INFLUENCE OF BICYCLE EDUCATION EMPOWERMENT PROJECT ON EDUCATION PERFORMANCE OF GIRLS IN SELECTED DAY SECONDARY SCHOOLS: A CASE OF SAMIA SUB COUNTY, BUSIA COUNTY, KENYA

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DECLARATION

This research project report is my original work and has not been presented for award in any University.

…….. …….

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L50/88862/2016

This research project report has been submitted with my approval as the University supervisor

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DEDICATION

Special dedication to my parent, Dora Akinyi Obwora for her unfailing prayers and material support throughout the entire project and my education

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ABBREVIATION AND ACRONYMS

UNESCO - United Nation Educational Scientific and Cultural Organisation

EFA - Education For All

UNGEI - United Nation Girls Education Initiatives

UNICEF - United Nations Funds For Children

BEEP - Bicycle for Education Empowerment Project

WBR - World Bicycle Relief

KNBS - Kenya National Bureau of Statistics

KCSE - Kenya Certificate for Secondary Education

NGOs - Non-Governmental Organisations

CATs - Continuous Assessment Tests

SPSS - Statistical Packages for Social Sciences

SDGs - Sustainable Development Goals

DXO- District Examination Officer

NACOST- National Council for Science and Technology

ABSTRACT

The study sought to establish the influence of Bicycle Education Empowerment Project on Education Performance of girls in selected day secondary schools in Samia Sub County, Busia County, Kenya. The study problem was to establish whether the bicycle education empowerment project had influence on class attendance, academic performance, participation in co-curricular activities and perceived commuting safety and security. The objectives of the study were; to establish the influence of the bicycle education empowerment project on girls' school attendance in selected day secondary schools; to examine the influence of the bicycle education empowerment project on girls' academic performance in selected day secondary schools; to assess the influence of bicycle education empowerment project on girls' participation in co-curricular activities in day secondary schools and lastly to examine the influence of the bicycle education empowerment project on girls' commuting safety and security in selected day secondary schools. The hypotheses of the study were; 1. H_1: Girls benefitting from the bicycle project attend class more regularly than those who are not; 2. H_1: Girls benefitting from the bicycle project score better grades than those who are not; 3. H_1: Girls benefitting from the bicycle project participate more frequently in co-curricular activities than those who are not and 4. H_1: Girls benefitting from the bicycle project feel safer and secure commuting to school than those who are not. The study adopted causal-comparative research design. Questionnaires and interview schedules were used to collect data. A sample of 286 students from a target population of 992 students in four different day secondary schools was selected through stratified random sampling with the aid of random numbers table. Prior to data collection, a pilot study of 10% of the sample was conducted in order to test the research instrument by using content analysis and test re-testing methods to determine validity and reliability respectively. The research employed both descriptive and inferential techniques in data analysis. Result of the study demonstrated that the bicycle education empowerment project had influence on education performance of girls in selected day secondary schools. This was indicated by a significant difference in class attendance, participation in co-curricular activities and perceived security where computed chi square p-value was less than p=0.05 hence accepting alternative hypothesis. However, there was no significant difference in academic performance between girls on the bicycle project and those outside of the project where the calculated p-value from chi square was more than p=0.05 hence rejecting the alternative hypothesis. The study concluded that the bicycle project influenced class attendance, participation in co-curricular activities, safety and security but not academic performance. The study recommended that the Ministry of Education and school management should ensure that adequate learning facilities and resources are in place. Additionally, the study noted the immense benefits of the bicycle project and therefore recommended to all stakeholders to have more students enrolled on the project.

CHAPTER ONE: INTRODUCTION

This chapter explains the background of the study, statement of the problem, the purpose of the study, the objectives of the study, the research questions, and significance of the study, the basic assumption of the study, scope and limitation of the study, delimitation of the study, definition of terms and organisation of the study.

1.1 Background of the Study

Education is a fundamental basic human right for every child irrespective of his or her gender (The republic of Kenya law, 2010). Investing in child's education is significantly important by ensuring the governments, non- governmental organisations (NGOs) and citizenry work in unison to achieve the desirable long term goal to enhance social and economic development (Kivuli et, al 2014). Studies indicate that access to quality education, has significant impact on sustainable development (Robert et al, 2016; Sperling & Herz, 2004).

Promoting girl child education is critical in securing long term transfer of knowledge across the generation, social change and gender equality (Kivuli et al, 2014). Gender equity in accessing quality education, is a major concern and a dominating discourse across the globe. Since the campaigns and global advocacy on women empowerment, there have been significant gains made towards girl child education. However, a girl child still lags behind her male counterpart in enrolment, retention, progression and completion rate. Besides primary education where there has been major progress, secondary education exhibits huge gaps of gender disparity in South Asia as well as Sub-Sahara countries. In South Asia, countries such as Philippines, Singapore, Sri-Lanka have at least two third male enrolment compared to

female in secondary school (Baden & Green, 1994). Despite the improvement, the enrolment of boys to girls in Korea is 88% and 87% respectively.

In Africa, recent report by UNESCO's Education For All (EFA) indicates that no sub-Sahara country has achieved gender parity in secondary school enrolment (Education For All Global Monitoring Report, (EFAGMR), 2012). Since 1999, gender parity in secondary schools has never changed much in sub-Sahara countries. In 2012, more than 19 counties across the world had less than 90 girls in every 100 boys enrolled in secondary school. Interestingly, majority of these countries are from sub-Sahara. In chad and Republic of central Africa, girls' enrolment in secondary school is estimated to be half of that of the boys (EFAGMR, 2012). In Angola, the number of girls to boys has been dropping from 76 in 1999 to 65 in 2012 (EFAGMR), 2012). In Eritrea, the enrolment rate for girls in secondary school remains lower than boys at 20% compared to boys 22%, Zambia is 38% for boys while girls are at 35%, Ethiopia is 30% boys to girls 20%, Malawi is 25% boys' enrolment compared to girls at 23% (United Nation Girls Education Initiatives (UNGEI) 2018). This is indeed a worrying trend.

In Kenya, gender disparity has not been spared. According to United Nations Funds For Children (UNICEF) Report, indicate that 51.6% of the students in secondary schools are boys compared to 48.4% for girls. In Busia County and particularly Samia Sub-County, the enrolment of boys to girls in secondary school is 52.6% and 47.4% respectively. School attendance is restricted by long distance and lack of transport means. The challenge has indeed impacted more on the girls whose guardians and parents are not keen to allow their children to walk long distance. The resultant impact was school dropout, road sexual

harassment, fatigue, early marriages, poor academic performance and high illiteracy level among women.

Several interventions in terms of policies, programs and projects have been implemented to secondary schools across the world to aid girls' education. UNICEF interventions aimed at promoting girl child education through various initiatives such as elimination of school fees, promotion of gender sensitive education, protection of pregnant girls and re-entry after birth (UNGEI, 2018). In South Africa for instance, did introduce a policy that supports the readmission of girls in secondary school after giving birth. The legislation was to deter schools from excluding pregnant girls. However, only 1 out of 3 returned to schools (EFAGMR, 2012). In addition, the returnees faced challenges of negative attitude from both their peers and teachers. In Ghana, the government and UNICEF did initiate efforts between 1994 and 1996 to support girl child education (Chapman et al, 2003). A number of programs under CHILDSCOPE such as scholarship for need girl students, food programs ,enrolment drive, Girls Club, construction of separate toilet for girls was initiated in selected schools to increase the girl enrolment which was at 54.6% boys compared to girls 45.4% (Chapman et al, 2003). However, gender disparity under the program did not narrow significantly during the intervention.

In Kenya, several projects and programs have been initiated in support of girl child education. In 2011, the government launched free sanitary towels program to provide pads to school going children who are at their puberty stage. The program was indeed welcomed and supported by various NGOs. In 2018, the government introduced free secondary school and

made it accessible to all. Despite interventions from various stakeholders such as the government, financial institutions and NGOs to minimise the disparity, girl child education still lags behind the boy's enrolment and completion rate in secondary school (Avalos, 2003). Samia Sub County is among the beneficiaries of the Bicycle Project dabbed as Bicycle Education Empowerment Programme (BEEP). BEEP was launched in Kenya in 2015 by World Bicycle Relief. Initiated in Zambia, the program has expanded in other eight countries including Kenya. Secondary school children in rural Samia Sub County do walk up to 15 kilometres to school (Plan International, 2018). Students from far, begin going to school as early as 5 am in the morning. This exposes them to insecurity and sexual harassment. Some of the girls ask for free ride from boda boda in the exchange of sexual favours hence early pregnancy and eventually drop out of school. To support girl child secondary education, organisations have partnered with World Bicycle Relief to provide bicycles to school going children. BEEP aimed at improving school attendance, academic performance, safety and security among secondary school going children. Like other eight countries, the bicycle project in Kenya, is believed to give girls "pedal power" of transportation in form of bicycle (Ruvaga, 2016). Since its inception in Kenya, however, there is no comparative study done based on the two sets of girl students to establish the influence of the bicycle project on girls attendance, academic performance, participation in extra-curricular activities and perceived commuting safety and security. Therefore, it was upon this reason that the study was carried out.

1.2 Statement of the Problem

Education remains a basic human right and a fundamental catalyst for socioeconomic development. For any fundamental progress of a given country, half of the country should not in any way be denied its right for education (Vadhera, 2015). Off course any denial is an automatic violation of the fundamental human right enshrined in Kenya constitution. The importance of initiating programs and projects to support girl education can never be underestimated. Girls' education is not only emphasised on the basis of social justice but more importantly as a catalyst for social transformation (Vadhera, 2015).

Despite many interventions in Kenya such as scholarships, free secondary education, free distribution of sanitary towel, girl child education is yet to catch up with boys (Oprong, 2016). Although female candidates in secondary schools rose by 12%, their enrolment was still low compared to male candidates (Kenya National Bureau of Statistics, (KNBS), 2017). Recent report indicates that secondary school enrolment for boys stands at 51.6% while girls at 48.4%. In Busia County, secondary school enrolment ratio between boy and girls stands at 60:40 (Busia County Government 2013). It is upon this gender disparity that Samia Sub-County, one of the districts in Busia County, benefited from the bicycle project.

In addition, despite the meagre resources the rural parents possess and their financial contribution for enrolment in the project, no studies in Kenya have been done to establish the effectiveness of the bicycle project amongst girls. Otieno (2012) did a study in Nyatike on how girls' performance at K.C.S.E is predicted by home factors. The study is relevant for the

purpose of literature review and improvement of the girl child education. However, she only focused on home based factors such as family economic income, parent involvement, home chores and family size. Musungu (2010) did a study in Siaya on how girls' participation is influenced by different factors. His study objectives focused on the school environment, individual challenges and contribution of the community toward enrolment and participation of girls in secondary education in Siaya. Therefore, it is against these and other related studies, that this comparative study (intervention and non-intervention group) was motivated to establish the influence of the bicycle education empowerment project on performance of girls in selected secondary day schools in Samia Sub County, Busia County. The established influence of bicycle project assisted in coming up with mitigation measure, formulating best policies and programs in support of girl child education.

1.3 Purpose of the Study

The study aimed at establishing the influence of bicycle education empowerment project on education performance of girls in selected day secondary schools in Busia County.

1.4 Objectives of the Study

i. To establish the influence of bicycle education empowerment project on girls' attendance in day secondary schools in Samia Sub County
ii. To examine the influence of bicycle education empowerment project on girls' academic performance in day secondary schools in Samia Sub County
iii. To assess the influence of bicycle education empowerment project on girls' participation in co-curricular activities in day secondary schools in Samia Sub County

iv. To determine the influence of bicycle education empowerment project on girls' perceived commuting safety and security in day secondary schools in Samia Sub County

1.5 Research Questions

i. How does bicycle education empowerment project influence girls' attendance of day secondary schools in Samia Sub County?

ii. How does bicycle education empowerment project influence girls' academic performance in day secondary schools in Samia Sub County?

iii. How does bicycle education empowerment project influence girls' participation in co-curricular activities in day secondary schools in Samia Sub County?

iv. How does bicycle education empowerment project influence girls' commuting safety and security in day secondary schools in Samia Sub County?

1.6 Research Hypotheses

The study was be guided by the following hypotheses:

H_1 1: Girls benefitting from the school bicycle project attend schools more regularly than those who are not, in day secondary schools in Samia Sub County

$H_1$2: Girls benefitting from the school bicycle project score better grades in exams than those who are not, in day secondary schools in Samia Sub County

$H_1$3: Girls benefitting from the school bicycle project participate more frequently in co-curricular activities than those who are not in day secondary schools in Samia Sub County

$H_1$4: Girls benefitting from the school bicycle project feel safer and secure commuting to school than those who are not, in day secondary schools in Samia Sub County

1.7 Significance of the Study

The study findings helped to fill the existing literature and knowledge gap on the influence of the project on education performance. The information provided in this study, would be critically important to the parent donor-World Bicycle Relief (WBF), Partnered NGOs, Ministry of education and county government. The information would help stakeholders to establish sound policies, planning and informed decision towards similar programs and projects in support of girl-child education. Lastly, the research created a window for further investigations.

