Effect of Student Welfare on Academic Achievement in Secondary Schools in Kakamega County, Kenya

Electine Ayiela Kisiang'ani[1]
Lydia Wamocha[2]
Pamela Buhere[3]

[1]tinayiela@gmail.com
[2]lwamocha@mmust.ac.ke
[3]pbuhere@mmust.ac.ke

[1,2,3]Masinde Muliro University of Science and Technology, Kenya

ABSTRACT

This study sought to investigate the effect of student welfare on student academic achievement in Kakamega County, Kenya. The research employed the production function theory. The study was conducted using a survey research design. This study took place in Kakamega County, which has thirteen sub-counties. The study focused on 423 secondary schools, which included 2 national schools, 2 national special schools, 28 extra county schools, 45 county schools, and 346 sub county schools. The target population included 423 Principals, 5514 teachers, and 182,893 learners, for a total of 188,830 respondents in Kakamega County secondary schools. Purposive sampling was used to choose special and national schools. The Yamane formula was used to determine a sample of 440 respondents. The study gathered data through interviews and questionnaires. A pilot study was conducted in Bungoma County to test the instruments' validity and reliability. Cronbach's alpha was employed as a statistical tool to assess reliability. The study analyzed data using a Regression analysis. The results indicated that most of the institutions have resources that included classrooms, laboratories, libraries and others however they were not adequate. The results further revealed that most of the schools have adequate number of teachers while a sizeable were still struggling with fewer teachers. On the study's hypothesis, $H_0$1 that state that there is no statistically significant effect of student welfare on student academic achievements in Kakamega County, Kenya was rejected at p=0.000. The study found that most respondents in Kakamega County, Kenya have adequate institutional resources such as classrooms, laboratories, and libraries. However, the principals disagreed, stating that these facilities are not sufficient. The study found that when institutional resources are absent, the average student academic achievement score improves by 6.93%. The analysis also revealed a statistically significant relationship between institutional resources and academic achievement, rejecting the null hypothesis that there is no significant effect. The findings suggest that enhancing institutional resources significantly boosts academic achievement among students in the region. The study thus recommends that the Ministry of Education and other stakeholders to enhance funding for school infrastructure, learning materials, and teacher training to improve student achievement. That schools should invest in nutritional support, mental health services, financial assistance, and co-curricular activities to create a supportive learning environment. This can be achieved through clear policies and robust school guidance and counselling programmes.

Keywords: Academic Achievement, Secondary School, Student Welfare

I. INTRODUCTION

Globally, the welfare of students is acknowledged as a fundamental component of academic success. The World Bank (2018) emphasizes the significance of student welfare programs, including school meal provisions, healthcare services, and psychosocial support, in enhancing student outcomes and addressing educational disparities. Furthermore, nations within the OECD allocate substantial resources towards the welfare of students, aiming to improve both their overall well-being and academic performance. This investment highlights initiatives focused on physical health, mental support, and financial aid (Organisation for Economic Co-operation and Development [OECD], 2021). According to studies, students who believe that their welfare needs are being met typically exhibit greater levels of involvement and perform better academically (Hattie, 2009).

In Africa, the welfare of students has garnered increasing focus as a crucial component in the enhancement of educational standards. UNESCO (2020) recognizes the significance of student welfare in tackling dropout rates and educational inequalities across the continent. Research conducted in various African countries, such as South Africa, Nigeria, and Ghana, reveals that support services, including school health programs and financial aid via scholarships, have a beneficial impact on student retention and academic achievement (Moloi, 2019). Furthermore, research indicates that welfare initiatives aimed at meeting nutritional requirements, such as school feeding programs, have a profound effect on cognitive performance and educational success, especially in rural regions (Fungo, 2023).

In Kenya, the significance of student welfare programs is acknowledged as essential to fostering academic success, particularly within secondary education institutions. The Ministry of Education (Republic of Kenya [RoK],

2016) underscores the importance of student welfare as a fundamental approach to improving academic performance and tackling socioeconomic obstacles to learning. Investigations conducted within Kenyan secondary schools have revealed a significant relationship between various elements of student welfare—such as financial assistance, counseling services, and the establishment of secure learning environments—and enhancements in student academic performance, alongside a decrease in absenteeism (Orodho et al., 2018). In Kakamega County, there are active initiatives aimed at improving student welfare to address both academic and psychosocial needs, particularly emphasizing the reduction of dropout rates and the promotion of inclusive education (Khalif & Wambui, 2022).

The quest for excellent education has emerged as a worldwide imperative, as governments and international entities endeavor to elevate the scholarly achievements of learners. The Government of Kenya has undertaken significant measures to enhance both access to and the quality of education, notably through initiatives such as the 100% Transition Policy and a commitment to global frameworks like the Education for All (EFA) goals (EFA, 2015). The implementation of these measures seeks to enhance student retention within educational institutions and elevate their academic performance; however, disparities remain evident, especially in relation to student welfare and its impact on academic results.

The well-being of students involves a multitude of dimensions, such as emotional, physical, social, and academic support frameworks that foster an optimal learning atmosphere. The provisions for welfare within educational institutions are intricately linked to student performance, influencing both the psychological and physiological health of learners. In advanced educational frameworks, robust student support initiatives have demonstrated a substantial impact on enhancing academic outcomes (Aminu et al., 2023). In Kenya, particularly in Kakamega County, the relationship between student welfare and academic achievement remains under-examined, even though its significance is evidently acknowledged.

The performance of students in the Kenya Certificate of Secondary Education (KCSE) is frequently used to evaluate the quality of education in Kakamega County, as well as most of Kenya. The performance in KCSE continues to be a matter of national significance, as data indicates that merely a limited number of students achieves grades sufficient for advancement to tertiary education. In Kakamega County, data from the Kenya National Bureau of Statistics (KNBS) reveal that merely 7.3% of students attained a C+ or higher in 2017, a statistic that has varied between 7% and 18.5% over the years (KNBS, 2021). This underachievement can be ascribed to a multitude of factors, notably the insufficient provision of student welfare services within educational institutions.

Recent studies underscore the significance of student welfare in achieving academic success. Elements including the accessibility of nutritious meals, the provision of mental health services, the cultivation of positive teacher-student relationships, and the availability of extracurricular activities play a crucial role in enhancing student well-being and, in turn, academic performance (Njoroge et al., 2022). Educational institutions that prioritize infrastructure development, foster nurturing social atmospheres, and attend to the emotional well-being of their students generally exhibit superior academic outcomes (Mwangi & Waweru, 2021). In contrast, educational institutions characterized by inadequate facilities, overcrowded classrooms, and insufficient emotional or social support systems face significant challenges in fostering student engagement and enhancing academic performance (Mutunga & Kamau, 2021).

Inadequate physical infrastructure, restricted access to instructional materials, and high student-to-teacher ratios are some of the problems that numerous Kakamega County schools face. The aforementioned issues intensify the inequalities in student achievement and provoke apprehensions regarding the efficacy of existing policies designed to enhance student welfare (Odhiambo, 2023). Research undertaken in the region indicates that prioritizing student welfare may result in notable enhancements in academic performance, especially in underserved areas (Mwaniki et al., 2023). Consequently, it is essential to analyze the various dimensions of student welfare—encompassing physical facilities, emotional support, and access to learning resources—and their influence on academic success.

Given these factors, this study aims to investigate the link between student welfare and academic achievement in Kakamega County. Through the identification of critical elements that affect student achievement, this study aims to offer valuable insights for policymakers, educators, and stakeholders; enabling them to formulate interventions that can elevate student welfare and, in turn, enhance academic outcomes.

1.1 Statement of the Problem

The Government of Kenya is steadfast in its dedication to fostering an optimal educational atmosphere by implementing thorough reforms and upholding international commitments, including the Education for All (EFA) objectives. The objective of these initiatives is to enhance student engagement and academic performance. An essential endeavor in this context is the 100% Transition Policy, which requires that all children advance through primary and secondary education, thereby moving towards the goal of universal primary education. Nevertheless, in light of this advancement, obstacles associated with the learning environment have emerged, which may jeopardize the quality of education.

The calibre of education in Kenya is generally assessed through the outcomes of the Kenya Certificate of Secondary Education (KCSE). In an ideal scenario, elevated KCSE scores ought to signify a robust educational framework. Nevertheless, national statistics indicate a troubling trend: a mere fraction of students consistently attain C+ and above, which serves as the standard for high academic achievement. In 2017, a mere 15% of KCSE candidates achieved a C+ or higher, with subsequent years reflecting a narrow range of 11% to 17%. Kakamega County exhibited performance levels that fell short of the national average, as evidenced by a mere 7.3% of students achieving a C+ or higher in 2017, with subsequent years witnessing fluctuations ranging from 7% to 18.5% (KNBS, 2021).

