they do not influence self-report altruism among emerging adults and that aspects of prosocial behaviours resulted in improved academic performance

This was further illustrated with a scatter plot, as shown in Figure 4.1

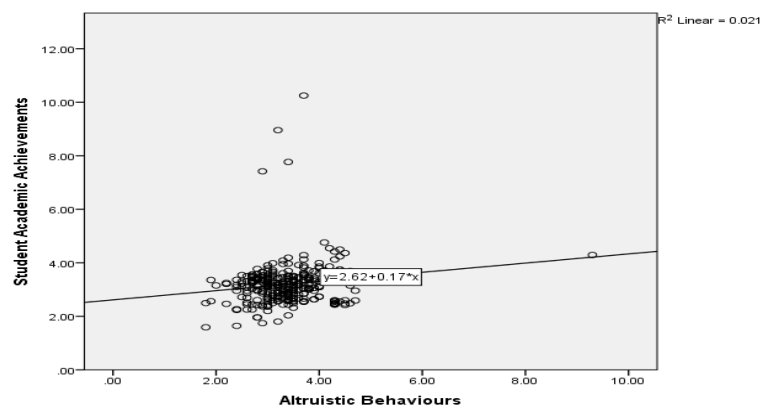


Figure 4.1: Scatter plot graph: Altruistic behaviour and Academic Achievement.

Figure 4.1 of the present study showed scatter points that indicated positive relationship between the two variables. The pattern of the dots evidently gives an impression of the slope moving from lower left to upper right. Further, the line of best fit slopes from lower left to upper right an indication of positive relationships between the two variables.

Further, to estimate the level of influence of altruistic behaviour on academic achievement among students in secondary schools, a coefficient of determination was computed using of regression analysis and the result was as shown in Table 4.3.

Table 4.3: Regression Results- Influence of Altruistic Behaviour and Academic Achievement among Students in Secondary Schools

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.144 ^a	.021	.017	.80467

a. Predictors: (Constant), Altruistic Behaviours

b. Dependent Variable: Student Academic Achievements

Table 4.3 showed that the level of Altruistic Behaviour explained only about 2% ($R^2=.021$) of the variation in Student Academic Achievements among public secondary school students. Although, this is a small influence it reveals the importance of improving altruistic Behaviour levels in order to improve academic achievement among the high school students.

Further, to examine whether influence of altruistic behaviour was a significant predictor of Academic Achievements among public secondary school students, Analysis of Variance (ANOVA) was considered in line with the commendation by Tabachnick and Fidell (2012). Application of Analysis of Variance (ANOVA) was important because it provided information about levels of variability within a regression model and formed a basis for tests of significance. It uses the basic regression line concept, $SST = SSM + SSE$, where SS is notation for sum of squares and T, M, and E are notation for total, model, and error, in that order. $R^2 = SSM/SST$, which confirms the interpretation of R^2 as explaining the proportion of variability in the data explained by the regression model. The "F" column provides a statistic for testing the hypothesis that $\beta_4 = 0$ against the null hypothesis that $\beta_4 \neq 0$. The test statistic is the ratio MSM/MSE , the mean square model term divided by the mean square error term. When the MSM term is large relative to the MSE term, then the ratio is large and there is evidence against the null hypothesis. Table 4.4 shows the ANOVA output on influence of altruistic behaviour and Student Academic Achievements in Public Secondary School Students

Table 4.4: ANOVA–Influence on Altruistic Behaviour and Student Academic Achievements among Public Secondary School Students

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	4.172	1	4.172	6.444	.012 ^b
Residual	198.132	306	.647		
Total	202.305	307			

a. Dependent Variable: Student Academic Achievements

b. Predictors: (Constant), Altruistic Behaviours

In Table 4.4, the F statistic is equal to $4.172/.647 = 6.444$. The distribution is F (1, 306) and the probability of seeing a value greater than or equal to 6.444 is less than 0.001, validating that there is a strong evidence that β_4 is not equal to zero. Thus, the ANOVA output results reveals that students' level of influence of altruistic behaviour significantly predicts academic achievement among students in secondary schools, $F(1, 306) = 6.444, p = .012$. The R^2 term is equal to .021, signifying that 2.1% of the variability in the Student Academic Achievements in public secondary schools is explained by the students' level of influence of altruistic behaviour. The study therefore concluded that students' level of influence of altruistic behaviour significantly predicts academic achievement among students in secondary schools. This suggests that knowledge of level of influence of altruistic behaviour could be used to significantly predict academic achievement among students in secondary schools.

V. THE SUMMARY AND CONCLUSION

Relationship between Altruistic and Academic Achievement of Students in Secondary Schools.

The objective of the present study was to determine the relationship between altruistic and academic achievement among secondary school students in Githunguri Sub-County, Kenya. The finding of both quantitative and qualitative results showed

that many of the high school students in Githunguri Sub-County exhibit above average level of altruistic behavior, with many of the students doing certain things for the others and not for self-satisfaction. A correlation analysis established a positive correlation between altruistic and academic achievement among students in secondary schools, with increase in altruistic Behaviour causing increases in academic achievement among students in secondary schools. In addition, the present study established altruism influenced academic achievement positively by 2%.

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