1.8 Basic Assumption of the Study

i. The study assumed that supporting girl-child education was pivotal in spurring socioeconomic development
ii. The study assumed that the implemented bicycle project in secondary schools have significant influence to students' education performance

1.9 Limitation of the Study

According to Burns et al (2005) argues that limitations refer to restrictions, problems or weakness in a given study that may decrease study from generalisation. The study focused on Samia Sub-County, one of the districts in Busia County, benefited from the Bicycle project. The location of the selected secondary day schools also made it accessible and convenient to the researcher. However, the foreseen barriers included: Limited fund for the study, little literature on related project contribution on girl child education, and possible unwillingness by the students to give information for being victimised by their respective schools. The

researcher overcame these barriers by establishing cheap mode of transport, sought help from librarians and sought permission from schools to allow students to participate.

1.10 Delimitations of the Study

The study delimited to focus on selected day secondary schools namely; St Stephen Bujwanga, Nyakhobi, Ganjala and Nyakwaka; in light of the girls' population in aforementioned schools. Besides, the researcher was local residence and that increased trust from the students to conduct the study in order to contribute to the concerted effort of improving policies and programs supporting girl child education.

1.11 Definition of Study Significant Terms.

Education Performance: Overall achievement of girls in terms of academic performance, non- academic (co-curricular activities), attendance, safety and security of the students

Completion rate: The number of girls per year finishing their form four classes

Progression rate: The number of girls per year advancing in their respective classes

Class attendance: Girls who regularly or on daily basis are present at school pursuing education

Perceived safety and security: Students feeing safe and secure while going to school and back home

Participation in co-curricular activities: The involvement of students in non-academic activities in schools

Boda boda: Form of transport by use of motorbike commonly used in rural areas

Education- Holistic acquisition of knowledge, skills, values to improve one's quality of life as well as transforming and making significant contribution in the society.

Academic performance: Achievement in terms of grades and marks in the previous end term examinations

Enrolment: The number of girls signing up for secondary schools as result of bicycle education empowerment project

1.12 Organisation of the Study

The study was organised into five chapters. Chapter one provided the contextual introduction that brought to the fore the study gap, aim and objectives of the study, challenges and solutions thereof, boundaries of the study, necessary conditions for the study to be carried out and key definition of study terms.

Chapter two did cover literature review on performance of girl child education, students' class attendance, academic performance, co-curricular activities and safety and security on performance of girl-child education. Moreover, the chapter looked at empirical studies and theories as discussed and reviewed. Conceptual framework along with knowledge gap was also covered in this chapter.

Chapter three provided the outline that guided the data collection process, section of study participants, development of study instruments, and data analysis techniques. Chapter four covered the findings resulting from collected data. Descriptive and inferential statistical findings, interpretation and discussion were outlined in this chapter. Chapter five looked at the summaries, derived conclusions and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section reviewed related literature. The aim to review literature was to acknowledge and support the effort put in this study towards supporting girl-child education. Moreover, it also identified knowledge gaps hence providing space for the study. The review was guided by the study objectives and that were arranged in the following order: Education performance of girl child education, bicycle education empowerment project and attendance, bicycle education empowerment project and academic performance, bicycle education empowerment project and participation in co-curricular activity, and bicycle education empowerment project safety and security of girls. Lastly, this chapter presented the theoretical framework, conceptual framework and summary of literature review.

2.2 Education Performance of Girl child in Secondary School

Education is vital for raising a holistic generation who will impact the society economically as well as socially (Muriithi et al, 2014).Moreover, education remains the fundamental component of development and therefore, no single child below age 18 years should be left elsewhere apart from being in school learning (Agwom,2010).The late and former president of republic of South Africa, Nelson Madiba Mandela, echoed similar sentiment that education is a powerful instrument that one can have to transform the entire world (Sichone,2012).In the world of globalisation and also technological advancement, education is the initial step in every human endeavours. Education builds human capital, permits acquisition of knowledge and skill that are necessary at increasing productivity and improving quality of life (Dhufera & Akessa, 2015).

Educating a girl-child in the society, cannot be underestimated. There is an old saying that if the society educates a man, is only an individual who is educated but if it is a woman, then it is the whole society. In other words, if the woman is educated, her family and the whole society at large will rise above poverty line, being healthy and productive. Education for girls is what defines empowerment of women today. Empowerment for school going children means to make free, informed decision, being equal partner in the household and the community. Education usually put girls to power in their womanhood. In other words, girls with quality education are not likely to marry early and against their wish; not likely to die during childbirth, are likely to have health children in marriage and send them to school and hence passing down social benefits to the next generation (UNICEF, 2007).

However, girls' education performance in secondary schools across the world is indeed wanting. A report by UNICEF (2007) did indicate that girls' attendance in secondary schools was at 43% in that decade. In addition, the report shows that less than three quarters of women in developing nations are illiterates. Although numbers do vary in terms of region, In South Asia and Sub-Sahara Africa, female population are marginalised and undereducated (UNICEF,2007).In Sub-Sahara Africa for instance, the enrolment of girls in secondary schools stands at 17% (Rihani,2015). Rihani further argues that Boys and girls should have similar right towards education to ensure full participation in the society and economy. A number of countries have made strides on primary education and therefore, secondary education should also be given the priority it deserves and particularly for girl child. Renewed effort to support girl child secondary education is essential for several investments.

The performance of girl child in pursuit of secondary education does confront a number of challenges. The girls are likely to suffer more than boys from the effect of poverty. The concept of "economics of enrolment", determines the one to educate between a boy and a girl. A number of parents recognise that educating girls is more than tuition, and extends to loss of labour at home. In developing countries, children and particularly girls help in caring their siblings and involved in income generating activities. In Pakstan, during the extreme poverty, girls are compelled to help their parents in agricultural activities such as taking meals to the field workers and taking care of their young siblings. These families in Pakstani do not view any value in educating girls (Rihani, 2015). Similarly, in African and other developing countries, young girls are married off. Moreover, students' attendance is determined by school location. Due to safety concerns, the parents are usually afraid to allow children walk a long distance to schools for fear of sexual violence concerns. According to Rihani (2015) distance to lower and upper secondary schools is a major deterrent for girls to attend, survive and complete schools. Completion of secondary school cycle due to distance in the rural areas affects countries such as Yemen, Pakstan, Guinea, Egypt, Mali, Niger and Morocco.

In Kenya, girl child education is a major concern. Although there are many gains made in education such as free sanitary towel and free education, the boys' enrolment in secondary school is still higher than girls' enrolment. Recent study indicates that 51.4% are boys and 48.6% girls. This is a clear indication that most of the parents prefer educating boys as opposed to girls. Munyao (2013) points out that Kenyan girl child is adversely affected by female genital mutilation (FGM),girl drop out, sexual abuse, child labour, financial

constraints and early marriages. The challenges facing girls at puberty stage and related health risk affect their education in school (Ackerman, 2015). Living in rural areas and particularly girls, disadvantage them from completing secondary school hence increasing gender disparity. Interestingly, a recent report indicates that by 2014, 54% of the countries across the globe had not achieved gender parity in lower secondary schools and also 77% in upper secondary school (to Swedish International Cooperation Agency, 2017).

2.3 Bicycle Education Empowerment Project and Attendance of Girls in Secondary School

Globally, the purpose of schools is to bring students together from diverse family under one given roof commonly known as the class room and keep them learning (Oghuvbu, 2010). Moreover, effective learning can only take place in the schools if teachers and students interact in a common place. School attendance and engagement is a key factor in student performance (Lukkarrine et al, 2016). Oghuvbu (2010) did a study in Nigeria and identified class attendance-academic performance relationship to be positively correlated and varying based on geographical location. It concludes by suggesting that positive improvement on the attendance increases the level of student performance in secondary school. Statistically, 22% of student performance was found to be influenced by attendance. Similarly, the study on class attendance and student performance of Kafue secondary school in Zambia, showed that increasing number of student class attendance translates to students' average composite score by 0.670 (Chisimba, 2016). The studies clearly demonstrate that student regular attendance translates to desirable academic outcome.

In order to track the student attendance and how well they receive instructions from their teachers in schools, all school administration have designed attendance register (Oghuvbu, 2010). The significance of having attendance register in schools is to enable the head of schools and teachers to have accurate information of all activities and students to facilitate effective decision-making, aids educational planning and procurements and satisfying the legal requirement and examinations (Oghuvbu, 2010).Usually before lessons commence, teachers have the administrative duty to take role call on daily basis. The information from the records is also utilised by the Ministry of Education and other professionals for planning and to understand issues affecting the schools and probably come up with measures to mitigate them. In addition, parents also use the information provided by the class attendance register to supervise the activities and monitor movements of their children. Students that do not attend schools regularly, face several challenges ranging from coming late to school, learning problems, inability to read and consulting teachers (Oghuvbu, 2010).

Studies cite home and school factors having influence towards student attendance in secondary school. The educational level of parents and social status, school location, students' attitudes on subjects and school, inadequate supervision by parents and teachers and lack of sufficient facilities in schools influence the attendance of students in schools (Alio, 2003). Nevertheless, a number of countries have put forward a formative action programs to support and increase the number of girls attending secondary schools. According to Swedish International Cooperation Agency (2017) identified key elements that the Swedish government have put in place to ensure that girls complete quality secondary education without discrimination. To increase inclusion in the class room, the Swedish government

ensured that scholarship is given to the marginalised group and particularly girls. Muralidharan & Prakash (2013) did a study to establish the impact of innovative program as part of affirmative action in Bihar, India. The program aimed at reducing gap in the enrolment of secondary school by giving girls bicycle to improve access to secondary school education. The findings established that girls' enrolment increased by 30% and gender disparity decreased by 40%. Moreover, the study also noted that increase in enrolment was identified from the girl students coming from far away from school. The project also reduced the cost of attending school and reporting time. The outcomes are similar to Chip (2017) who observed the Norman rotary club provided bicycles to boost school attendance. He further argues that students must attend school every day in order to be successful.

Another investigation uncovering the correlation of class attendance and students performance in Kafue secondary school in Zambia, did note that distance was a major impediment to access school in rural Kafue of Zambia (Chisimba, 2016). The study acknowledges the provision of the bicycle education empowerment project to mitigate the negative effect of distance and enable the students attend secondary schools regularly. The studies illustrate that there is a solid connection between the bicycle education empowerment program and girls attendance. However, the studies demand careful interrogation based on their findings before drawing conclusions. These two studies have different demographic and geographic features hence cannot be generalised.

2.4 Bicycle Education Empowerment Project and Academic Performance of Girls in Secondary School

The entire expectation for teachers, parents and students in secondary schools is to ensure their collective objective is achieved. Academic performance is significantly important since it is always in tandem with the positive outcomes that the students and all stakeholders value (Regier, 2011). In other words, the central business of the schools is to provide ground for teaching and learning in order to achieve quality outcome (Mhlauli & Mphale, 2016). However, to achieve quality education where students are able to master cognitive achievement, obtain desirable grades, class progression and successful completion of secondary school, all the stakeholders ought to take part in translation, interpretation and implementation of policies, programs and projects in schools.

The academic performance of girls is of uttermost importance for reducing gender disparity, expanding country's leadership and entrepreneur, accelerating economic growth, promoting healthier child upbringing and protecting themselves along with their family from both economic and environmental shock (Winthrop & King, 2015). However, poor academic performance by girls compared to boys in secondary schools, has slowed down the achievement and therefore, eliciting a number of studies to establish the challenges affecting girls' education in rural areas. An investigation by (Ouma, 2013) did establish distance to school, among other factors, to be one of the problems affecting the performance of girls in rural areas. The study revealed that distance did affect participation of girls in secondary school at the rate of 76%. Distance does have strong effect on the regular attendance and retention that eventually affects the performance of girls. In other words, distance increases

the possibility of the student lateness, fatigue in class and demotivates students making them to attend school irregularly hence affecting their academic performance (Kimondo, 2013). A study conducted in Chad by (Lehman, 2003) cited in campaign for Female Education (Camfed, 2012) revealed that more girls than boys were likely to drop out of schools due to distance. The study further identifies three types of distance that affects academic performance of girls in rural areas. They include, physical distance, time distance and cultural distance.

Students need to attend secondary school on regular basis to performance well and meet the needs of the current world (Okudi, 2016). To facilitate this effort and meet the Sustainable development goal (SDGs) on education for all, policies, programs and projects are in place to ensure girls' education is indeed supported. A number of programs have been launched by various organisations to resolve and enrol more girls and boys in secondary schools. However, the UNESCO's Global Education Monitoring report emphasised the need to shift from parity to gender equity program (UNESCO, 2016). The report intended to remove a number of barriers and challenges affecting girls in a pursuit of education. The implementation of bicycle project in a number of countries, for instance, was to aid students from trekking long distance to school hence improving their participation in the secondary education.

A study conducted in Zambia, to evaluate and monitor the impact of Bicycle education empowerment project on education does indicate 22% point improvement in academic performance of both boys and girls who received the bicycles (World bicycle relief report,

2012). The improvement was slightly higher by 4% points from 18% when the project was initially implemented. The girls' academic performance improved from37% to 59% while boys improved from 38% to 60% average score in the end term examinations. Despite boys outperforming girls, the evaluation findings, demonstrated that bicycle project-academic performance have a positive association. The project reduced distance hence providing more time to study and doing homework.