Numerous studies indicate that student welfare plays a crucial role in influencing academic outcomes; however, notable disparities in welfare support mechanisms continue to exist across various regions. Njeru and Orodho (2003) observed that in Kenya, a lack of financial resources and inadequate support for student welfare detrimentally impact school attendance and concentration, especially for students hailing from economically disadvantaged backgrounds. The situation is exacerbated by restricted access to mental health support services and insufficient nutritional programs, which further undermine students' academic engagement (Njoroge et al., 2022).Nevertheless, although these studies offer valuable insights into particular welfare components, there is a scarcity of comprehensive assessments regarding the interplay of different welfare aspects and their collective impact on academic achievement in secondary schools throughout Kenya.

In the context of Kakamega County, there exists a paucity of research that has systematically investigated the aggregate impact of welfare factors, including financial assistance, nutritional provisions, counseling services, and co-curricular engagements, on the academic performance of students. Although research conducted by Muriithi and Mwaura (2021) underscores deficiencies in mental health support and nutrition, the connection between these welfare elements and academic success is still inadequately examined. The existing gap offers a valuable avenue for additional inquiry into the ways in which advancements in student welfare may positively influence academic performance in the secondary schools of Kakamega County. In light of the scant local research surrounding this subject, it becomes imperative to examine the degree to which student welfare programs influence academic achievement, with an emphasis on pinpointing welfare-related elements that may be utilized to enhance academic success. Consequently, this research endeavours to address the current gap by investigating the influence of student welfare on academic performance in Kakamega County, pinpointing welfare elements that are crucial for enhancing educational results in secondary schools.

1.2 Research Objective

The purpose of this study was to investigate the effect of student welfare on student academic achievement in Kakamega County, Kenya.

II. LITERATURE REVIEW

2.1 Theoretical Review

The study based its approach on the production function theory, emphasizing the causal link between educational resources and student academic achievement.

2.1.1 Production Function Theory

The Production Function Theory represents a fundamental principle in economics, especially within the realm of microeconomics, and has its roots in the initial explorations of the correlation between inputs and outputs in production methodologies. One of the key advocates of this theory is Jean-Baptiste Say, a French economist who pioneered the notion of production as a process of integrating inputs to generate outputs in the early 19th century. Nevertheless, it was subsequently formalized in the 1920s by Paul Douglas and Charles Cobb, who devised the Cobb-Douglas production function. Their publication from 1928 established one of the most recognized production functions within the field of economics. The Cobb-Douglas production function elucidates the interplay between multiple inputs, commonly labour and capital, and the resultant output generated.

The Production Function Theory in Education applies the principles of production functions from economics to the realm of education. This analysis explores the interplay between various educational inputs—such as educators, instructional resources, infrastructure, and student attributes—and the resultant educational outputs, including student achievement and performance metrics. The application of the theory to education gained prominence through the work of economist Eric A. Hanushek during the 1970s.

The theory posits that schools operate as a production system, wherein the quality and quantity of educational results are determined by inputs such as teacher quality, student characteristics, and school environmental factors. This perspective was used to assess how factors like physical infrastructure and school climate impact student achievement in Kakamega County, aligning with the study's goal of understanding and improving educational outcomes. According to the EPF, one important factor that may have an impact on student achievement in the context of school

environments is the standard of the social and physical surroundings in which children learn. By focusing on these elements, the study aimed to identify how various aspects of the school environment, including safety, infrastructure, and access to resources, affect academic achievement.

The theory elucidates the manner in which several elements of the educational setting, when coupled with additional factors such as the calibre of teachers and the level of student effort, generate diverse degrees of academic achievement. This hypothesis guided the study in evaluating how Kakamega County schools' environmental factors interact with other variables to influence student achievement. Student achievement is influenced by several aspects of the school environment, which include: The quality of physical infrastructure, including classroom space, lighting, climate management, and technology access, can significantly impact students' ability to absorb and integrate information. By examining these aspects, the study sought to determine how the physical and social aspects of schools in Kakamega County affect student achievement.

The educational environment exerts a considerable influence on student achievement through several complex mechanisms: Cognitive Pathways; an intentionally organized and well-equipped educational setting immediately boosts students' capacity to interact with the curriculum, resulting in better cognitive achievements. The study aimed to explore these mechanisms by examining how well-organized school environments in Kakamega County affect students' academic engagement and outcomes. Public health and overall wellness; an immaculate, secure, and nurturing school atmosphere enhances both physical and mental well-being, therefore facilitating learners' consistent attendance and concentration on educational pursuits. The study considered how the overall wellness provided by the school environment in Kakamega County supports students' academic achievement.

The theory of the Education Production Function offers a useful perspective to analyze the influence of the school environment on the academic achievement of students. Viewing the school environment as a crucial factor in the educational production process, the theory emphasized the need to allocate resources to improve school facilities, resources, and social support systems, providing actionable insights for enhancing student achievement in Kakamega County. Production function theory, which posits that people's knowledge and abilities, which they gain via education and experience, generate wealth for society, is related to the factors under investigation here.

2.2. Empirical Review

Student welfare encompasses the dimensions of health and safety, student rights, emotional, and social wellbeing (World Health Organization, 1999). Xiang et al. (2019) investigated the "Longitudinal Impacts of Examination Stress on Psychological Well-Being and a Potential Mediating Role of Self-Esteem in Chinese High School Students." This study used a latent growth curve model (LGCM) to look at how exam anxiety, self-esteem, and mental health changed over time among Chinese high school students. The studies found that students' initial levels of psychological well-being were negatively predicted by their levels of examination stress. Xiang et al. (2019) did not directly evaluate the association between student well-being and academic achievement in national assessments, therefore its findings cannot be extended to apply to the proposed study. Furthermore, while Xiang et al. (2019) employed LGCM in their research, the suggested study will rely on correlational analysis.

Olweus et al. (2019) conducted an evaluation of their bullying prevention program on a large scale and focused on specific types of bullying. The researchers wanted to see if the Olweus Bullying Prevention Program (OBPP) was successful in reducing several types of bullying, such as verbal, physical, indirect/relational, and cyberbullying, as well as bullying that involved sexually charged language or gestures. The study looked into students' happiness, although the consequences on test scores weren't a primary concern. This rules out extrapolating the results to the proposed study. Also, unlike in Kakamega County, Kenya, the review study was place in Pennsylvania (USA), a very different geographical, cultural, and social environment. This is a void that the proposed research hopes to address.

Another research team, Bajaj and Suresh (2018), looked at the methods used by Oakland International High School in California, a public high school for international students. According to the results, new immigrant kids benefited from a more mutually beneficial relationship between school and family when they were provided with a holistic wrap-around strategy. Students' academic, emotional, and material needs are better met as a result of the practice's emphasis on peer instruction and community involvement. The article describes how Oakland International High School caters to the requirements of its immigrant and refugee students through community collaborations and the adaptable design of their courses, support structures, and family involvement techniques. The reviewed research was not necessarily applicable to the proposed research because it focused on students who had recently arrived in the United States as refugees or immigrants.

As Marth-Busch and Bogner (2020), observed students in secondary and higher education settings confront a wide variety of on-going normative stressors, which can be defined as routine day-to-day inconveniences such persistent academic obligations. Thus, students in both secondary and higher education indicated persistent anxiety over financial and academic issues. For instance, The Organization for Economic Cooperation and Development (OECD) just finished a survey with responses from 540,000 students between the ages of 15 and 16 from 72 different

nations. Sixty-six percent of OECD students said they worry about getting bad grades, and 59 percent said they worry about tests being too hard on a regular basis. The OECD also discovered that even well-prepared students (55% of the sample) still experience significant exam anxiety. Around a third of students have reported feeling extremely stressed when studying, with girls routinely reporting higher levels of stress in this area than boys (OECD, 2017). The results of this study show that educational requirements and academic success place a heavy burden on today's youth. There has not been a thorough examination of how this persistent academic pressure affects students' learning and health. Consequently, the purpose of this research is to investigate whether or not there is any correlation between these factors and students' achievement on standardized tests.

Osborn et al. (2020) conducted a cross-sectional study with a community sample of Kenyan high school students to evaluate the incidence of depressive and anxious symptoms among adolescents. They also looked for links between the symptoms and demographic and social characteristics. Six hundred and fifty-eight students (51.37 percent female) between the ages of 13 and 19 were given self-report assessments of depressive and anxious symptoms, social support, gratitude, growth mindsets, and life satisfaction. Adolescents in Kenya showed alarmingly high rates of depressive and anxious symptoms, according to the study's findings. Compared to younger adolescents, older adolescents reported more severe symptoms of depression and anxiety, as well as less social support. Anxiety was more common among women than men, and among those from underrepresented groups in society, too. Adolescent internalizing symptoms were shown to be quite prevalent in this study of Kenyan high school pupils. Important associations of these symptoms were also identified, and the necessity for culturally sensitive assessment instruments was highlighted. The current suggested study aims to fill in the gaps left by the evaluated study by investigating the connection between student anxiety and depression and academic progress.

The government of Kenya has ratified numerous treaties and protocols that guarantee all people the chance to receive a good education. Among these are the International Conference on Education for Everyone, the Convention on the Rights of the Child (CRC), and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). Many policies and strategies have been devised to tackle the problems of education, training, and research in the 21st century, and they demonstrate the Government's dedication and seriousness in implementing the recommendations of international agreements and treaties. The Sessional Paper No.1of 2005 on Education, Training, and Research and its Implementation Programme through the Kenya Education Sector Support Programme (KESSP) is one of the most important policy documents of this century. According to Sessional Document No. 1 of 2005, the government's primary goal in the realm of primary education is to increase the availability, fairness, usefulness, and quality of schooling. The policy framework's specific goals are to realize Education For All (EFA) by 2015, to protect students' access to basic education as guaranteed by the Learner's Act (2001), to improve basic education's access, equity, and relevance, and to provide consistent, high-quality service at all times and across all levels.

The government has created a number of intervention measures aimed at making schools safer in order to achieve the desired results (Ministry of Education [MOE], 2008)

It is clear from the examined literature that there is a vast amount of study devoted to the topic of the value of students' emotional and mental health in the classroom. Yet, psychological and bodily health are given more attention. Health and physical safety, acts of violence among learners, ethnic clashes, cattle rustling, cultural practices, and female circumcision are just some of the other aspects of student wellbeing that have not received much attention in the literature but may have an impact on achievement in national examinations. In addition, research on the mental health of students in Kakamega County has shown no significant impact on their academic achievement. This is a gap that the researcher hopes to close.

III. METHODOLOGY

3.1 Research Design

The study was conducted using a survey research design. Correlation research design was appropriate for this study since it enabled the researcher to evaluate the links between institutional resources, and student academic achievement in Kakamega County, Kenya. In addition, it served as the foundation for selecting variables for subsequent statistical analyses, such as regression analysis.

3.2 The Study Area

This research was undertaken in Kakamega County, Kenya, which is made up of thirteen sub-counties: Likuyani, Matete, Navakholo, Lugari, Khwisero, Butere, Matungu, Mumias West, Mumias East, Kakamega Central, Kakamega East, Kakamega South, and Kakamega North. The county's latitude is 0.2842200 degrees and its longitude is 34.7522900 degrees. It encompasses 3,033.8 km2 and is bordered by Trans Nzoia County in the north-east, Bungoma County in the north, Busia County in the west, Siaya County in the south-west, Vihiga County in the south, Nandi County in the south-east, and Uasin Gishu County in the east (Kenya constitution, 2010).

This research focuses on secondary education in Kakamega County, Kenya, a region characterized by diverse schools, a large youth population, and varied landscapes including urban, suburban, and rural areas. Kakamega County is centrally located, cosmopolitan, and equipped with developed ICT infrastructure, making it an ideal representation of the national educational situation. The study leverages the researcher's local expertise to examine the impact of the school environment on student academic achievement, particularly addressing the high incidence of low KCSE grades from 2016 to 2019. Compared to neighboring counties, Kakamega presents unique challenges and opportunities, making it a priority for educational improvement aligned with national goals like the Big Four Agenda and Vision 2030.

3.3 Target Population

This study targeted 423 public secondary school administrators, 423 secondary school teachers, and 182,893 secondary school students in Kakamega County, totalling to 188,830 as indicated in Table 3.1.

Table 1

Distribution of Target Population in Kakamega County

Type of Institution	No. of institutions	No. of Principals	No. of Teachers	No. of Students	Total population
National Secondary Schools	2	2	124	4,181	4309
National Special secondary Schools	2	2	35	308	347
Extra County Secondary Schools	28	28	897	28,251	29204
County Secondary Schools	45	45	766	24,261	25,117
Sub County Secondary Schools	346	346	3,692	125,892	130276
Total	**423**	**423**	**5514**	**182,893**	**188,830**

Table 1 indicates that there are 423 public secondary schools in Kakamega County. There are 2 national schools, 2 national special schools, 28 extra county schools, 45 county schools, and 346 sub county schools. There are 423 principals, 5514 teachers, and 182,893 students giving a total sum of 188,830 respondents in Kakamega County secondary schools.

3.5. Sample and Sampling Procedure

This study employed a combination of stratified random sampling and purposive sampling to select respondents from secondary schools in Kakamega County. Stratified random sampling was used to ensure a representative sample by dividing the population into sub-groups, such as extra-county, county, and sub-county schools, as well as boys', girls', mixed, day, and boarding institutions. The respondents included principals, teachers, and students, whose roles and perspectives were critical given their involvement in the education system. Purposive sampling was also utilized to select two national school principals and two national special school principals for in-depth analysis. This approach allowed the study to capture data-rich examples and ensure a thorough exploration of the research questions. The investigator first determined the sample size using the Yamane formula. When the number of people to be studied is known to be finite, the formula can be employed (Yamane 1967). The equation is displayed below.

$$n = \frac{N}{1 + N(e)2}$$

Where n is the sample size

N is the population size

e is the desired precision level of 0.05 with desired confidence level of 95%.

$$N = \frac{188,830}{1 + 188,830(0.05^2)} =$$

$$N = \frac{188,830}{473.14.} = 399.2 = 399$$

Lavrakas (2008), there is a 10% non-response rate probability hence addition of 10% of 400=40

$$N = \frac{189,253}{473.14.} = 399.9 = 400 + 40 = 440$$

Therefore, out of a target population of 189, 253 the sample size was 440 respondents.

Table 2 shows the sample sizes for respondents who were interviewed for this study.

Table 2

Sample of size of Respondents in Kakamega County

Respondent	Sample Size	Sampling Technique
Principals of national schools	2	Purposive sampling
Principals of national special schools	2	Purposive sampling
Other Secondary school principals	18	Stratified random Sampling
Secondary school teachers	25	Stratified random Sampling
Secondary school students	393	Stratified random Sampling
TOTAL	**440**	

Table 2 above, shows the distribution of respondents according to strata. The table indicates that purposive sampling was used to pick 2 principals of national schools and 2 principals of national special schools. Stratified random sampling selected 18 principals from other categories of secondary schools, 25 teachers and 393 students. The total sampled respondents were 440.

3.6 Instruments of Data Collection

The study used primary data based on questionnaires and interviews as instruments of data collection. The study used questionnaires as data collection instruments to get primary data from principals, teachers and Form Four students in secondary schools. The questionnaires required the participants to respond to questions which sought to answer questions arising from the hypotheses on the effect of learner school environment and student academic achievement in Kakamega County.

The questionnaires sought to get information on demographic data of respondents and the research objectives provided guidance in designing of these questionnaires. Closed ended questions were used to limit the number of responses to help the researcher get straight forward and uncomplicated information. Responses to the objectives were rated using a 6-point multi-item Likert scale with anchors labelled SA = Strongly Agree, A= Agree, D =Disagree, SD= Strongly Disagree, DK= Don't Know, and NA= Not applicable, where the respondents were to indicate by ticking appropriately the extent to which they agree with the statements given.

Principals and teachers were interviewed during semi-structured sessions ranging from 40 to 60 minutes in duration. In order to ascertain their expertise in the practical integration process, principals were interviewed. The interview schedules included open-ended questions to facilitate in-depth exploration of the responses and to extract significant information.

3.7 Quality Controls

For the instruments to be used for this study, the researcher confirmed their validity and reliability. The validity of a measuring tool and the veracity of the results are two aspects of research instrument validity (Venkatesh et al., 2013). The reliability analysis verifies the dependability of the study's measuring devices (Sekaran & Bougie 2013). Two secondary schools in Bungoma County served as the sites for the study's pilot testing of its research tools. The pilot study used questionnaires to collect data from 10% of the sample as per the rule of thumb (Cooper & Schneider, 2014).

3.7.1. Pilot Study

A pilot study was carried out at four public schools located in Bungoma County. A random selection of schools was made from four distinct categories: National, Extra-County, County, and Sub-County. The pilot evaluation included a cohort of 40 students, 4 principals and 4 teachers. A sample size of 48 participants was employed in the pilot study.

Forty questionnaires were disseminated to students with the aid of school personnel. Among the 40 questionnaires issued in the field, 37 were returned, indicating a response rate of 93%. The return rate for questionnaires among teachers was 4 (100%). The interview procedure included the involvement of all four principals from the chosen schools, comprising both face-to-face interviews and telephone interviews.

After careful analysis of the completed surveys, it was determined that certain questions displayed vagueness, ambiguity, and grammatical issues. Assistance from language specialists was provided to aid the correction of grammatical errors. A number of questions were determined to be inconsistent with the declared research objectives. In order to improve clarity, the interview guide was modified by rearranging specific questions. It was essential to evaluate the items' clarity, ambiguity, and correctness through the pilot research. These items were modified to improve the efficacy of the study tools.