2.5 Bicycle Education Empowerment Project and Girls' Participation in Co-curricular activities in Secondary School

The mind and body of a child development is tied to the realisation of intellectual and physical qualities (Singh, 2017). Modern approaches do emphasis on the holistic child development in school. The form of education offered in various schools is not something statics but rather a continuous process. Education is divided into two category namely curricular activities and co-curricular activities (Singh, 2017). While curricular focuses directly on academic and class related activities, co-curricular activities on the other hand, includes: Athletics, sports, debates, drama, scouting, curbing and various hobbies. The role of education is to transform child's behaviour and build the desired personality. Hence, the non-academic activities play important role in school program.

Participation in non-academic activities has impact on the academic performance (Daniyal, 2012). Participation in co-curricular activities is associated with excellence in academic, interestingly; they are indeed capable of handling academic and non-academic activities (Zehner, 2011). Similar sentiments are echoed by Bashir & Hussein (2012) asserting that the

students taking part in the extracurricular activities usually get more grades than those not taking part at all. Although schools are mostly concern with the academic development, studies have affirmed the positive role of non-academic activities in the education success (Chan et al, 201; Almero-Encio et al, 2016).

Singh (2017) did a study and found out a positive association between co-curricular activities and academic performance. The study established that participating in non-academic activities led to better grade achievement. These findings were supported by Danganan and Nuqui stating that co-curricular activities among the youths provide the opportunity to excel in personal development and academic performance (Danganan and Nuqui, 2015). A study conducted by Sunil & Paul (2012) in West Bengal on the analysis of non-academic activities, revealed a positive correlation with the performance of students. Besides academic performance, participation of girls in extracurricular activities helps the girls to develop leadership skills. (Sperling et al, 2016) do emphasise on the need to empower girls in schools at their early stages through co-curricular activities. Additionally, co-curricular activities provide opportunities to nature leadership among girls as they become women (Domingo et al, 2015)

In Nepal, a survey report on a project dabbed as ‘send a girl to high school with a bicycle gift’ establish the existing relationship between bicycles and co-curricular activities. The survey was conducted in five schools that had received the bicycles to deter early marriages and keep them in school thorough until they complete high school (Bhandari, 2018). The study was to investigate the immediate impact of bicycle project to girls in high school. It

was interesting to establish from the findings that participation of girls in co-curricular activities had increased.

Although unsystematic, the impact evaluation by Bikes for Philippines (BFP), a non-g governmental organisation in Philippine registered in 2013, the anecdote evidence demonstrates the impact of the bicycle project is positive. Besides reducing school dropout, the program has cut down commuting time and provided more time student to concentrate on their studies and participating in co-curricular activities (Uichico, 2018). The two evaluation reports from the survey conducted, clearly demonstrated a positive relationship between the provision of the bicycles project and extra-curricular activities. However, their methodological study, demographic and geographical locations are quite different and therefore cannot be generalised.

2.6 Bicycle Education Empowerment Project and Perceived Commuting Safety and Security of Girls in Secondary School.

Safety and security for secondary school girls is significantly important for increasing access to education, gender equity and successful completion of secondary school. In other words, efforts made towards providing the young girls safety and security is a strong impetus of social transformation among girls. Interestingly, when safety and security are not provided as basic need, girls may not feel comfortable and are likely to stop showing up hence dropping out of school (Applebury, 2018). Girls are exposed to a number of risk and particularly in rural areas. The risks include sexual harassment, road bullying and accidents. Moreover, risks are aggravated by elongated distance to school from home. These risks have the potential to

derail sustainable development goal that advocates for gender equity in pursuit of education. Akhtar et al (2015) did a study to examine the factors affecting girls' education at secondary level in Karak district, Pakistan. Among the factors include: lack of proper safety arrangement, distance, and mode of transport. The findings of the study were clear demonstration that safety and security of school going girls was fundamental.

Several measures are in place to ensure school safety and security of students. The government of Kenya recognises student safety. This is well articulated in the Ministry of Education Safety Standard Manual (Republic of Kenya, 2008).The guidelines therein are provided to be used by the Kenya schools. Chapter six of the safety standard manual highlights a number of guidelines for transportation safety as pedestrian, using bicycle, public transport and transport provided by the school. Other countries that took serious the issues of students' safety include Cote d'Ivoire, Thailand and Afghanistan. In Cote d'Ivoire, the parents and the community as whole did ensure that their children walk to school in groups or accompanied by parents to avoid any attack. The practise continued till the community and parents were assured of the safety measures by the school heads and the government officials (Sperling, 2015). In 2010, Thailand government charged the security forces to keep safe the route used by students and teachers. Pakistan on the other hand, did ensure that the students and particularly girls are safe in school from any external threats and disturbance. The Ministry of Education built walls around girl schools

Various studies conducted, demonstrate that bicycle project has also a positive relationship with safety and security to the school going student. After issuing imported used bicycle to offer transportation to 18 schools in rural and 2 in urban areas, Bicycle Empowerment Network (BEN) in South Africa, conducted a study through questionnaires and site visit to assess the impact of BEN's project. The findings demonstrated that the project made positive difference in school attendance, academic performance, and school arrival time and restored safety confidence among the parents (BEN, 2013). Safety and security measures of students are major concerns for the parents, school administration and policy makers (Bracy, 2011). In an examination on high school student's perception on school security, the findings shown that 95% of boys and 75% of girls felt that they are safe while in school (Arabac, 2016). The study however, gives priority to school environment security and fails to look at road safety of students and particularly girls and how it translates to general learning of the students in school.

2.7 Theoretical Frame work

The theory of change is relevant and was used to guide the study.

2.7.1 Theory of Change

Connolly & Seymour (2010) define theory of change as an assumption predicted on the relationship existing between the desired outcomes and actual actions towards expected changes. Weiss (1995) has simplified the definition to mean how and why an initiative works. The theory is powerful to guide human action towards desired outcomes. It is quite relevant to drive projects as well as people. In the context of a project planning, the theory does not only facilitate the distinction between the desired and actual outcomes but also helps relevant

stakeholders to work on the desired outcome before settling on a certain form of intervention within a community or an institution. In addition, the theory explains the underlying linkages in a project such as short term, immediate and long term outcomes (Connell & Klem, 1996).

As mentioned earlier, the theory of change in a project, it explain why taking a particular course of action would translate into a certain set of desired outcomes. In the case of the bicycle project implemented in various countries, the desired outcome was to reduce gender parity and supporting girl-child education in secondary schools by addressing challenges such distance to school, sexual harassment on the road, dwindled academic performance, and drop out among others. The desired outcome (based on the principle of the theory of change) is not far away from what the study investigated; the influence of bicycle education empowerment project on education performance on girl child in secondary school.

In addition, the theory guided the study to evaluate effectiveness of the bicycle project in meeting its desired goals and objectives. The findings provided critical information as articulated by theory of change to help the stakeholders in decision making for realisation of project's goal. Consequently, the results from the study were congruent to the principles of the theory of change which advocated both adoption and adaption of better strategies for the projects to enhance girls' performance.

2.8 Conceptual Framework

Mugenda (2008) describes conceptual framework as a pictorial representation of the existing relationship between variables. The explanation of the conceptual framework, contributes to

the research study in two ways namely; identifying research variables and clarifies the existing relationship among the variables (William, et al, 2001). In the study therefore, the conceptual framework dramatically represents the relationship of the bicycle education empowerment project-education performance relationship.

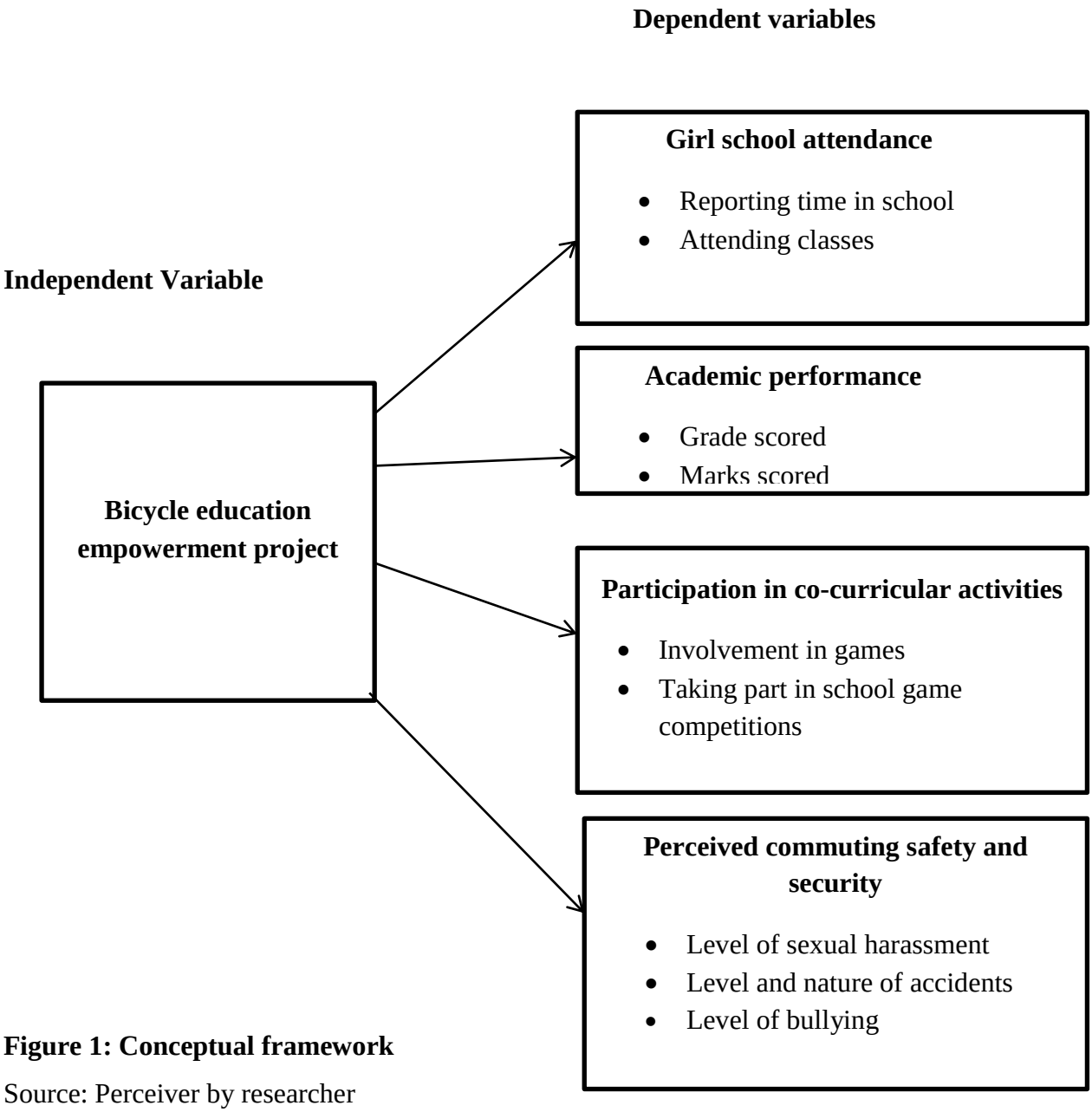

Figure 1: Conceptual framework

Source: Perceiver by researcher

2.8.1 Explanation of the Relationship of Variables in Conceptual Framework

In a conceptual framework, an independent variable is one that can be systematically varied in a study by the researcher while dependent variable is one that varies in accordance to changes in the independent variable (Mugenda & Mugenda, 2008). In this case therefore, the bicycle education empowerment project is the independent variable while the dependent variable is the education performance. The four aspects of the education performance in this study are; school attendance, academic performance, participation in co-curricular activities and perceived commuting safety and security.

Additionally, the conceptual framework assumed that there was a relationship between the bicycle education empowerment project and education performance. The study considered determining school attendance through class attendance and reporting time to school. Moreover, it considered academic performance in terms of grades and marks. Grades and marks were critical indicators for establishing the influence of the bicycle project on academic performance between the two groups of students. The framework also indicates that co-curricular activities were likely to be influenced by the bicycle project. Involvement in school games and competitions were used to measure participation in co-curricular activities. Perceived commuting safety and security were measured in terms of level of sexual harassment, accident and bullying.

2.9 Summary of Literature Review

The chapter explored literature related to the influence of the bicycle project on the girls' performance. The discussion clearly highlighted the contributions of the bicycle project to girls' performance in secondary schools. It is quite evident from the discussion that bicycles program influences class attendance of girls. Moreover, academic performance among girls is another contribution from the bicycle project.

Other contributions of the bicycle project on the performance of girls in selected day secondary schools include; co-curricular activities and perceived commuting safety and security along the road on their way to and from school. In other words, it is evident that bicycle project provides girls with more time to engage in co-curricular activities and guaranteeing road safety.