3.7.2 Validity of the study Instruments

Questionnaires were subjected to content and face validation with the oversight of supervisors. Prior to its deployment in the field, the device underwent modifications in response to input received from experts. A content validity assessment was conducted in this study to determine the degree to which the test items effectively reflect the material that the test aims to evaluate.

3.7.3 Reliability of the Research Instruments

An estimation of the Cronbach alpha coefficient was performed for the Overall Questionnaire scale. The criteria established by Eshiwani (1993) served to evaluate the Cronbach's alpha coefficient. A coefficient of >.9 is considered exceptional, >.8 is considered good, >.7 is considered acceptable, >.6 is uncertain, >.5 is considered bad, and >.5 is considered unsatisfactory. The obtained Cronbach's Alpha value of 0.70 in this study suggests that the items being tested have a satisfactory level of internal consistency.

3.8. Data Collection Procedure

Before data collection, the researcher obtained approval from MMUST to apply for research permission from NACOSTI. An introduction letter was provided to collect data from secondary school students. The 'drop and pick' method was used by the researcher and assistants, allowing respondents up to one week to complete the questionnaire before collection. This method was deemed appropriate considering the questionnaire length, respondent accessibility, and the geographical distribution of the sampled schools.

During this study, participants received assurance that they were under no compulsion to participate and that they had the option to decline to answer the questions or even refuse to submit the questionnaire. Respondents were not under any influence either by way of promised incentives, benefits, or coercion in a bid to make them answer questions. Furthermore, respondents were not obligated to disclose their identities by way of personal names, names of institutions or where they worked. Anonymity of the respondents was maintained throughout the process as a way of avoiding legal pitfalls that may affect the outcome of the research. Due to assurance of confidentiality, the respondents were given honest answers to questions in the questionnaire. Permits were sought and supplied by National Commission for Science and Technology (NACOSTI), the Office of the Directorate of Post -Graduate Studies at MMUST.

3.9 Data Analysis

Descriptive and inferential statistics were employed to gather and examine data of both qualitative and quantitative nature. Prior to data processing, coding was performed based on the nature of the data, with quantitative data being encoded using numerical values. The qualitative data was structured in a narrative style and examined based on major themes. A regression analysis was employed to ascertain the presence of statistically significant variations in means between the school environment and the learner achievement. The opinions of respondents were described and summarized using descriptive statistics, including frequency, percentages, mean values, and standard deviation, in accordance with the study's objectives. Software version 20 of SPSS facilitated data analysis. The hypothesis was tested at a significance level of 5%.

3.9.1 Analysis of Qualitative Data

Qualitative data collected from interviews and open-ended questions was analyzed by classifying it into thematic categories. This research tool is used to determine the presence of particular words or concepts within textual resources or collections of texts. A comprehensive transcription of all interview responses has been finalised. Subsequently, the data was categorized according to the objectives, and then a comparison of replies across different participants was conducted to detect shared characteristics and patterns within specific population groupings. The results were ultimately consolidated into narrative reports for the purpose of summarizing the analysis. A coding procedure was applied to the transcriptions, whereby they were systematically arranged into different categories according to different themes. The purpose of these categories was to emphasize particular word patterns that were considered pertinent to the research issue.

3.9.2 Analysis of Quantitative Data

The data analysis was carried out precisely in line with the research questions that were developed for the study. Analysis of quantitative data involved the application of statistical procedures. The responses to the questionnaire were methodically organized, categorized, quantified, and then analyzed statistically. Next, the data was compressed into frequencies and percentages, and then presented using frequency tables and graphical depictions.

IV.FINDINGS & DISCUSSION

4.1 Questionnaire Return Rate

The research study sampled a total of 433 respondents: 386 students, 25 secondary school teachers, 2 National school Principals, 2 Special school principals and 18 principals from other categories of secondary schools. Table 3 illustrates the results.

Table 3

Questionnaire Return Rate

Respondents	Expected	Returned	%
Principals of national schools	2	2	100%
Principals of national special schools	2	2	100%
Other Secondary school principals	18	18	100%
Secondary school teachers	25	25	100%
Secondary school students	386	364	94%
TOTAL	**433**	**411**	**94.9%**

From Table 3, from the total of 440 participants who were specifically targeted for participation, a significant proportion of 411 respondents actively engaged in the survey, resulting in a response rate of 93.4%. The significant response rate can be attributed to the prompt administration and collection of questionnaires on the same day, facilitated by the assistance of research personnel. Saunders et al. (2007) posit that a response rate of 50% can be considered as satisfactory, while a response rate of 60% is deemed as favourable, and a response rate above 70% is regarded as highly commendable. Therefore, the response rate seen in this study was highly satisfactory.

4.2 Demographic Characteristics of Respondents

4.2.1 Class of the respondents

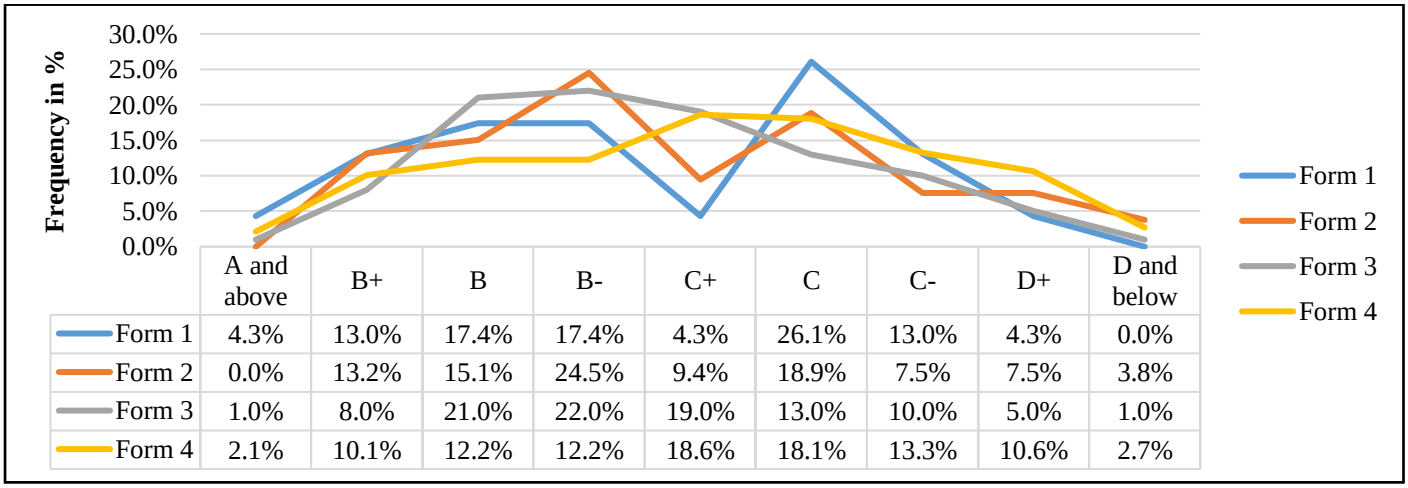
The study sought to the class of the student respondents. According to the results, Form four class respondents had the highest frequency of 188 (51.6%), followed by 100 (27.5%) Form three class respondents. Respondents in Forms 1 and 2 recorded 23 (6.3%) and 53 (14.6%), respectively.

4.2.2 School Type

The study sought to establish the school of type of the respondents. In this the researcher classified the schools under day mixed, Girls boarding, boys boarding, mixed day and boarding schools. Results indicated that 111 (30.5%) respondents were from girls' boarding schools, 98 (26.9%) from boys' boarding schools, 79 (21.7%) from mixed day and boarding schools, and 76 (20.9%) from day mixed schools. The results indicate that the study encompassed all the types of schools in the study area.

4.2.3 Student's Academic Achievement

The study sought to determine the individual scores achieved by the students who took part in the study in their prior examinations. The results are presented in Figure 1.



	A and above	B+	B	B-	C+	C	C-	D+	D and below
Form 1	4.3%	13.0%	17.4%	17.4%	4.3%	26.1%	13.0%	4.3%	0.0%
Form 2	0.0%	13.2%	15.1%	24.5%	9.4%	18.9%	7.5%	7.5%	3.8%
Form 3	1.0%	8.0%	21.0%	22.0%	19.0%	13.0%	10.0%	5.0%	1.0%
Form 4	2.1%	10.1%	12.2%	12.2%	18.6%	18.1%	13.3%	10.6%	2.7%

Figure 1

Distribution of Students' Examination Achievement per Class

Based on the data presented in figure 1, the majority of students in Form 1 achieved scores ranging from B to C, with C being the most prevalent at 26.1%. Conversely, just one student recorded an A grade, accounting for 4.3%. The disparity in grades, which includes some students achieving as low as C- and D+, may indicate initial difficulties in adjusting to the secondary school setting, such as overcrowded classrooms, restricted resources, or inadequate teacher focus.

Not a single student achieved an A grade in Form 2, whereas the majority of students scored between B- and C (24.5% and 18.9%, respectively). This implies that, even during their second year, students continue to face difficulties in attaining excellent academic results. This may be ascribed to a suboptimal learning environment, such as limitations in resources or greater class numbers that hinder personalized teaching.

In Form 3 performance appears to reach a stable level, as the largest proportion of students (22%) consistently achieve a B- grade. Nevertheless, a mere 1% attained an A grade, while 5% still obtained a D+ or below. This observation suggests that although certain students are achieving satisfactory results, others are still lagging behind considerably, most likely as a result of disparities in the educational setting, such as limited availability of study resources or overcrowded laboratories.

Form four academic achievement exhibits a significant variation, with a greater proportion of students achieving scores in the mid-range grades (C+ and C). Nevertheless, a mere 2.1% of students attained an A grade, whilst 2.7% obtained a D or below average. In the crucial year preceding national examinations, the wider range of scores may indicate difficulties in creating an optimal setting for students to thrive, influenced by considerations such as school infrastructure, resource accessibility, and teacher-student ratios.

Insufficient individualized attention among students may be attributed to perhaps high student-teacher ratios, as indicated by the grade distribution throughout the forms. Educational institutions that have higher class numbers may encounter difficulties in accommodating the diverse learning requirements of individuals, leading to diminished overall academic achievement, particularly among students who are struggling. The reduced proportion of students attaining high marks (A and B+) in all academic levels may indicate insufficient availability of useful learning resources, including textbooks, laboratory equipment, and technology. Lack of sufficient resources hampers students' capacity to fully participate in the curriculum, resulting in average or below-average academic achievement.

The uniformity in average performance (Mean = 5) across all forms, together with the moderate standard deviation (2), suggests that the influence of school leadership and management on enhancing the learning environment throughout time is somewhat limited. Implementing effective school leadership is crucial for tackling challenges related to the distribution of resources, motivation of teachers, and well-being of students, all of which are essential for enhancing student achievements.

The low proportion of learners achieving a grade of D or lower, especially in Form 4, could suggest the presence of underlying concerns regarding children' psychological safety and overall welfare within the school setting. Under conditions of student insecurity, stemming from bullying, inadequate facilities, or an unwelcoming school environment, academic achievement often declines.

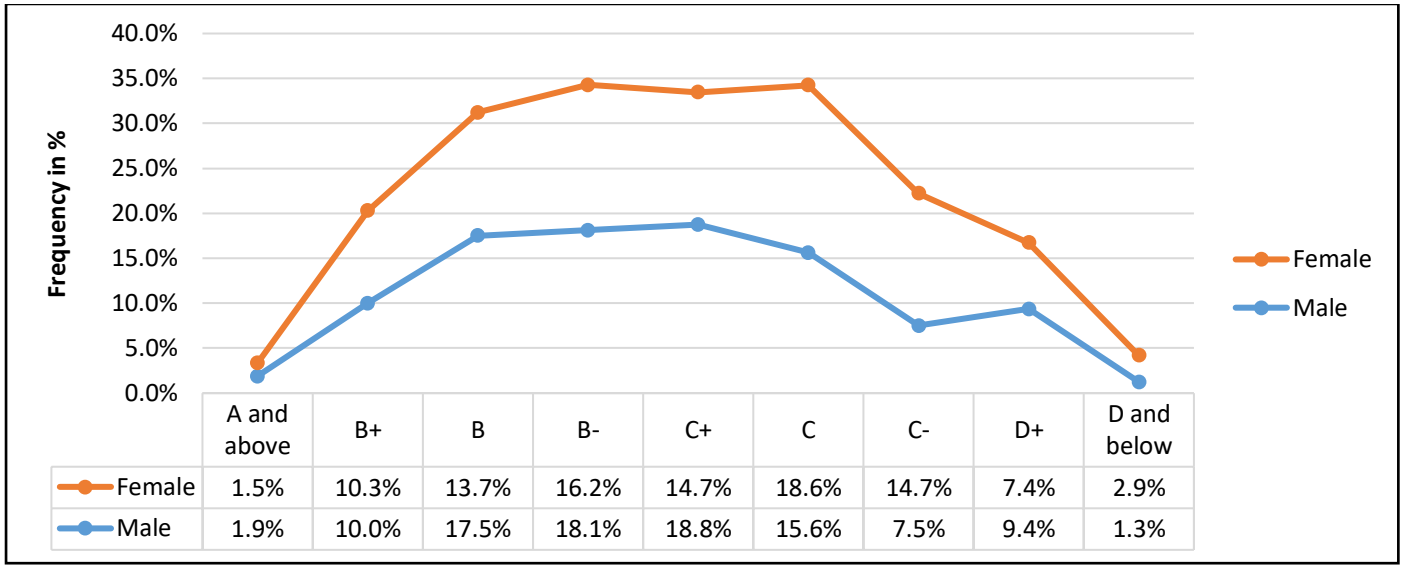
A significant number of learners in Kakamega County originate from disadvantaged socio-economic backgrounds, thereby exacerbating the disparities in academic achievement. Individuals hailing from underprivileged socioeconomic situations may encounter supplementary obstacles such as food insecurity, extended travel times, or insufficient availability of educational materials, therefore impeding their capacity to focus and excel in examinations. Education institutions that lack the capacity to offer assistance to these students may see a broader disparity in academic achievement, as shown in the table.

The prevailing pattern of the majority of students obtaining scores ranging from B- to C+ suggests that although many students aspire to attain ordinary grades, only a small number are demonstrating exceptional performance (A and above). This phenomenon may indicate a deficiency in the provision of encouragement, motivation, or inspiration within the curriculum. Educational institutions that prioritize scholastic success, provide incentives for outstanding performance, or provide extracurricular activities seem to cultivate a more involved and driven student population, resulting in improved academic proficiency.

Therefore, it may be inferred that the results of the class exams indicate that the educational environment in Kakamega County exerts a substantial impact on the academic success of students. A number of factors, including overcrowded classrooms, insufficient learning resources, and socio-economic difficulties, seem to impede students' capacity to achieve optimal performance. Enhancing academic achievements in the region would be facilitated by augmenting investments in infrastructure, learning resources, and support systems, together with implementing policies targeted at decreasing class sizes and fostering greater teacher-student engagement.

Student achievement by Gender

The study sort to determine the past class examination performance by gender. The results are indicated in Figure 2.



	A and above	B+	B	B-	C+	C	C-	D+	D and below
Female	1.5%	10.3%	13.7%	16.2%	14.7%	18.6%	14.7%	7.4%	2.9%
Male	1.9%	10.0%	17.5%	18.1%	18.8%	15.6%	7.5%	9.4%	1.3%

Figure 2
Distribution of Students' Examination Achievement by Gender

Figure 2 presents a comparison of the academic achievement of male and female students in relation to the impact of the school environment on academic accomplishment in Kakamega County, Kenya, across several grades.

The statistical data displays the proportion of male and female students in various grade levels, ranging from A and higher to D and lower. A- and higher comprise 1.9% males and 1.5% females. These findings suggest that there exists a little disparity in the percentage of male students attaining high grades in comparison to female students. The little disparity can be ascribed to variables such as gender-based disparities in the availability of academic resources or quality of instruction, potentially benefiting male students in specific settings.

The distribution of male and female students in the middle-grade range (B+ to C+) is reasonably comparable, with minor deviations: Test results for males: B+ (10.0%), B (17.5%), B- (18.1%), C+ (18.8%) Among females, 10.3% are B+, 13.7% are B, 16.2% are B-, and 14.7% are C+. These findings suggest that male students exhibit a little superior performance compared to female students in the B and B-grade categories, but female students boast a greater proportion in the B+ range. These findings indicate that both genders are encountering comparable educational settings in terms of the delivery of content and the opportunity for learning. Nevertheless, the little variations may suggest that female students may be encountering environmental elements (such as cultural norms, school facilities, or teacher-student interactions) that hinder their ability to achieve exceptional performance beyond specific thresholds.

Both male and female students exhibit a significant concentration in the lower grade levels. Male: 15.6% in C, 7.5% in C-, 9.4% in D+, and 1.3% in D and below. Among females, 18.6% were C, 14.7% were C-, 7.4% were D+, and 2.9% were D and below. Consequently, the high proportion of female students in lower grades such as C- and D (14.7% and 2.9%, respectively) implies that girls may be more adversely impacted by environmental issues like inadequate school infrastructure, insufficient learning resources, or social influences like gender prejudice. On the other hand, the proportion of male students who achieve low grades is also substantial, particularly in the C and D+ categories. This suggests that both genders are influenced by the school environment, although female students appear to be somewhat more susceptible to failing or descending to lower levels of performance.