The discussion from literature also explored various studies to demonstrate the relationship between the bicycle project and key areas of girls' education performance. The gaps of these studies were captured in summary of literature review, table 2.1

Table 2.1: Summary of Literature Review

Variables	Indicators	Authors and Year	Title of the study	Findings	Knowledge gaps	Focus of current Study
Girls' attendance	The number of times girls regularly report to class in day secondary school as result of bicycle program	Muralidharan & Prakash ,2013	Cycling to school: Increasing high school girl's enrolment in India	The findings established that girls' enrolment increased by 30% and gender disparity decreased by 40%.Moreover, the study noted increase in enrolment from the girl students coming from far away from school. The reduction of reporting time and cost of school attendance were also made possible by the bicycle program	Study was carried out in India	Study was conducted Be carried in Samia Sub county, Busia County
		Chishimba, 2016	Class attendance and student performance: Acase study of Kafue secondary school.	The study found out that the increase in class attendance increases student's average composite score by 0.670	The study focused on class attendance and performance of all students	The study focused on girls only between two groups

Academic performance	The grades obtain in continuous assessment test and end terms exams and class promotion	Ouma,2013	Factors affecting participation of the girl-child in secondary schools education in Migori district, Migori county, Kenya	The study establishes that distance affected participation of girls in secondary school at the rate of 76%.The study further noted that distance has strong effect on the regular attendance and retention that eventually affects the academic performance of girls.	The study noted the influence of distance to girl participation in secondary school education	The study looked at on the influence of bicycle project on attendance
		World bicycle relief report, 2012	The impact of Bicycle education empowerment program on education	The study indicated 22% point improvement in academic performance of both boys and girls who received the bicycle	The study focused on both girls and boys in Zambia	The study focused on girls only in Samia Sub County, Busia county, Kenya
Girl's participation in co-curricular activity	Involvement in school competitions and games	Singh, 2017	The effect of the co-curricular activities on the academic performance	The study established students achievements in different subjects were positively	The study delved on co-curricular as determinant of student achievement	Study delved on the BEEP as a determinant of co-curricular activities

				affected by their different level of their participation in co-curricular activities.		
		Bhandari, 2018	Survey reports on send a girl to high school with a bicycle gift : Immediate impact of the bicycle project to girls in high school	The study found out that girls' participation in extra-curricular increased.	The mini survey was conducted from the teachers' perspective	Study conducted from student' perspective
Perceived road safety & security	Levels or cases of road sexual harassment, accidents and bullying	Bicycle empowerment network, 2013 Arabac,2016	Impact on the benefits and challenges of BEN's bicycle mechanics and safety programme for rural schools	The finding demonstrated that the program made positive difference in school attendance, academic performance, school arrival time and restored safety confidence among the parents	The study looked at the safety of the students from the parents' perspective	The study looked at safety and security from the student's perspective
			High school student's perception on school security high school student's perception on school security	The study showed that 95% of boys and 75% of girls felt safe while in school environment	The study looked at school security of all students within the school environment	The study looked at commuting safety and security of girls

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter does describe the research methodology applied to carry out the study. It covers areas such as research design, study area, target population, sample size and sample selection, research instrument, reliability and validity of the instrument, data collection procedures and data analysis techniques.

3.2 Research Design

A research design serves as an architectural blue print for research process with an aim of answering study questions (Hedrick et al, 1993; Kothari, 2004). The study adopted a causal-comparative research design to establish the consequences or cause of differences between two groups of students. The causal-comparative research helps a researcher to determine the causal differences occurring between two groups or more groups (Fraenkel & Wallen, 2000). Moreover, it is used to compare separate groups that differ on known characteristics and determining relationships among variables to make decision. In this study therefore, causal-comparative research was used to establish the influence of the bicycle project on girls' education performance. The design was suitable due to its comparative approach between those girls who benefited from the bicycle project and those girls who did not.

3.3 Area of Study

The study was carried out in Funyula constituency, Samia Sub County, Busia County in western province of Kenya. Samia Sub County Boarders Uganda to the west and Siaya County to the East. The Sub County is estimated to have an area of about 306.5 kilometres

squared. The sub county has three administrative divisions namely; Odiado, Nangina and Sioport. Funyula has 12 secondary schools of which five are beneficiary of the bicycle project. The study chose this Sub County to establish the influence of the bicycle project on the girls' education performance in selected day secondary schools.

3.4 Target Population

Target population refers to a large population from which a sample population will be selected from (Mugenda, 2000). In addition, population carries along cases that conform to the intended specifications (Frankfort-Nachmias & Nachmias, 1996). Here, a sample population represent a case of the target population in the study. The goal of the sample population is to obtain accurate data and fraction as true representative of all possible cases. The study targeted 4 day secondary schools, 4 principals, 12 class teachers, 12 school program committee officials, 1 district examination officer and 992 girl students

Table 3.1: Data on Population Target of the Study

Target population	Total population
Secondary school	4
Principles	4
District Examination Officer	1
Program committee official	12
Class teachers	12
Girl students	992
Total	1018

3.5 Sample Size and Sample Selection

The study employed both probability and non-probability design to arrive at the intended sample size. For non-probability sampling design, the study used purposive sampling to get 4 day secondary schools (3 mixed secondary schools and 1 pure girls school) 4 principles, 12

class teachers, 12 school project committee members and 1 Sub-County Examination officer (DXO). Boeije (2012) argues that purposive sampling is where a sample is intentionally selected based on the need of the study. Therefore, the above samples were key to the study. Moreover, the sample size was calculated from Slovin's formula the as shown:

$$n = \frac{N}{1+Ne^2} \quad = \frac{992}{1+(992)(0.05)^2} = 286.057 \sim 286$$

Where;

n- Sample size

N-The population size

e^2- Margin error

The sample size from each school was derived from:

$$n_1 = n.P_1$$

$$Sample\ size\ for\ each\ school = \frac{Target\ population\ for\ each\ school\ category}{Total\ target\ population} \times 286$$

In probability sampling, the study used stratified random sampling to categorise the girls on whether they were enrolled on bicycle project or not. Therefore, the study used an appropriate sample of 286 girls from both categories derived from 992 target populations of girls working with 95% confidence level. The selected sample size for each school was derived from the formulae above. Moreover, a simple random sampling with the aid of random number tables (appendix IV attached) established the students' sample from each secondary school. This was done by listing the names of the students on papers with desired sample, assign them two digit numbers and use the random numbers table to obtain the sample

Table 3.2: Data on Sample Size and Sample Selection for the Study

Schools	Total girls on bicycle project	Sample of girls on bicycle project	Total girls not on bicycle project	Sample of girls not on bicycle project
St. Stephen Bujwang	147	42	121	35
St Joseph Ganjala	110	32	114	33
Nyakhobi	70	20	170	49
St Luke Nyakwaka	110	32	150	43
Total	437	126	555	160

3.6 Research Instrument

The study employed two forms of instruments namely; questionnaire and interview schedule. These methods are popularly used for collecting data in a research survey (Kothari, 2004). Interview schedules were used on DXO, school project committee, principals and teachers. The questionnaires were used for students. Both instruments have two parts. Part one has the demographic section while part two has the information on the influence of bicycle project on girls' education performance. Part two of both instruments has both open and closed ended questions.

3.7 Reliability and Validity of the Instruments

The study ensured that the research instruments are valid and reliable.

3.7.1 Validity of the Research Instruments

Validity refers to the extent in which an instrument measures what was intended (Bryman, 2008).Therefore, validity explains the accuracy of the data in relation to the variable used for the study. 28 students (0.1 of the total sample size) were used in the pilot study to test the validity of the instrument used in the research study. The purpose of pre-testing was to assess

the clarity of the instrument and those found inadequate to measure variables were improved and some discarded in order to increase the quality of the research instrument hence assuring validity.

3.7. 2 Reliability of the Research Instrument

The reliability of research instrument looks at the consistency of measures (Bryman, 2008). In other worlds; it measures the extent in which the research instrument can give similar results on repeated attempts or trials. Among the many techniques of assessing reliability of the research instrument, the study used re-testing method on the research instrument. This implies that once the pilot testing is done and improving the research instrument for validity, the study retested the instrument to determine their reliability.

3.8 Data Collection Procedures

The study used both questionnaires and interview schedule in piloting and the actual study. The study also conducted document analysis for the purpose of cross-checking and confirming responses from students. Consequently, the research obtained study permit from the Ministry of Education. In addition, deputy county commissioner was contacted before the study commenced.

The sampled schools for the study were visited by administering the interview schedules and questionnaires. The study was determined to uphold high ethical standard in research. In other words, their anonymity and confidentiality was assured. Babbie (2010) argues that it is

important to protect the respondent's identity, interest and well-being by embracing the ethics of research.

3.9 Methods of Data Analysis

Data analysis aims at responding to both research objectives and questions (Bryman, 2008). The data was cleaned, edited, coded and entered into statistical packages for social science (SPSS). The study used both descriptive and inferential techniques to analyse data. The approaches were appropriate in this study due to the nature of the research objectives.

3.9. 1 Qualitative Data Analysis Technique

The qualitative data was analysed and interpreted from key thematic areas. The thematic areas were organised in tandem with the study objectives. The content of the thematic areas also included briefs and observations.

3.9.2 Quantitative Data Analysis Technique

Quantitative data processing and analysing began by editing to reduce errors. It was followed by coding to reduce the magnitude of data entry, analysing and interpretation. The SPSS version 20 was used to run descriptive and inferential analyses to produce frequency distribution, percentages, mean and chi-square tables.

3.10 Ethical Consideration

The research study endeavoured to ensure that ethical issues in conducting research were strictly taken into account. The study sought permission in form of a letter from National

Council for Science and Technology (NACOST) to authorise the study, protect the researcher and those participating in the research. The research permit is critical before undertaking the study (Tromp & Kombo, 2006).

The study also ensured the information provided by the students was treated with utmost anonymity and confidentiality. In addition, the study sought for informed consent to facilitate voluntary participation. Moreover, the intention to conduct the study was effectively and timely communicated to administrative authority in Samia Sub-county for permission

3.11 Operationalization of the Variables

Table 3.3: Operationalization of the Variables

Objectives	Type of variables	Indicators	Measurement	Measurement scale	Approach of analysis
To establish the influence of bicycle education empowerment program on girls' attendance in St Stephen Bujwanga, Nyakhobi, Ganjala and, Nyakwaka, day secondary schools	**Dependent:** Performance of girls-Girls attendance **Independent:** Bicycle education empowerment program	Regular class attendance School reporting Girls students with bicycles	• Number of days recorded in the register for reporting to school • Time students report at school • Number of students with bicycles	• Ordinal • Ratio • Ordinal	Use of Chi-square
To examine the influence of bicycle education empowerment program on girls' academic performance in St Stephen Bujwanga, Nyakhobi, Ganjala and Nyakwaka day	**Dependent:** Performance of girls-Girls academic performance **Independent:** Bicycle education empowerment	Grade and Marks scored in CAT and end term exams	• Improved Grades as recorded in the class teachers' records and report cards • Improved Marks as recorded in the class teachers' records and report cards	• Ordinal • Ratio	Use of Chi-square

secondary schools	program	Girls students with bicycles	• Number of students with bicycles	• Ordinal	
To assess the influence of bicycle education empowerment program on girls' participation in co-curricular activities in St Stephen Bujwanga, Nyakhobi, Ganjala and Nyakwaka day secondary schools	**Dependent:** Performance of girls-Girl participation in co-curricular activities **Independent:** Bicycle education empowerment program	Girl participation in co-curricular activities Girls students with bicycles	• Number of girls involvement in games • Number of girls Taking part in school game competitions • Number of students with bicycles	• Ordinal • Ordinal • Ordinal	Use of Chi-square
To determine the influence of bicycle education empowerment program on girls' perceived road safety and security in St Stephen Bujwanga, Nyakhobi, Ganjala and Nyakwaka day secondary schools	**Dependent:** Performance of girls-Girls perceived road safety and security **Independent:** Bicycle education empowerment program	Girls perceived road safety and security Girls students with bicycles	• Reduced level sexual harassment • Reduced level of accidents • Reduced cases of bullying Number of students with bicycles	• Ratio • Ratio • Ratio • Ordinal	Use of Chi-square

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter provides content on data analysis, presentation and interpretation. In addition, it has subtitles arranged according to study objectives. Moreover, findings of this study are presented through descriptive and inferential statistics. Also, the explanations and interpretations of the study findings are provided after the frequency tables.

4.2 Questionnaires Return Rate

The response rate was 100% where a sample of 286 students was drawn from 4 schools with an estimated girl population of 992 as provide in table 3.2. This excellent return rate was indeed attributed to the effort of the researcher and research assistants administrating questionnaire personally and ensuring constant follow up with respondents at their respective schools. This involved 44% and 56% that account for 126 and 160 being those on the bicycle project and not on bicycle project.

4.3 The Background Information

The study sought to establish the demographic characteristics of the students since they are considered as categorical variables and provide critical information concerning the students. The characteristics of the students taken in account include, name of schools, enrolment of students on bicycle project, age of the students, class of the students, length of stay in school and the distance from school.