The findings indicate that the absence of essential educational resources may impact the academic performance of both males and females. The prevalence of students achieving scores ranging from B- to C+, irrespective of gender, may indicate presence of resource deficiencies such as limited availability of textbooks, insufficient access to laboratories, or obsolete learning resources. Educational institutions located in rural regions of Kakamega County frequently encounter these obstacles, resulting in a general decline in academic performance.

The observed marginal disparity in academic achievement between female and male students in higher grades (A and above, B) could suggest the presence of classroom dynamics or cultural prejudices. Statistical studies have demonstrated that in certain educational institutions, instructors may allocate more focus towards male students or may unconsciously hold lower expectations for female students, resulting in disparate exam results.

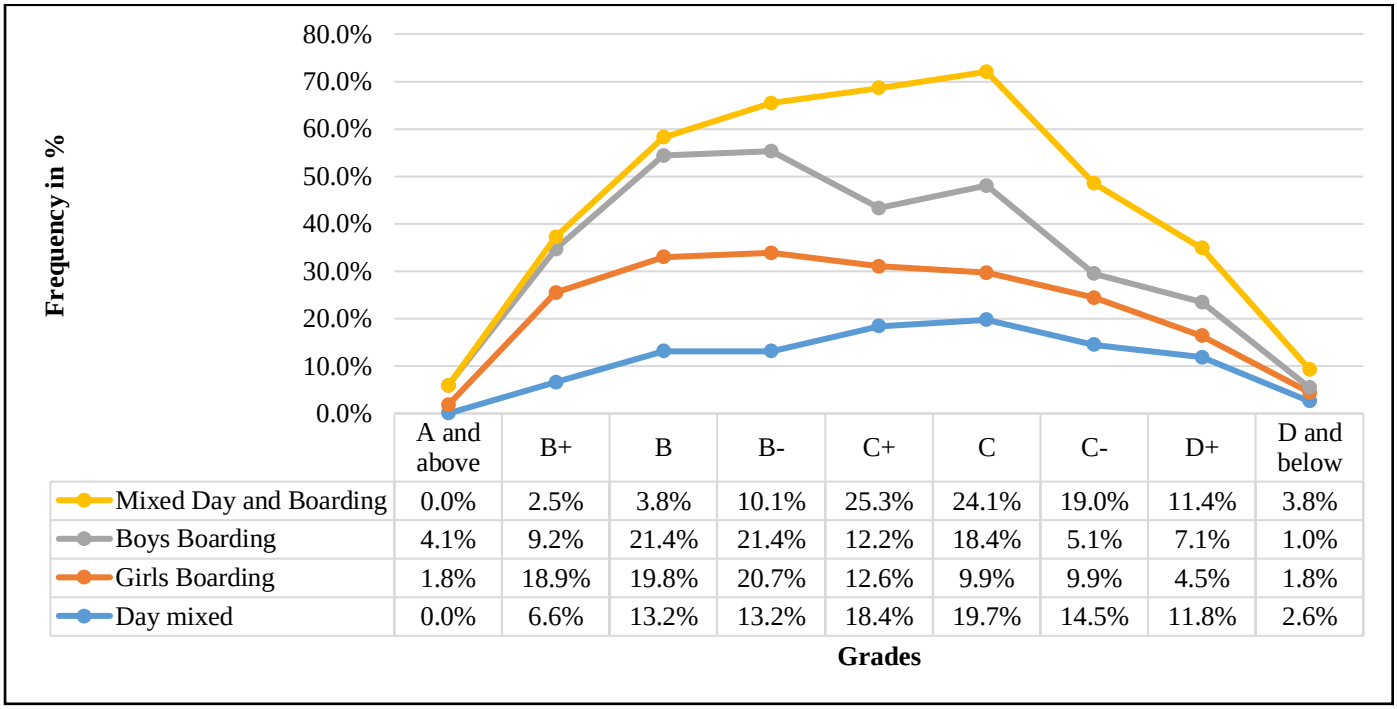
The prevalent socio-economic issues in Kakamega County include poverty and insufficient availability of fundamental educational resources. Particularly, female students may be disproportionately impacted by these issues because of their additional societal roles or responsibilities, such as domestic labour. These obstacles may result in increased rates of absenteeism among female students, which in turn contributes to their somewhat lower academic achievement in the A and above category and their greater representation in the lower grades (C- and below).

The findings emphasize the necessity of implementing more robust learning support systems for children of all genders, given the relatively large proportion of both male and female students in the lower-performing grade range (D+ and below). This observation suggests a potential requirement for enhanced student counseling services, more easily available tutoring programs, or interventions specifically aimed at assisting at-risk students in achieving academic excellence.

The greater percentage of female students at the C- and lower grade levels indicates a requirement for interventions designed to address gender-related issues in the school setting. Potential interventions may encompass programs aimed at fostering gender equality within educational environments, endeavors to mitigate absenteeism resulting from socio-cultural influences, and strategies to enhance girls' self-assurance and academic achievements. While male students exhibit somewhat superior performance compared to female students in the higher-grade categories, a considerable proportion of males still achieve scores in the mid-range (B- to C) and below. Therefore, it is necessary to implement focused interventions such as interactive instructional approaches, enhancements in school facilities, and extracurricular activities that specifically address the educational requirements of male students.

The class analysis results underscore the influence of the school environment on the academic performance of students in Kakamega County, Kenya, revealing significant disparities between male and female students. Although problems connected to resource availability, socio-economic issues, and classroom dynamics affect both genders, female students appear to be somewhat more disadvantaged, as indicated by their larger percentages in the lower grade levels. In order to enhance academic achievements, educational institutions in Kakamega County should prioritize the establishment of learning environments that promote gender equality, ensure the provision of adequate resources, and tackle socio-economic obstacles to education.

The study sought to determine student's achievement in relation to school type. The researcher targeted the following school types – day mixed, girls boarding, boys boarding, mixed day and boarding schools in Kakamega County. The results are illustrated in Figure 3.



	A and above	B+	B	B-	C+	C	C-	D+	D and below
Mixed Day and Boarding	0.0%	2.5%	3.8%	10.1%	25.3%	24.1%	19.0%	11.4%	3.8%
Boys Boarding	4.1%	9.2%	21.4%	21.4%	12.2%	18.4%	5.1%	7.1%	1.0%
Girls Boarding	1.8%	18.9%	19.8%	20.7%	12.6%	9.9%	9.9%	4.5%	1.8%
Day mixed	0.0%	6.6%	13.2%	13.2%	18.4%	19.7%	14.5%	11.8%	2.6%

Figure 3
Distribution of Students' Examination Achievement by School Type

The results shown in Figure 3 illustrate the academic achievement of pupils from several school types (Day Mixed, Girls Boarding, Boys Boarding, and Mixed Day and Boarding) in relation to their distribution among different grade levels (A and above, B+, B, B-, etc.). An analysis of this data can offer valuable insights into the influence of the school environment on the academic achievement of students in Kakamega County, Kenya.

A noteworthy finding is that just 0.0% of students from Day Mixed schools achieved scores of A and above, while a mere 6.6% obtained a B+. A significant proportion of students are classified in the lowest grades of C+ (18.4%), C (19.7%), and C- (14.5%). The aforementioned issues may be indicative of the typical difficulties seen in day schools, including less organized educational settings, less resources, and possible external distractions. Evidence indicates that day school students may have more socio-economic difficulties that impact their academic achievement in comparison to their boarding peers (Nyagosia et al., 2013).

Within Girls Boarding schools, there exists a more even distribution of academic achievement, as 1.8% of students attain A and above grades, while a substantial proportion achieve B+ (18.9%), B (19.8%), and B- (20.7%). The superior academic performance in boarding schools can be attributed to the provision of more organized learning settings, prolonged study hours, and personalized academic support from teachers. Boarding schools sometimes offer less distractions, potentially benefiting girls in particular by providing them with environments devoid of domestic obligations (Kigotho, 2017).

Boys Boarding schools exhibit a rather robust academic performance, as seen by 4.1% of students attaining grades of A and above, and 21.4% obtaining grades of B and B-. While the percentage of pupils attaining a grade of C+ (12.2%) and C (18.4%) is comparable to that in Day Mixed schools, male students in boarding schools typically outperform their peers in general. The enhanced academic performance at boarding schools for boys can be attributed to the well-organized setting, abundant resources, and targeted academic curriculum (Orodho, et al., 2013).

Students attending Mixed Day and Boarding schools have comparatively inferior academic achievement, as seen by a scant 0.0% scoring A and above and a mere 2.5% attaining a B+. The highest proportion of pupils is concentrated in the C+ (25.3%) and C (24.1%) bands. The heterogeneous composition of these schools may present difficulties, since day students and boarding students may encounter varying degrees of academic concentration and availability of resources. The inclusion of day students may also diminish the advantages commonly linked to boarding institutions, such as increased availability of time for academic pursuits (Muola, 2010).

Boarding schools, especially those that are exclusively for one sex, appear to promote greater academic success as a result of the organized and concentrated education they offer. Research findings suggest that the structured atmosphere, prolonged periods of studying, and minimized interruptions are important elements in these educational institutions (Mutweleli, 2014).

Boarding schools typically enjoy superior access to educational resources such as libraries, laboratories, and reliable instructor support, which directly influences academic achievement. This advantage is shown in the higher percentages of pupils attaining B grades and above in Girls and Boys Boarding schools (Orodho et al., 2013). Typically, students in boarding institutions establish study groups and derive advantages from peer learning, therefore augmenting their academic achievements. In contrast, pupils attending day schools may lack the same degree of peer academic support, which could account for the greater proportion of students in lower grades (Muola, 2010).

Summarily, the learner environment in Kakamega County has a substantial effect on the academic achievement of students. Residential schools, especially those for female students, provide organized settings that promote superior academic achievement, whereas coeducational schools and day schools encounter obstacles that may impede academic progress.

4.3 Effect of Student Welfare on Academic Achievement

The objective of the study was to examine the effect of student welfare on student academic achievement. Bethell et al. (2017) assert that student welfare services encompass the methods by which educational institutions deliver vital programs and services to ensure comprehensive support and care for all students.

The respondents were asked to rate the statements on student welfare on students' academic achievement. The scale used was as follows: Don't Know (1) Strongly disagree (2), Disagree (3), Agree (4), and strongly agree (5). Descriptive statistics results are captured in Table 4.

The results suggest that a total of 298 respondents (82%) expressed agreement with the statement "feeling safe at my school," while 36 (10%) disagreed with it. The remaining respondents were uncertain about the statement. Students may develop symptoms of depression and become involved in conflicts when they lack a sense of security at school. Research has demonstrated that students' academic performance is significantly affected when they experience feelings of insecurity at school. According to the Safety and Standards Manual (MOE, 2008), schools should foster an environment that is conducive to teaching and learning by fostering quality interpersonal relationships that are cordial, cooperative, and respectful. When this is upheld, the incidence of student misconduct, including bullying, sexual harassment, substance abuse, and disruptive behaviour, may be reduced.

290 students (80%) concurred with the assertion that students at this institution regard one another with respect, while 74 students (20%) disagreed. Students demonstrating reverence for one another. This suggests that the school environment is conducive to academic success because students treat one another with respect. The statement that abuse is prohibited in this school was endorsed by 295 respondents (81%) and rejected by 69 (19%). In schools, bullying is synonymous with the exclusion of learners, which can result in anxiety and even dropout rates. A school environment that is free of abuse provides students with an abundance of opportunities to study, which in turn leads to academic success. When asked whether teachers treat students with respect, 306 (84%) of the respondents agreed, while 58 (10%) disagreed. The margin suggests that educators demonstrate esteem for their students. The response suggests that the relationship between teachers and students is amicable.

The results indicated that 331 (90%) students concurred that they have the opportunity to serve in leadership roles at school, such as a prefect or member of the student council, while 23 (6%) disagreed. It is intriguing that 10 individuals (3%) reported that they were unaware of whether this occurred at their institution.

According to the assertion that drug and alcohol abuse is not prevalent in our institution, 258 respondents (71%) concurred, while 103 respondents (29%) disagreed. The results suggest that there may be instances of substance abuse, as a significant number of respondents disagreed with the statement. It is widely recognized that drug abuse can result in poor academic performance by fostering a culture of indiscipline in educational institutions. Alcohol and drug abuse is not only a hazardous behaviour, but also a risk factor for a variety of other risky behaviours, including suicide, high-risk sexual activities, sexual violence, and disruptive behaviours in schools, including student unrest, school burnings, significant school dropout rates, and poor academic performance (Cheloti & Gathumbi, 2016).

When asked whether sexual abuse is prevalent in the school, 319 individuals (88%) expressed agreement, while 45 individuals (12.3%) disagreed. When asked whether parents provide for their children's basic necessities while they are at school, 220 respondents (61%) confirmed that they do, while 142 respondents (39%) disagreed. Students' academic success is contingent upon the involvement of their parents. They fulfill a variety of responsibilities, such as ensuring that their offspring have the necessities. This provides students with an abundance of time to focus on their academic studies, thereby enhancing their academic performance. Despite the fact that the majority of respondents are in accord, there appears to be a growing percentage of those who disagree with the statement. This implies that not all parents are performing this role to the fullest extent.

The objective of the investigation was to determine whether the institution maintains a peer partnership policy. The statement was endorsed by a slender majority of 186 (51%), while 178 (49%) disagreed. This suggests that certain educational institutions have implemented this initiative, while others have yet to do so. Peer partnering provides students with the opportunity to communicate and open up to other students, both within and outside of their schools, which ultimately enables them to develop academically.

Table 4

Student Welfare on Academic Achievement

	SA		A		D		SD		DK		Total		
	F	%	F	%	F	%	F	%	F	%	F	Mean	SD
I feel safe at my school.	205	56.3%	93	25.5%	11	3.0%	30	8.2%	25	6.9%	364	2	1
Students at this school treat each other with respect.	190	52.2%	100	27.5%	45	35%	29	8.0%	0	0%	364	2	1
Bullying is not allowed in this school	211	58.0%	84	23.1%	46	13%	23	6.3%	0	0%	364	2	1
Teachers treat students with respect	226	62.1%	80	22.0%	38	29%	20	5.5%	0	0%	364	2	1
Students at my school have opportunities to serve in leadership roles, such as a member of the student council, prefect.	248	68.1%	83	22.8%	16	4.4%	7	1.9%	10	2.7%	364	1	1
Drug and alcohol abuse is not rampant in our school	198	54.8%	60	16.4%	80	22%	23	6%	0	0%	361	2	1
Sexual abuse is not common in our school	234	64.3%	85	23.4%	28	7.7%	17	10.5%	0	0%	364	2	1
Parents provide for the basic needs of their children while at school	150	41%	70	19.3%	131	36%	11	3.0%	0	0%	362	2	1
The school has a policy of peer partnering	100	27%	86	23.6%	103	28%	75	20%	0	0%	364	2	1
School facilities are generally clean	175	48.2%	112	30.9%	42	57%	35	9.4%	0	0%	363	2	1
Our school has a program for learners with special needs	150	41.2%	61	16.8%	105	64%	48	13.2%	0	0%	364	2	2

A Principal on being asked whether the school values rights, she responded saying;

> *"We emphasize the importance of respecting learner rights by promoting inclusivity, fairness, and an open-door policy where students can voice their concerns. We have strict policies against discrimination*

and bullying. Further our student welfare programs focus on providing balanced nutrition, mental health support, and guidance counseling. We also have co-curricular activities to ensure overall student well-being."

A teacher on interview said;

"The school environment is of paramount importance in influencing the learning experiences of students. An ideal environment involves the provision of essential infrastructure, including well-maintained classrooms, libraries, and practical learning resources. Schools that lack sufficient facilities or have overcrowded classrooms may impede students' capacity to focus and acquire knowledge efficiently, therefore adversely affecting academic performance. Conversely, educational institutions that have well maintained facilities establish a favourable learning environment that encourages active participation and enhances academic achievement."

On student welfare another interviewee teacher said;

"Establishing a safe and secure atmosphere is crucial for optimal learning outcomes. Within environments characterized by violence, bullying, or insufficient supervision, students frequently experience a decline in academic performance. Students who attend schools that offer a secure and nurturing atmosphere, which includes safe classrooms and playgrounds, typically exhibit higher levels of concentration and achieve superior academic results."

This views are consistent with Gatua (2015) who observed that in order to optimize the teaching and learning process, schools must establish a secure and nurturing learning environment that accommodates the needs of children with special needs.

There was a consensus among 287 respondents (79%) that the school facilities are generally tidy, while 76 respondents (21%) disagreed. This suggests that the majority of the schools in the area were sanitary, which was conducive to academic success and learning. Conversely, some schools did not have a clean learning environment. In addition to fostering a tranquil environment that facilitates academic success, cleanliness is important for the health of students.

The study aimed to determine whether schools have a program for learners with special needs. A slight majority of 211 (58%) respondents concurred, while 153 (42%) disagreed. This suggests that the majority of schools have a program for students with special needs, while a slightly smaller percentage do not. Stakeholders in educational institutions possess distinct requirements. This implies that it is necessary to include provisions for them to ensure that the institutions do not discriminate while providing service, in addition to ensuring that the service is delivered properly. This program will guarantee that learners with special needs are on par with their peers in all facets of academia, thereby facilitating academic success. A significant number of institutions lack the program, as indicated by the results. Gatua (2015) observed that in order to optimize the teaching and learning process, schools must establish a secure and nurturing learning environment that accommodates the needs of children with special needs.