4.3.1 Distribution of Students by their Schools

The students were asked to indicate their respective schools. The school factor was important since it provided the number of girls' schools that have benefited from the bicycle project in

the Sub County. Table 4.1 below shows the distribution of students by their respective schools

Table 4:1: Distribution of Students by their Respective Schools

Schools	Frequency	Percent
Nyakwaka	75	26.2
Nyakhobi	69	24.1
Bujwang'	77	26.9
Ganjala	65	22.7
Total	286	100.0

From the Table 4.1 above, 77(26.9%) of the students were from Bujwang' secondary school, 75 (26.2%) from Nyakwaka secondary school, 69 (24.1%) from Nyakhobi secondary school, and 65(22.7%) from Ganjala secondary school. This shows that there is a significant enrolment of girls in secondary school in Samia Sub County.

4.3.2 Distribution of Students' Enrolment on the Bicycle Project

The students were asked to indicate their enrolment on the bicycle project. The question was important since it helped to establish the number of students benefited and those yet to benefit from the project. The table 4.2 below shows the finding from the study on the distribution of students' enrolment on the bicycle project

Table 4.2: Student's Enrolment on the Bicycle Project

Enrolment	Frequency	Percent
Yes	126	44.1
No	160	55.9
Total	286	100.0

From table 4.2, it can be seen that 160 (55.9%) of the students were not on the bicycle projects and 126 (44.1%) are on bicycle project. This shows that majority of the girls student are yet to be enrolled to the bicycle projects.

4.3.3 Distribution of Students by their Age Bracket

The students were asked to indicate their ages in order to establish the age brackets of the students. The age bracket is critical to establish the school going students' age at the rural areas. Table 4.3 shows the distribution of students by their age brackets

Table 4.3: Distribution of Students by their Age Brackets

Age bracket	Frequency	Percent
13-16	113	39.5
17-20	168	58.7
Above 21	5	1.7
Total	286	100.0

According to the finding captured in table 4.3 above, 168 (58.7%) of the students were between 17-20 of age were the majority, those of age between 13-16 years with 113(39.5%) and those with age above 21 years were 5(1.7%). This implies that majority of school girls in rural Samia-Sub County are their late teens

4.3.4 Distribution of Student by their Class

The students were asked to indicate their classes. The table 4.4 shows the study finding on the students' class.

Table 4.4 Distribution of students by their class

Class	Frequency	Percent
2	111	38.8
3	99	34.6
4	76	26.6
Total	286	100.0

From the table 4.4 above, 111(38.8%) of the students were the majority in form two, 99 (34.6%) were in form three and 76 (26.6%) were in form four. This shows that majority of girl students are in junior secondary but the number reduced as they progressed in senior secondary level.

4.3.5 Distribution of Students by their Length of Stay in School

The students were asked to state their length of days in school. Table 4.5 shows the study's finding on the students' length of stay in school.

Table 4.5 Distribution of Students by their Length of Stay in School

Duration	Frequency	Percent
less than 1yr	13	4.5
More than 1 yr	20	7.0
2yrs	88	30.8
3yrs	90	31.5
4yrs	62	21.7
More than 4 yrs	13	4.5
Total	286	100.0

It can be clearly noted from the table 4.5, majority 90 (31.5%) of the students indicated that they have been in school for 3 years, 88(30.8%) have been there for 2 years, 62(21.7) have been there for 4 years, 20(7.0%) have been there for more than one year, 13(4.5%) for less than a year and again 13(4.5%) for more than 4 years. These findings show a positive progression of girls in secondary classes.

4.3.6 Distribution of Students by Distance from School

The students were asked to state the distance from home to their schools. Table 4.6 shows the study's findings on the students' distance from school.

Table 4.6: Distribution of Students by Distance from School

Distance	Frequency	Percent
less than 1km	1	.3
1-4	59	20.6
5-8	177	61.9
Above 9	49	17.1
Total	286	100.0

From the table 4.6 above, 177 (61.9%) of the students, the distance from their home and school is estimated to be between 5-8 kilometres, 59(20.6%) distance was between 1-4 kilometres, 49(17.1%) distance was above 9 kilometres and 1(0.3%) was less than 1 kilometre. This shows that majority of students cover long distance from home to get to their respective schools.

4.4 Influence of Bicycle Education Empowerment Project on School Attendance

Physical school attendance is an important exercise for students in learning institutions. However, what the students do while in school is also equally important. Therefore, the study sought to establish the influence of bicycle education empowerment project on girls' school attendance in day secondary schools in Samia sub County. The findings presented in the table 4.7 shows the influence of bicycle education empowerment project on class attendance.

The two sets of students were asked to indicate whether they have been present all days in schools in the last term.

Table 4.7: Students Being Present all Days in the Previous Term (2018, 2nd term)

Variable	Present during last term		Not Present during last term			
	F	%	F	%	Mean	Std deviation
On the bicycle project	79	54.1	47	44.1	1.37	0.41
Not on bicycle project	67	45.9	93	66.4	1.58	0.39
Total	146	100	140	100	2.95	0.80

F-Frequency, %-Percentage

Table 4.7 indicates that79 (54.1%) of the students on bicycle project were present and 47 (44.1%) were at least absent in the previous term. In addition, a mean of 1.37 and standard deviation 0.41 indicates that majority of students enrolled on the bicycle project attend school more regularly compared to non-beneficiaries whose mean and standard deviation is 1.58 and

0.39 respectively. 67(45.9%) of students not on the bicycle project were present and 93(64.4%) were at least absent in the last term. This shows that most of students who have benefited from bicycle projects were able to attend schools the whole term than the non-beneficiaries thus indicating that the bicycle project has influenced their attendance.

Table 4.8: The Number of Days Students were Absent in Previous Term (2018, 2nd term)

Variable	Number of days absent last term													
	1		2		3		4		5		More than 5			
	F	%	F	%	F	%	F	%	F	%	F	%	Mean	Std Deviation.
On the bicycle project	1	33.3	15	50	11	22.0	7	26.9	9	64.3	5	27.8	3.48	0.77
Not on bicycle project	2	66.7	15	50	39	78.0	19	73.1	5	35.7	13	72.2	3.53	0.68
Total	3	100	30	100	50	100	26	100	14	100	18	100	7.01	1.45

F-Frequency, %-Percentage

Table 4.8 shows the bicycle education empowerment project influences class attendance of the students. According to the findings, the numbers of days absent in school for those on bicycle project are less than those not on the project. The observed counts for being absent one day for those on project and not on project is 1 (33.3%) and 2 (66.6%) respectively, absent for two days is 15 (50.0%) and 15 (50.0%) respectively, for three days 11(22.0%) and 39 (78.0%) respectively, for four days is 7(26.9%) and 19 (73.1%), for five days is 9 (64.3%) and 5(35.7%) and more than five days is 5 (27.8%) and 13 (72.2%) respectively. In addition, the findings indicate the mean for number of days absent for students on the bicycle projects as 3.48 and those not the bicycle project as 3.53 and standard deviation 0.77 and 0.68 respectively.

In the selected girls' schools, fewer students on the bicycle project got absent than those not enrolled on the project. However, 64.3% of the students on bicycle project were absent for 5 days and 50% were absent for 2 days in the term. In all other categories of number of days absent, between 66.7% and 78.0% were students not on the bicycle project. However, to statistically explain the difference of association or relationship, table 4.9 provides the chi square test.

Table 4.9 Chi Square Test on the Influence of the Bicycle Project and Number of Days Absent in Previous Term (2018, 2nd term)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.237[a]	5	.021
Likelihood Ratio	12.944	5	.024
Linear-by-Linear Association	.040	1	.841
N of Valid Cases	141		

df- degree of freedom

Table 4.9 indicate that 13.237[a] as actual statistics value of the chi-square and asymptotic significance value is .021 (χ^2 = 13,237[a] , df=5, p= 0.021). These differences are statistically significant. The p value is less than p=0.05 and therefore, alternative hypothesis accepted indicating that students who are on bicycle projects attend classes more than those not on the project. The results are in tandem with Chip (2017) who found out that providing bicycle by Norman rotary club to students boosts their school attendance. The students who missed classes at least a day in the last term, were asked to provide reasons for being absent.

Table 4.10: Reason for Being Absent

Variable	Reasons for being absent									
	Sickness		**Tired for distances**		**School fees**		**Punctured bicycle**		**Lack of transport**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
On the bicycle project	20	52.6	1	2.6	17	58.6	4	100	0	0.0
Not on the bicycle project	18	47.4	37	97.4	12	41.4	0	0.0	11	100
	38	100	38	100	29	100	4	100	11	100

F-Frequency, %-Percentage

Table 4.10 indicate that 20 (52.6%) of the students alluded that sickness was the main reason for being absent compared to 18 (47.4%) those not on the bicycle project. In addition, 1 (2.6%) of the students on the bicycle project and 37 (97.4%) cited tiredness due to distance as the reason for absenteeism. 17 (58.6%) of the student on the bicycle project and 12 (41.4%) not on the bicycle project cited school fees as the main reason for being absent. 4 (100%) of those on bicycle project had punctured bicycle for being absent. Moreover,11 (100%) of the students not on project cited lack of transport as the main reason for being absent in the last term.

Table 4.11: Time for Reporting to School in the Morning

Variable	Time for reporting to school									
	6:15am-6.30am		**6.30am-7:15am**		**7:15am-7:30am**		**7:30am-8:15am**			
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**Mean**	**Std dev**
On the bicycle project	50	57.5	67	54.5	4	5.7	5	83.3	1.7	0.30
Not on the bicycle project	37	42.5	56	45.5	66	94.3	1	16.7	2.2	0.18
	87	100	123	100	70	100	6	100	3.7	100

F-Frequency, %-Percentage

Table 4.11 indicates that 50 (57.5%) of the students on bicycle project report to school from 6:15am-6:30am, 67 (54.5%) report at 6:30am-7:15am,4(5.7%) report at 7:15am-7:30am, 5(83.3%) report at 7:30am-8:15am. The student not on bicycle project on the other hand, 37(42.5%) report to school from 6:15am-6:30am, 56(45.5%) report at 6:30am-7:15am,66 (94.3%) report at 7:15am-7:30am and only 1(16.7%) reports at 7:30am-8:15am. In selected girls' schools, majority of students report to school early between 6:15am-6:30am and 6:30am-7:15am. However, 94.3% of the students not on bicycle projects report to school as from 7:15am-7:30am compared to 5.7% of students on bicycle project. Findings also reveal that fewer students (16.7%), not on bicycle project report to school between 7:30am-8:15am compared to 83.3% on the bicycle project. Time for reporting to school was influenced by bicycle as shown by a mean of 1.7 indicating that majority of students on the bicycle project report to school earlier than those not on bicycle project. For statistical differences, table 4.12 does provide the chi-square test.

Table 4.12 Chi Square Test on the Influence of the Bicycle Project and Time for Reporting to School in the Morning

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	57.275[a]	3	.000
Likelihood Ratio	68.170	3	.000
Linear-by-Linear Association	25.528	1	.000
N of Valid Cases	286		

df- degree of freedom

Table 4.12 shows that 57.275[a] as actual statistics value of the chi-square and asymptotic significance value is 0.000 (χ^2 =57.275[a], df=3, p= 0.000).This results indicate that the difference is significant and therefore establishing that students using bicycles report to school earlier than their counterpart who don't have bicycles. The aspect of time in relation to class attendance is important to the general performance of the student school. Early school

attendance is extremely important for student since it does provide more time for tackling assignments, morning study and concentration for the entire day (Heckman, 2008).

4.5 Influence of Bicycle Education Empowerment Project on Academic Performance

Academic performance focuses on desirable marks, grade and positions obtained in previous examinations or continuous assessment test (CATs) that guarantee ones retentions, progression and transition. The study sought to establish the influence of bicycle empowerment project on academic performance.

Students were asked whether they were able to participate in all tests and end term exams in the last term. This question was critical since it informed the academic performance of both categories of students. Results were presented in table 4.13

Table 4.13 Participating in Previous Examination (2018, 2nd term)

Variable	**Participating in previous examination**		**Not participating in previous examination**			
Variables	**F**	**%**	**F**	**%**	**Mean**	**Std deviation**
On the bicycle project	121	44	5	45.5	1.04	0.192
Not on bicycle project	154	56	6	54.5	1.04	0.187
Total	275	100	11	100	2.04	0.38

F-Frequency, %-Percentage

Table 4.13 indicates that 121(44.0%) of the students participated in previous examination were beneficiary of the bicycle project compared to 154(56.0%) not on the bicycle project. However, 5 (45.5%) of students on the project and 6 (54.5%) who were not on project did not participate in previous examination. Nonetheless, the two set of students have similar mean, 1.04 showing that majority of either category sat for all test and end term exams with fewer student failing to do so. The results indicates that bicycle does not have influence on students

sitting for either test or end term exams. Most of the students avail themselves for tests and end term exams.

Table 4.14: Reasons for not Participating in Previous Examination (2018, 2nd term)

Variables	Reason for not participating in all tests and end term exams					
	Sickness		School fees		Late because of distance	
	F	%	F	%	F	%
On bicycle project	3	75.0	2	33.3	0	0.0
Not on bicycle project	1	25.0	4	66.7	1	100.0
Total	4	100.0	6	100.0	1	100.0

F-Frequency, %-Percentage

Table 4.14 indicate that 3(75.0%) of the students on the bicycle project and 1(25.0%) not on the bicycle project cited sickness as the main reason for not participating in previous examination. In addition, 2 (33.3%) of the students on the bicycle project and 4 (66.7%) not on the bicycle project cited school fees as the reason for not sitting for previous examination. However, 1 (100.0%) for students not on bicycle project cited distance made her late to participate in previous examination.

Table 4.15 Grades Scored in Previous Examination (2018, 2nd term).

Variables	Grades scored in the last exams																						M	S.D
	A-		B+		B		B-		C+		C		C-		D+		D		D-		E			
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%		
On the bicycle project	2	66.7	1	100.0	2	20.0	6	50.0	9	39.1	24	46.2	31	49.2	25	45.5	16	41.0	8	44.4	2	20.0	8.03	0.66
Not on bicycle project	1	33.3	0	0.0	8	80.0	6	50.0	14	60.9	28	53.8	32	50.8	30	54.5	23	59.0	10	55.6	8	55.9	8.16	0.72
Total	3	100.0	1	100.0	10	100.0	12	100.0	23	100.0	52	100.0	63	100.0	55	100.0	39	100.0	18	100.0	10	100.0		

F-Frequency, %-Percentage, M-Mean, SD- Standard Deviation

Table 4.15 indicate that the students on bicycle projects scored as follows; 2A- (66.7%), 1B+ (100%), 2B (20.0%), 6B-(50.0%), 9C+ (39.1%), 24C (46.2%), 31C-(49.2%), 25D+ (45.5%),16D(41.0%),8D-(44.4%) and 2E(20%). The results for students not on bicycle project include: 1A- (33.3%), 0B+ (0.00%), 8B (80%), 6B-(50.0%), 14C+ (60.9%), 28C (53.8%), 32C-(50.8%), 30D+ (54.5%), 23D (59.0%), 10 D-(55.6%) and 8E (80.0%). The mean value for students on the project and not on bicycle project is 8.03 and 8.16 respectively. Their mean values (8.03 and 8.16) are equivalent to grade C- in terms of performance. These results show that majority of students' performance for those not on bicycle projects lies between B (Plain) and E. However, students on bicycle project have higher grades and reduced number of Es compared to those not on projects. This indicates the influence of the bicycle project on the academic performance. To establish if the difference is indeed significant, table 4.16 presents the finding of the chi square test.

Table 4.16: Chi Square Test on the Influence of Bicycle Project on the Grade Scored.

	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	7.947[a]	10	.634
Likelihood Ratio	8.745	10	.556
Linear-by-Linear Association	.320	1	.572
N of Valid Cases	286		

df- degree of freedom

Table 4.16 indicates that 7.947[a] as actual statistics value of the chi-square and asymptotic significance value is 0.634(χ^2 =7.947[a], df=10, p= 0.634). The calculated p-value (0.634) is greater than p=0.05 and therefore rejecting alternative hypothesis. This result indicates that there is no significant difference on performance in terms of grade by both categories of student. Therefore, it demonstrates that bicycles have no influence for the students' academic performance.

Table 4.17 Marks Scored in the Previous Examination (2018, 2nd term)

Variables	Marks scored in the previous examination			
	F	%	Mean marks	Std. Deviation
On the bicycle project	126	44.0	397.97	121.655
Not on bicycle project	160	56.0	392.47	110.307
Total	286	100.0	394.89	115.269

F-Frequency, %-Percentage

Table 4.17 indicates that the mean marks for students on bicycle project is 397.97 and standard deviation of 121.655 compared to 392.47 mean of students not on bicycle project with a standard deviation of 110.307. The table shows the mean marks for students on bicycle is slightly higher than those not on the project. This implies that bicycle has influence on the performance of the beneficiary. However, this difference is clearly explained with chi-square test in table 4.18.

Table 4.18: Chi Square Test on the Influence of Bicycle Project on Marks Scored in Previous Examination (2018, 2nd term)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	174.867[a]	184	.673
Likelihood Ratio	237.535	184	.005
Linear-by-Linear Association	.160	1	.689
N of Valid Cases	286		

df- degree of freedom

Table 4.18 indicates that 174.867[a] as actual statistics value of the chi-square and asymptotic significance value is 0.673(χ^2 =174.867[a], df=184, p= 0.673).The results indicate that there is no significant difference in the performance in terms of grade by both categories of students. Therefore, it demonstrates that bicycles have no influence on students marks scored in the

previous examination. This finding concurs with Woody (2019) who stated that showing up for classes is good but what is important is what one does to guarantee desirable grades.

4.6 Influence of Bicycle Education Empowerment Project on Participation in Co-curricular Activities

These are activities, programs, and learning experiences that complement academic curricular that students learn in class or in school. Co-curricular aims at facilitating cognitive aspects thus helping in intellectual, emotional and social development. The study sought to establish the influence of the bicycle education empowerment project on participation in co-curricular activities. The findings were presented in the table 4.19

Table 4.19: Participation in Co-curricular Activities

	Participation in co-curricular activities		**Not participation in co-curricular activities**			
	F	**%**	**F**	**%**	**Mean**	**Std deviation**
On the bicycle project	110	53.9	16	19.5	1.13	0.32
Not on bicycle project	94	46.1	66	80.5	1.41	0.41
Total	204	100	82	100	2.54	0.73

F-Frequency, %-Percentage

Table 4.19 indicates 110 (53.9%) of students on the bicycle project and 94(46.1%) of students not on the bicycle projects participate in co-curricular activities. 16 (19.5%) of students on the bicycle project and 66 (80.5%) of students not on the bicycle projects don't participate in co-curricular activities. Majority of students on bicycle project participate in co-curricular activities as shown by the mean 1.13 than that not on project whose mean is 1.41.

Table 4.20: Chi Square Test on the Influence of Bicycle Education Empowerment Project on Participation in Co-curricular Activities

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	28.098[a]	1	.000		
Continuity Correction[b]	26.719	1	.000		
Likelihood Ratio	29.936	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	28.000	1	.000		
N of Valid Cases	286				

df-degree of freedom

Table 4.20 indicates that 26.719[b] as actual statistics value of the chi-square and asymptotic significance value is 0.000(χ^2 =26.719[b], df=1, p= 0.000).The results indicate that there is a significant difference on participation in co-curricular activities. The calculated p-value found to be less than p=0.05 which shows that students benefiting on the bicycle project participate more in co-curricular activities than those not on the bicycle project. The results are in line with a survey done to investigate the immediate impact of the bicycle project. The project was established to have a significant impact on the participation in co-curricular activities (Bhandari, 2018).

Table 4.21.Type of Co-curricular Activity Students Participated

Variable	**Type of co-curricular activity**											
	Football		**Valley ball**		**Athletics**		**Debate**		**Club**		**Other**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
On the bicycle project	7	29.2	63	72.4	6	50.0	11	39.3	18	52.6	6	54.4
Not on the bicycle project	17	70.8	24	27.6	6	50.0	17	60.7	16	47.1	13	68.4
Total	24	100.	87	100	12	100	28	100	34	100	19	100.0

F-Frequency, %-Percentage

Table 4.21 shows that the students on the bicycle project indicated that 7 (29.2%) do participate in footballs, 63 (72.4%) participate in valley ball, 6(50.0%) participate in athletics, 11,(39.3%) participate in debates,18(52.9%) participate in clubs and others 6 (54.4%).For students not on the bicycle project indicated that 17 (70.8%) participate in footballs,24 (27.6%) participate in valley ball,6 (50.0%) participate in athletics,17 (60.7%) participate in debates,16 (47.1%) participate in clubs and 13(68.4%) for others. Additionally, the students, particularly those not participating in co-curricular from both categories, were asked to state reasons for not taking part. Table 4.22 provides reasons for not participating in co-curricular activities.

Table 4.22. Reason for not Participating in Co-curricular Activities

Variable	**Reason for not participating in co-curricular activities**					
	Fear for arriving home late		**Feel not good**		**Giving prioriy to studies**	
	F	**%**	**F**	**%**	**F**	**%**
On the bicycle project	1	1.6	14	70.0	1	100
Not on the bicycle project	60	98.4	6	30.0	0	0.0
Total	61	100.0	20	100.0	1	100.0

F-Frequency, %-Percentage

Table 4.22 shows that 1(1.6%) of the students on the bicycle project cited fear to arrive home as the main reason, 14 (70.0%) felt that they are not good in co-curricular and 1 (100%) said that gives priority to her studies. However, majority 60 (98.4%) of the students not on the bicycle project cited fear of arriving home late due to lack of mode of transport as the reason for not participating. 6(30.0%) felt not good in co-curricular and 0 (0.0%) gave priority to studies.

4.8 Influence of Bicycle Education Empowerment Project on Perceived Safety and Security.

Safety and security for girl student is important to ensure equal access, completion and transition of the students. The study sought to establish the influence of the bicycle project on perceived safety and security. The findings were presented in the table 4.23

Table 4.23: Feel Safe and Secure on the Way to School

Variable	Feel safe and secure on the way to school		Don't feel safe and secure on the way to school			
	F	%	F	%	Mean	Std deviation
On the bicycle project	111	68.1	15	12.2	1.12	0.61
Not on bicycle project	52	31.9	108	87.8	1.68	0.13
Total	163	100	113	100	2.80	0.74

F-Frequency, %-Percentage

Table 4.23 indicates majority 111 (68.1%) of the students on the bicycle project feel safe and secure on their way to school. Despite having the bicycles, 15 (12.2%) indicated that they are not safe and secure on their way to school. 52 (31.9%) of those who don't have bicycles felt safe and secure on their way school. However, 108 (87.8%) of students not the bicycle feel unsafe and insecure going to school. This implies that bicycle project influenced the perceived safety and security of the students going to school. Table 4.24 provides the chi square test on the level of significance.

Table 4.24 Chi Square Test on the Influence of Bicycle Education Empowerment Project on Perceived Safety and Security

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	88.887[a]	1	.000
Continuity Correction[b]	86.633	1	.000
Likelihood Ratio	97.096	1	.000
Fisher's Exact Test			
N of Valid Cases	286		

df- degree of freedom

Table 4.24 indicates that 86.633[b] as actual statistics value of the chi-square and asymptotic significance value is 0.000(χ^2 =86.633[a], df=1, p= 0.000). The calculated p-value found to be less than p=0.05 which demonstrate that students benefiting on the bicycle project feel more safe and secure commuting than those not on the bicycle project. This is in line with Bicycle Empowerment Network (BEN) that found out that bicycle project has a significant relationship with safety and security of the school going students (Bicycle empowerment network, 2013).

The students, particularly those not feeling safe and secure on the way to school were asked to state their reasons.

Table 4.25: Reasons for not Feeling Safe and Secure on the Way to School

Variables	Reasons for not feeling safe and secure on the way to school									
	Disturbed boda boda riders		Leaving early and arriving home late		Disturbed by male students		Fear for being raped		Rain making it difficult in commuting	
	F	%	F	%	F	%	F	%	F	%
On the bicycle project	3	20.0	1	1.3	0	0.0	3	15.8	7	100.0
Not on bicycle project	12	80	75	98.7	4	100.0	16	84.2	0	0.0
Total	15	100.0	76	100.0	4	100.0	19	100.0	7	100

F-Frequency, %-Percentage

Table 4.25 indicates that 3 (20.0%) of the students on bicycle project cited disturbance from boda boda riders, only 1 (1.3%) had fears of leaving and arriving late, 3 (15.8%) had fears for being raped on the way and 7 (100.0%) found it difficult to ride bicycles during rainy season due to poor road in rural areas. On the other hand, 12 (80.0%) of students not on bicycle project cited disturbances from the boda boda rider, 75 (98.7%) had fears of leaving and arriving late, 4(100.0%) had fears for being raped on the way and 16 (84.2%) had fears for being raped on the way. This implies that majority of students not on bicycle feel unsafe and insecure on their way to school. Moreover, students were asked to state whether they have ever faced a dangerous situation on their way to school. Table 4.26 shows the results from the students.

Table 4.26: Ever faced a Dangerous Situation on the Way to School.

Variable	Ever faced a dangerous situation on the way to school		Never faced a dangerous situation on the way to school			
	F	**%**	**F**	**%**	**Mean**	**Std deviation**
On the bicycle project	19	26.8	107	49.8	1.76	0.27
Not on bicycle project	52	73.2	108	50.2	1.68	0.36
Total	71	100	215	100	3.5	0.63

F-Frequency, %-Percentage

Table 4.26 shows that 19 (26.8%) of the students on the bicycle project ever faced a dangerous situation on the way to school. However, 107 (49.8%) have never faced dangerous situation on the way to school. On the other hand, 52 (73.2%) of the students not on the bicycle project have faced dangerous situation on the way to school but 108 (50.2%) have never faced dangerous situation on the way to school. Comparatively, fewer students on bicycle project have faced dangerous situation on the way to school as shown by mean 1.76 and standard deviation 0.27 than those who are not whose mean is 1.68 and standard deviation 0.36.

To establish statistical level of significance, table 4.27 presents the chi square test.