4.4 Descriptive Analysis of Student Academic Achievement in Relation to Institutional Resources

The study sought to establish the status of academic achievement in relation to institutional resources. The respondents were asked to rate the statements on students' achievement. The Likert scale used was as follows: Don't know (DK) strongly disagree (SD), Disagree (D), Agree (A), and strongly agree (SA). Descriptive statistics results are captured in Table 5.

The descriptive statistics presented elucidate students' perceptions regarding the impact of institutional resources on their academic performance in Kakamega County, Kenya. The analysis can be organized around the principal variables examined. 33.0% of respondents express strong agreement, while 18.4% concur that their academic performance has seen enhancement owing to the provision of sufficient learning resources. Nonetheless, a significant 33.5% express strong disagreement, highlighting a divergence in perspectives. The average score of 3 (on a scale of 1 to 5) coupled with a standard deviation of 1 indicates a moderate level of agreement, alongside considerable variability in the responses observed. A comparable trend is observed in this context, with 31.0% expressing strong agreement and 20.9% indicating agreement regarding their satisfaction with academic accomplishments. Nonetheless, 34.9% express strong disagreement, indicating a notable level of dissatisfaction among certain students. The average of 3 once more underscores diverse reactions, accompanied by a comparable standard deviation of 1, suggesting a moderate consensus yet considerable variability.

35.4% of students express strong agreement, while 17.9% concur that institutional resources, including libraries and laboratories, have had a beneficial effect on their academic performance. Nonetheless, 27.7% express strong disagreement, indicating a significant absence of influence for a segment of the student population. The mean is 2, indicating a lesser degree of consensus relative to other items, while the standard deviation of 1 reflects a broad spectrum of experiences. A notable 27.8% of students express strong agreement, while 20.4% concur that their ability to complete assignments effectively is facilitated by the resources at their disposal. Nonetheless, a significant 30.9% express strong disagreement, indicating considerable discontent among numerous students. A mean of 3 accompanied

by a standard deviation of 1 suggests a divergence in perspectives. 37.5% of respondents strongly concur, while 19.3% express agreement, indicating that access to learning materials has positively influenced their academic performance; however, 23.7% strongly dissent. The average of 3, accompanied by a standard deviation of 1, indicates a level of moderate satisfaction while simultaneously underscoring the presence of varied perspectives.

A significant proportion of respondents, specifically 40.7%, express strong agreement concerning the enhancement of learning experiences through the quality of physical facilities, while an additional 25.8% indicate their agreement. A minority of students express strong disagreement (17.3%), and the mean of 2 accompanied by a standard deviation of 1 indicates predominantly favourable perceptions, despite the presence of some dissatisfaction among the student body. 35.2% express strong agreement, while 27.2% concur that a conducive learning environment enhances their concentration and academic performance. Nonetheless, 21.2% express strong disagreement. The average score of 2 suggests a generally favourable perception of the learning environment; however, it is important to note that a considerable number of students hold differing views.

Table 5

Status of Student Academic Achievement in Relation to Institutional Resources

	SA		A		D		SD		DK				
	F	%	F	%	F	%	F	%	F	%	Total	M	SD
My academic performance has improved due to the availability of adequate learning resources.	120	33.0	67	18.4	33	9.1	122	33.5	22	6.0	364	3	1
I am satisfied with my overall academic achievements this academic year.	113	31.0	76	20.9	33	9.1	127	34.9	15	4.1	364	3	1
The availability of institutional resources (e.g., libraries, labs) has positively impacted my grades	129	35.4	65	17.9	53	14.6	101	27.7	16	4.4	364	2	1
I am able to complete my assignments effectively due to the resources provided by my institution.	101	27.8	74	20.4	54	14.9	112	30.9	22	6.1	363	3	1
My access to learning materials has contributed to better academic performance.	136	37.5	70	19.3	26	7.2	86	23.7	45	12.4	363	3	1
The quality of the physical facilities at my school (e.g., classrooms, study areas) has enhanced my learning experience and academic success.	148	40.7	94	25.8	40	11.0	63	17.3	19	5.2	364	2	1
I find it easier to concentrate and perform well academically because of the conducive learning environment provided by my school.	128	35.2	99	27.2	46	12.6	77	21.2	14	3.8	364	2	1

The findings in Table 5 indicate that although a considerable number of students perceive institutional resources—such as libraries, laboratories, educational materials, and physical facilities—as beneficial to their academic success, a notable segment of the student population holds a contrary perspective. The disparity in responses indicates that the accessibility and calibre of these resources might vary significantly among institutions, or that particular student demographics encounter obstacles in their effective utilization. Enhancing the uniformity and availability of institutional resources may contribute to diminishing the percentage of students experiencing dissatisfaction, thereby fostering an improvement in overall academic performance.

4.4 Hypothesis Testing on Effect of Student Welfare on Student Academic Achievement

The study's first objective sought to test Ho_1: There is no statistically significant effect of student welfare on student academic achievements in Kakamega County, Kenya. The hypothesis was tested by establishing a linear relationship between the two variables, self-efficacy and achievement evaluation, and doing simple regression analysis to model this relationship. The statistical findings are succinctly shown in Table 6.

Table 6

Regression between Student Welfare on Student Academic Achievement

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.321[a]	.103	.101	1.183	.103	41.713	1	362	.000
a. Predictors: (Constant), Student Welfare on academic Achievement									

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.363	1	58.363	41.713	.000[b]
	Residual	506.502	362	1.399		
	Total	564.865	363			

a. Dependent Variable: Academic Achievement

b. Predictors: (Constant), Student Welfare on academic Achievement

Table 7 showed the F-statistics was recorded as 41.713 at p = 0.000, implying the model fit two variables. The t-test results of the two variables was summarized as below

Table 7

Showed the F-Statistics

Coefficients [a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.889	.186		4.787	.000
	Student Welfare on academic Achievement	.620	.096	.321	6.459	.000

a. Dependent Variable: Academic Achievement

The R value from the model summary of the regression between student welfare and student academic achievement, as calculated from the data in Table 3, was 0.321. A coefficient of determination (R square) of 0.103 indicates that 10.3% of the variation in student academic achievement can be attributable to student wellbeing. Student welfare exerted a statistically significant impact on student academic performance.

Additional analysis of ANOVA was conducted to determine if the model adequately accounts for the independent variable in explaining the dependent variable. The results indicate a consistent t-value of 4.787 with a significance level of p=0.000. Introducing student welfare into the equation resulted in a coefficient rise to 6.459 at a significance level of p=0.000. This inferred student welfare resulted in a 1.679 unit increase in academic achievement. The impact of student well-being on academic performance is substantial. Hence, *Ho_1:* There is no statistically significant effect of student welfare on student academic achievements in Kakamega County, Kenya was rejected.

The statistical analysis revealed a significant positive impact of student welfare on academic achievement among students in Kakamega County, Kenya. Initially, the t-value was 4.787 at a p-value of 0.000, indicating a strong and statistically significant relationship between the variables under consideration. Upon introducing student welfare into the regression equation, the t-value increased to 6.459 at a p-value of 0.000. This further underscores the substantial influence of student welfare on academic performance.

The increase in the t-value from 4.787 to 6.459 and the corresponding unit change of 1.679 in academic achievement due to student welfare highlights the crucial role of welfare initiatives in enhancing students' academic outcomes. These findings suggest that improvements in student welfare directly contribute to better academic performance, reinforcing the importance of comprehensive welfare programs in educational institutions.

V. CONCLUSION & RECOMMENDATONS

5.1 Conclusion

On Objective two (2) of the study, the findings of this study reveal that while the teacher-student ratio initially appears to have a significant effect on academic achievement, this effect is not robust when other variables, such as self-efficacy, are considered. The null hypothesis H02, which posits that there is no significant effect between teacher-student ratio and academic achievement, is rejected. This indicates that the direct influence of teacher-student ratio on academic achievement is significant when accounting for self-efficacy. These results underscore the complexity of factors influencing academic achievement. While teacher-student ratio is an important variable, its effect may be

mediated by other factors such as students' self-efficacy. Educational policies and interventions should therefore consider a multifaceted approach that includes enhancing student self-efficacy alongside optimizing teacher-student ratios to improve academic outcomes.

5.2 Recommendations

Educational institutions should invest in robust welfare programs that address the diverse needs of students. This includes nutritional support, mental health services, financial assistance, and Co-curricular activities, which collectively contribute to a conducive learning environment. Policymakers should formulate and implement policies that prioritize student welfare. This includes allocating adequate resources and funding to schools to develop and maintain comprehensive welfare programs. Schools should regularly assess the effectiveness of their welfare programs through feedback from students and academic achievement metrics. Continuous improvement of these programs based on assessment results will ensure that they meet the evolving needs of students. Teachers and school administrators should receive training on the importance of student welfare and how to effectively implement and manage welfare initiatives. Support systems for educators can also enhance their ability to contribute positively to student welfare. Engaging the community and parents in student welfare programs can provide additional support and resources. Collaborative efforts can create a holistic support system for students, enhancing their overall well-being and academic success

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