Table 4:27 Chi Square Test on the Influence of Bicycle Empowerment Project and facing Dangerous Situation on the Way to School

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.463[a]	1	.001
Continuity Correction[b]	10.548	1	.001
Likelihood Ratio	11.898	1	.001
Fisher's Exact Test			
Linear-by-Linear Association	11.423	1	.001
N of Valid Cases	286		

df-degree of freedom

Table 4.27 indicates that 10.548[b] as actual statistics value of the chi-square and p-value is 0.001(χ^2 =10.548[b], df=1, p= 0.001). The calculated p-value was less than p=0.05 hence demonstrate that students benefiting on the bicycle project have experienced fewer incidences of dangerous situation than those not on the bicycle project. Additionally, the students who ever faced a dangerous situation on their way to school were asked to describe the nature of the dangerous situations encountered. Table 4.28 shows the nature of dangerous situation encountered.

Table 4.28: Nature of Dangerous Situation Encountered.

Variables	Nature of dangerous situation encountered									
	Bicycle got punctured		**Knocked by motor bicycle**		**Terrified by a witch**		**Thugs wanted to take away the bicycle**		**Attacked by thugs on the way**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
On the bicycle project	9	100.0	4	14.3	0	0.0	5	100.0	1	11.1
Not on bicycle project	0	0.0	24	85.7	20	100.0	0	0.0	8	88.9
Total	9	100.0	28	100.0	20	100.0	5	100.0	9	100

F-Frequency, %-Percentage

Table 4.28 indicates that 9 (100.0%) of the students on the bicycle project, their bicycle got punctured on the way, 4 (14.3%) were knocked by motor bicycles, 5(100.0) thugs wanted to take away their bicycles and 1 (11.1%) were attacked by thugs on the way. On other hand, students not on the bicycle project, majority 24 (85.7%) were knocked by motor bicycles, 20 (100.0%) were terrified by witches and 8 (88.8%) were attached by thugs. This implied that majority of the students not on bicycle project were knocked down by motor bicycle and terrified by witches on their way to school.

Table 4.29: Ever Encountered Sexual Harassment on the Way to School

Variable	Ever encountered sexual harassment on the way to school		Never encountered sexual harassment on the way to school			
	F	**%**	**F**	**%**	**Mean**	**Std deviation**
On the bicycle project	19	31.1	107	47.6	1.85	0.26
Not on bicycle project	42	68.9	118	52.4	1.74	0.36
Total	51	100	225	100	3.59	0.62

F-Frequency, %-Percentage

Table 4.29 shows that 19 (31.1%) of the students on the bicycle project ever encountered sexual harassment on the way to school. However, 107 (47.6%) have never encountered sexual harassment on the way to school. On the other hand, 42 (68.9%) of the students not on the bicycle project have encountered sexual harassment on the way to school but 118 (52.4%) have never encountered sexual harassment on the way to school. Comparatively, fewer students on bicycle project have encountered sexual harassment on the way to school as shown by mean 1.85 and standard deviation 0.26 than those who are not whose mean is 1.74 and standard deviation 0.36. To establish statistical level of significance, table 4.30 presents the chi square test.

Table 4.30: Chi Square Test on Influence of Bicycle Empowerment Project and Sexual Harassment on the Way to School

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.242[a]	1	.022
Continuity Correction[b]	4.597	1	.032
Likelihood Ratio	5.377	1	.020
Fisher's Exact Test			
Linear-by-Linear Association	5.224	1	.022
N of Valid Cases	286		

df-degree of freedom

Table 4.30 indicates that 4.597 as actual statistics value of the chi-square and p-value is 0.032(χ^2 =4.597, df=1, p= 0.032). The calculated p-value was less than p=0.05 hence demonstrate that students benefiting on the bicycle project have encountered fewer cases of sexual harassment than those not on the bicycle project. Moreover, the students were asked to explain the nature of sexual harassment encountered on their way to school. The results were presented in table 4.31

Table 4.31: Nature of Sexual Harassment Encountered on their Way to School

Variables	Nature of sexual harassment encountered on their way to school			
	Inappropriate behaviours from boda boda riders		**Boys students demanding sex on the way**	
	F	%	F	%
On the bicycle project	7	21.9	11	39.3
Not on bicycle project	25	78.1	17	60.7
Total	32	100	28	100

F-Frequency, %-Percentage

Table 4.31 indicates that 7(21.9%) of the students on the bicycle project encountered inappropriate behaviours from boda boda riders, 11 (39.3%) encountered male students forcing them into sex on the way. On the other hand, 25(78.1%) those not on bicycle project encountered inappropriate behaviours from boda boda riders and 17 (60.7%) had boys

students demanding for sex on the way. This implies that majority of the students not the bicycle project experience sexual harassment on way school than those on the bicycle project.

Table 4.32: Ever faced Bullying by other Students on the Way to School.

Variable	Ever faced bullying by other students on the way to school		Never faced bullying by other students on the way to school			
	F	**%**	**F**	**%**	**Mean**	**Std deviation**
On the bicycle project	16	26.6%	110	48.7	1.87	0.24
Not on bicycle project	44	73.3%	116	51.3	1.73	0.34
Total	60	100	226	100	3.5	0.58

F-Frequency, %-Percentage

Table 4.32 shows that 16 (26.6%) of the students on the bicycle project have faced bullying by other students on the way to school. However, 110 (48.7%) have never faced bullying by other students on the way to school. On the other hand, 44(73.3%) of the students not on the bicycle project have faced bullying by other students on the way to school but 116 (51.3%) have never faced bullying on the way to school. Comparatively, fewer students on bicycle project have faced bullying by other students on the way to school as shown by mean 1.87 and standard deviation 0.24 than those who are not whose mean is 1.73 and standard deviation 0.34.This implies that the bicycle project has a strong influence on safety and security of the students commuting to school. A chi square test was done to establish statistical level of significance; the results were presented in table 4.33

Table 4.33: Chi Square Test on the Bicycle Empowerment Project and Pullying By other Students on the Way to School

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.316[a]	1	.002
Continuity Correction[b]	8.444	1	.004
Likelihood Ratio	9.696	1	.002
Fisher's Exact Test			
Linear-by-Linear Association	9.283	1	.002
N of Valid Cases	286		

df-degree of freedom

Table 4.33 shows that 8.444 as actual statistics value of the chi-square and p-value is 0.004 (χ^2 =8.444, df=1, p= 0.004). The calculated p-value was less than p=0.05 hence demonstrates that students benefiting on the bicycle project have faced fewer cases of bullying by other students than those not on the bicycle project. Therefore it implies that bicycle empowerment project has a significant influence on the safety and security of the students.

Table 4.34: Nature of Bullying by other Students

Variables	Nature of bullying by other students					
	Wanted to take their bicycle		Wanted to force them into sex		Wanted to take their textbooks	
	F	%	F	%	F	%
On the bicycle project	11	100.0	3	7.9	2	20
Not on the bicycle project	0	0.0	35	92.1	8	80.0
Total	11	100.0	38	100.0	10	100.0

F-Frequency, %-Percentage

Table 4.34 indicates that 11 (100.0%) of the students on the bicycle project faced other students who wanted to take their bicycles, 3 (7.9%) wanted to force them into sex and 2 (20%) wanted to take their textbooks. However, 35 (92.1%) of those not on bicycle project, other students wanted to force them into sex and 8 (80.0%) wanted to take their textbooks.

Table 4.35: Other form of Accident encountered on Way to School

Variable	Other form of accident encountered on way to school		Other form of accident encountered on way to school			
	F	**%**	**F**	**%**	**Mean**	**Std deviation**
On the bicycle project	12	29.3	114	46.5	1.90	0.21
Not on bicycle project	29	70.7	131	53.5	1.82	0.29
Total	41	100	245	100	3.72	0.50

Table 4.35 indicate that 12 (29.3%) of the students on the bicycle project encountered other forms of accidents but majority, 114 (46.5%) had not encountered any other form of accidents. 29 (70.7%) of students not on bicycle encountered other forms of accidents but 131(53.5%) had not encountered any other form of accident. Majority of the students on the bicycle project had not encountered other form of accident as shown by the mean 1.90 and standard 0.21 than those not on projects as shown by mean, 1.82 and standard deviation 0.29. However, to establish the level of significance, table 4.36 present the chi square test.

Table 4.36: Chi Square Test on the Bicycle Empowerment Project and other form of accident Encountered on the Way to School

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.246[a]	1	.039
Continuity Correction[b]	3.575	1	.059
Likelihood Ratio	4.395	1	.036
Fisher's Exact Test			
Linear-by-Linear Association	4.232	1	.040
N of Valid Cases	286		

df-degree of freedom

Table 4.36 shows that 3.575 as actual statistics value of the chi-square and p-value is 0.059 (χ^2 =3.575, df=1, p= 0.059). The p-value is more than p=0.05 and therefore the difference between the categories is not significant. This implies that bicycle project does not prevent student from encountering other forms of accident. Additionally, students were asked to explain other forms of accidents encountered on the way to school and back home. The findings were presented in table 4.37

Table 4.37: Nature of other form of Accident Encountered on the Way to School

Variables	**Other form of accident encountered on the way to school**			
	Fell on the way		**Knocked on the way**	
	F	**%**	**F**	**%**
On the bicycle project	8	61.5	2	8.3
Not on bicycle project	5	38.5	22	91.7
Total	13	100	22	100

F-Frequency, %-Percentage

Table 4.37 indicate that 8 (61.5%) of the students on the bicycle project fell on the way, 2 (8.3%) were knocked on the way. 5 (38.5%) of the students not on the bicycle project, fell on the way and 22 (91.7%) were knocked on the way.

CHAPTER FIVE: SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The chapter presents the summary of the findings, discussions, conclusions, recommendations and suggestions for further research study.

5.1 Summary of Findings

The study was conducted among selected girls' secondary schools in Samia Sub-county, Busia County, Kenya. The purposed of the study was to establish the influence of the bicycle education empowerment project on girls' education performance. The key aspects of education performance were; attendance, academic performance, participation in co-curricular activities and commuting safety and security.

The study did review related literatures including: books, journals, policy documents, published research project and among others as informed by the research objectives. The theory of change was used to guide the study. The research design that guided the study was causal-comparative research. 286 students formed the study sample size. The study realised a response rate of 100%. The study used descriptive and inferential statistics technique to analyse the collected data. The main findings of the study are as follows:

5.1.1 Bicycle Education Empowerment Project on Girls' School Attendance

The study established that bicycle education empowerment project influenced girls' school attendance. The bicycle project has enabled students to attend classes regularly as indicated by a mean of 1.37 and standard deviation of 0.41 while those not on the project had a mean of 1.58 and a standard deviation of 0.39. Similarly, on the number of days absent last term, the

findings indicate the mean for number of days absent for students on the bicycle projects as 3.48 and those not the bicycle project as 3.53 and standard deviation 0.77 and 0.68 respectively. These differences were statistically significant as indicated by chi-square value 13.237[a] and p- value of 0.021. In addition, on reporting time, those on bicycle project are found to report earlier as indicated by mean 1.7 and standard deviation 0.30 and those not on projects mean 2.2 and standard deviation 0.18. A chi square test established the significance difference with a p-value of 0.000 < p=0.05 hence accepting the alternative hypothesis.

5.1.2 Bicycle Education Empowerment Project on Girls' Academic Performance

The study established that bicycle education empowerment project did not influence girls' academic performance. The chi square test on the mean marks and grades scored indicates that the bicycle project has not enabled the student to score better grades or marks than those not on the bicycle project. The mean marks for students on bicycle project is 397.97 and standard deviation of 121.655 compared to 392.47 mean of students not on bicycle project with a standard deviation of 110.307.A chi square test established that the difference is not significant as shown by p-value 0.673 > p=0.05. Similarly, for grades, calculated p-value 0.634 was greater than p= 0.05 and therefore rejected the alternative hypothesis that stated girls benefitting from the bicycle project score better grades than those who are not.

5.1.3 Bicycle Education Empowerment Project on Girls' Participation on Co-curricular Activities.

The study established that bicycle education empowerment project influenced girls' participation on co-curricular activities as indicated by indicated by mean 1.13 and standard deviation of 0.32 for those on the bicycle project and those not on the bicycle project had a mean of 1.41 and standard deviation of 0.41. The statistical significant difference indicate a

p-value of 0.000 < p=0.05 and therefore accepting the alternative hypothesis which stated that girls benefitting from the bicycle project participate more frequently in co-curricular activities than those who are not.

5.1.4 Bicycle Education Empowerment Project on Perceived Safety and Security.

The study found out that Bicycle Education Empowerment Project influenced girls' perceived safety and security as indicated by the mean 1.12 and standard deviation of 0.61 for those on the bicycle project while those not on the project had a mean of 1.68 and standard deviation of 0.13. The chi square test indicated a significant statistical difference with p-value of 0.000 <p=0.05 hence accepting the alternative hypothesis which stated that girls benefitting from the bicycle project feel safer and secure commuting to school than those who are not.

5.2 Discussion

The bicycle project significantly influenced the attendance of girls as shown by the mean of 1.37 and standard deviation of 0.41 while those not on the project had a mean of 1.58 and a standard deviation of 0.39. In terms of number of days absent in the previous term, the results demonstrated the mean for number of days absent for students on the bicycle projects as 3.48 and those not the bicycle project as 3.53 and standard deviation 0.77 and 0.68 respectively. Additionally, on reporting time, those on bicycle project were found to report earlier as indicated by mean 1.7 and standard deviation 0.30 and those not on projects mean 2.2 and standard deviation 0.18. The p-value in both aspects were found to be less than p=0.05 showing a significance difference hence accepting the alternative hypothesis that stated that girls benefitting from the bicycle project attend class more regularly than those who are not. Chip (2017) found out that providing bicycle to the schools going students, boost their school attendance. He further suggests that students' success is based on regular

school attendance. Comparatively, the bicycle project has enabled students to attend school more regularly unlike those who are not on the projects. Chisimba (2016) recognises in his study that bicycle as a mode of transport reduces the negative effect of distance and help students to attend schools every day.

The bicycle education empowerment project does not significantly influence girls' academic performance as shown by p-value 0.634 in grades and p-value 0.673 in marks. The p-values were greater than p=0.05 hence rejecting the alternative hypothesis of the study. Contrary to their regular physical presence in school, the students on the project do not score better grades than those not on the bicycle project. Woody (2019) argues that is good to show up for classes but more importantly is doing what is required to necessitate better grades. To achieve good grades, students ought to be on task and effective learning going on by teachers.

Majority of students on bicycle project participate in co-curricular activities. 53.9% of students on the bicycle project and 46.1% of students not on the bicycle projects participate in co-curricular activities. Fewer students 19.5% on the bicycle project and majority 80.5% of students not on the bicycle projects don't participate in co-curricular activities. The findings show that the bicycle education empowerment project has a significant influence on girls' participation on co-curricular activities as shown by mean 1.13 and standard deviation of 0.32 while those not on the bicycle project had a mean of 1.41 and standard deviation of 0.41. The significance difference was statistically established by the chi square test and found that p-value 0.000 was less p=0.05 hence accepting alternative hypothesis that stated girls benefitting from the bicycle project participate more frequently in co-curricular activities than those who are not. A survey conducted in Nepal to investigate the impact of the bicycle project to girls in high school, found out that use of bicycle as a mode of transport to school increased the participation of girls in co-curricular activities (Bhandari, 2018).

The study found out that majority 68.1% of the students on the bicycle project felt more safe and secure than 31.9% of those not on the bicycle project. 12.2% of those on bicycle project felt unsafe and insecure compared to 87.8% not on the bicycle project. The finding indicates the influence of the bicycle project on the perceived safety and security as shown by mean 1.12 and standard deviation 0.61 compared to those not bicycle not with mean of 1.68 and standard deviation of 0.13. On sexual harassment, Statistically, the findings shows that bicycle project has a significant influence on the perceived safety and security as shown by the p-value 0.000 which was less than p=0.05 hence accepting the alternative hypothesis stated that girls benefitting from the bicycle project feel safer and secure commuting to school than those who are not. Similarly, on bullying the p-value was less than p=0.05 therefore, the alternative hypothesis was accepted. According to Bicycle Empowerment Network (2013) found that bicycle as a mode of transport has a significant relationship with the safety and security of the students commuting to school. However, at least both categories have experienced other forms of accidents like falling or being knocked by the bicycles. This was demonstrated by the p-value 0.059 that was more than p=0.05.

5.3 Conclusions

The study concluded that the bicycle education empowerment project has a significant influence on the girls' school attendance. The bicycle project had enabled the students to attend the school regularly. It enabled the students to be present the whole term and reduced absenteeism among students. The project also enabled students to report to school earlier tin order to participate in morning preps than those not on projects.

The study revealed that bicycle education empowerment project has a significant influence on girls' participation in co-curricular activities. The bicycle project provided the opportunities for students to participate in various extra-curricular activities such as football, valley ball,

debates, and clubs among others without the fear of getting home late. With the bicycle, the students felt they have enough time to participate and leave home.

The study concluded that bicycle education empowerment project has a significant influence on perceived safety and security of the student. The bicycle has enabled students from encountering many cases of dangerous situation on the way to school. In addition, it enabled students to face fewer cases of sexual harassment and bullying by other students than those without bicycle. However, students on the bicycle project face other forms of accidents such as punctured tyres and falling on the way while riding bicycle.

Nonetheless, the bicycle education empowerment project does not significantly influence girls' academic performance. Though it enabled the students to participate in all test and end term examination but that did not translate to better grades.

5.4 Recommendation

Based on the findings, the following recommendations were made:

i. The bicycle education empowerment project has many benefits to students and therefore there is need to ensure that more students are enrolled on the project and provided with bicycles.
ii. The school administration should endeavour to ensure that students are always on task while attending classes and teachers delivering lessons effectively.
iii. The ministry of education and school administration should ensure learning materials are adequately provided to support learning process of the students
iv. The school management should ensure that students enrolled on the bicycle project are trained on the road safety to avoid minor accidents that could likely become fatal.

5.5 Suggestions for Further Research

The following areas are suggested for further studies:

i. The current study focused on girls hence the need for a similar study focusing on boys

ii. The study was limited to one Sub County and hence the need for more county based or national based study

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APPENDICES

APPENDIX I: INTRODUCTORY LETTER

UNIVERSITY OF NAIROBI
OPEN DISTANCE AND e- LEARNING CAMPUS
SCHOOL OF OPEN AND DISTANCE LEARNING
DEPARTMENT OF OPEN LEARNING
NAIROBI LEARNING CENTRE

Your Ref:

Our Ref:

Telephone: 318262 Ext. 120

Main Campus
Gandhi Wing, Ground Floor
P.O. Box 30197
NAIROBI

3rd October 2018

REF: UON/ODeL/NLC/29/339

RE: CALEB WANDERA - REG NO: L50/88862/2016

The above named is a student at the University of Nairobi Open, Distance and e-Learning Campus, School of Open and Distance Learning, Department of Open Learning pursuing Master of Arts in Project Planning and Management.

He is proceeding for research entitled **"Influence of Bicycle Education Empowerment Project on Education Performance of Girls in Selected Day Secondary Schools: The Case Study of Samia Sub- County, Busia County, Kenya"**

Any assistance given to him will be appreciated.

UNIVERSITY OF NAIROBI ODeL CENTRE P.O. Box 30197 04 OCT 2018 NAIROBI

CAREN AWILLY
CENTRE ORGANIZER
NAIROBI LEARNING CENTRE

APPENDIX II: RESEARCH QUESTIONNAIRES

RESEARCH QUESTIONNAIRE FOR STUDENTS ON BEEP

This questionnaire requires the students to provide information on the research topic "Influence of bicycle education empowerment project on education performance of girls in selected day secondary schools in Samia Sub-County, Busia County". The information provided is purely for academic. Kindly complete all sections in the questionnaire to the best of your knowledge.

PART A: DEMOGRAPHIC INFORMATION (Tick where possible)

1. Name of your school?----------
2. Are you enrolled on bicycle project, Yes ( ) No ( )
3. What is your age bracket? 13yrs-16yrs ( ) 17yrs-20yrs ( ) above 21years ( )
4. Which class are you? Form 1 ( )Form ( )Form 3 ( ) Form 4 ( )
5. How long have you been in this school? less than 1year( ) More than 1year( ) 2years( ) 3 years ( ) 4 years ( ) More than 4 years ( )
6. How far is your home from school? Less than 1km ( ) between 1km and 4km ( ) between 5km and 8km ( ) above 9km

PART B: SCHOOL ATTENDANCE

7. Have you been present all days in school in the last term? Yes ( ) No ( )
8. If No, how many days have you been absent from school last term? ☐
9. Why were you absent in school?

   ……

   ……

   What time do you report at the school in the morning? 6:15am -6:30am ( ) 6:30am -

7:15am ( ) 7:15am-7:30am ( ) 7:30am-8:15am ( ) 8:15am-8:30 ( ) 8:30am-9:15 ( ) 9:15am-9:30am ( )

PART C: ACADEMIC PERFORMANCE

10. Were you able to participate in all tests and exams in the last term? Yes ( ) No ( )
11. If No, what are the reasons for not siting for all tests and exams in the last term?

……

……

12. Which grade did you score in the last term examination?

A ( ) A- ( ) B+ ( ) B ( ) B- ( ) C+ ( ) C ( ) C- ( ) D+ ( ) D ( ) D- ( ) E ( )

13. State the total marks you scored in the examination last term? [ ]

PART D: CO-CURRICULAR ACTIVITIES

14. Do you participate in co-curricular activities? Yes ( ) No ( )
15. If yes, which co-curricular activities do you participate? None ( ) Football ( ) Valley ball ( ) Athletics ( ) Debates ( ) Clubs ( ) any other ….
16. If No, why are you not participating in any co-curricular activity?.....

.....

.....

PART E: PERCEIVED ROAD SAFETY AND SECURITY

17. Do you feel safe and secure on the road on your way to school? Yes () No ( )
18. If No, what are the reasons for not being safe on your way to school?

……

……

……..

19. Have you ever faced a dangerous situation on your way to school? Yes ( ) No. ( )

20. If yes, what exactly happened?.....

…….....

21. Have you ever encountered sexual harassment on your way to school?

Yes ( ) No ( )

22. If yes, explain……..

……

23. Have you ever faced bullying by other students on your way to school?

Yes ( ) No ( )

24. If yes, explain……

25. Have you ever encountered any form of accident on your way to school?

Yes ( ) No ( )

26. If yes, explain, ……

Thank you for participating in the study

RESEARCH QUESTIONNAIRE FOR STUDENTS NOT ON BEEP

This questionnaire requires the students to provide information on the research topic "Influence of bicycle education empowerment project on education performance of girls in selected day secondary schools in Samia Sub-County, Busia County". The information provided is purely for academic. Kindly complete all sections in the questionnaire to the best of your knowledge.

PART A: DEMOGRAPHIC INFORMATION (Tick where possible)

1. What is your age bracket? 13yrs-16yrs ( ) 17yrs-20yrs ( ) above 21years ( )
2. Which class are you? Form 1 ( )Form ( )Form 3 ( ) Form 4 ( )
3. How long have you been in this school? less than 1year( ) More than 1year( ) 2years( ) 3 years ( ) 4 years ( ) More than 4 years ( )
4. How far is your home from school? Less than 1km ( ) between 1km and 4km ( ) between 5km and 8km ( ) above 9km

PART B: SCHOOL ATTENDANCE

5. Have you been present all days in school in the last term? Yes ( ) No ( )
6. If No, how many days have you been absent from school last term? ☐
7. Why were you absent in school?

   ……

   ……

   …….
8. What time do you report at the school in the morning? 6:15am -6:30am ( ) 6:30am - 7:15am ( ) 7:15am-7:30am ( ) 7:30am-8:15am ( ) 8:15am-8:30 ( ) 8:30am-9:15 ( ) 9:15am-9:30am ( )

PART C: ACADEMIC PERFORMANCE

9. Were you able to participate in all tests and exams in the last term? Yes ( ) No ( )
10. If No, what are the reasons for not siting for all tests and exams in the last term?

……

……

……

11. Which grade did you score in the last term examination?

    A ( ) A- ( ) B+ ( ) B ( ) B- ( ) C+ ( ) C ( ) C- ( ) D+ ( ) D ( ) D- ( ) E ( )

12. State the total marks you scored in the examination last term? [ ]

PART D: CO-CURRICULAR ACTIVITIES

13. Do you participate in co-curricular activities? Yes ( ) No ( )
14. If yes, which co-curricular activities do you participate? Football ( ) Valley ball ( ) Athletics ( ) Debates ( ) Clubs ( ) any other ….
15. If No, why are you not participating in any co-curricular activity?.....

    .....

    .....

PART E: PERCEIVED COMMUTING SAFETY AND SECURITY

16. Do you feel safe and secure on the road on your way to school? Yes () No ( )

17. If No, what are the reasons for not being safe on your way to school?

……

18. Have you ever faced a dangerous situation on your way to school? Yes ( ) No. ( )

19. If yes, what exactly happened?.....

……

20. Have you ever encountered sexual harassment on your way to school?

Yes ( ) No ( )

21. If yes, explain……..

……

22. Have you ever faced bullying by other students on your way to school?

Yes ( ) No ( )

23. If yes, explain……

24. Have you ever encountered any other form of accident on your way to school?

Yes ( ) No ( )

25. If yes, explain,

……

……

Thank you for participating in the study

APPENDIX III: INTERVIEW GUIDE FOR KEY INFORMANTS

Interview guide for principles, project committee officials, teachers and district examination officer.

1. How has the bicycle education empowerment project affected education performance of girls in selected day secondary schools in Samia Sub-County, Busia County

   ……

   ……

2. How does bicycle education empowerment project influence girls' class attendance of day secondary schools in Samia sub County?

   ……

   ……

3. How does bicycle education empowerment project influence girls' academic performance in day secondary schools in Samia sub County?

   ……

   ……..……

4. How does bicycle education empowerment project influence girls' participation in co-curricular activities in day secondary schools in Samia sub County?

   ……

   ……..……

5. How does bicycle education empowerment project influence girls' commuting safety and security in day secondary schools in Samia sub County?

   .....

   .....

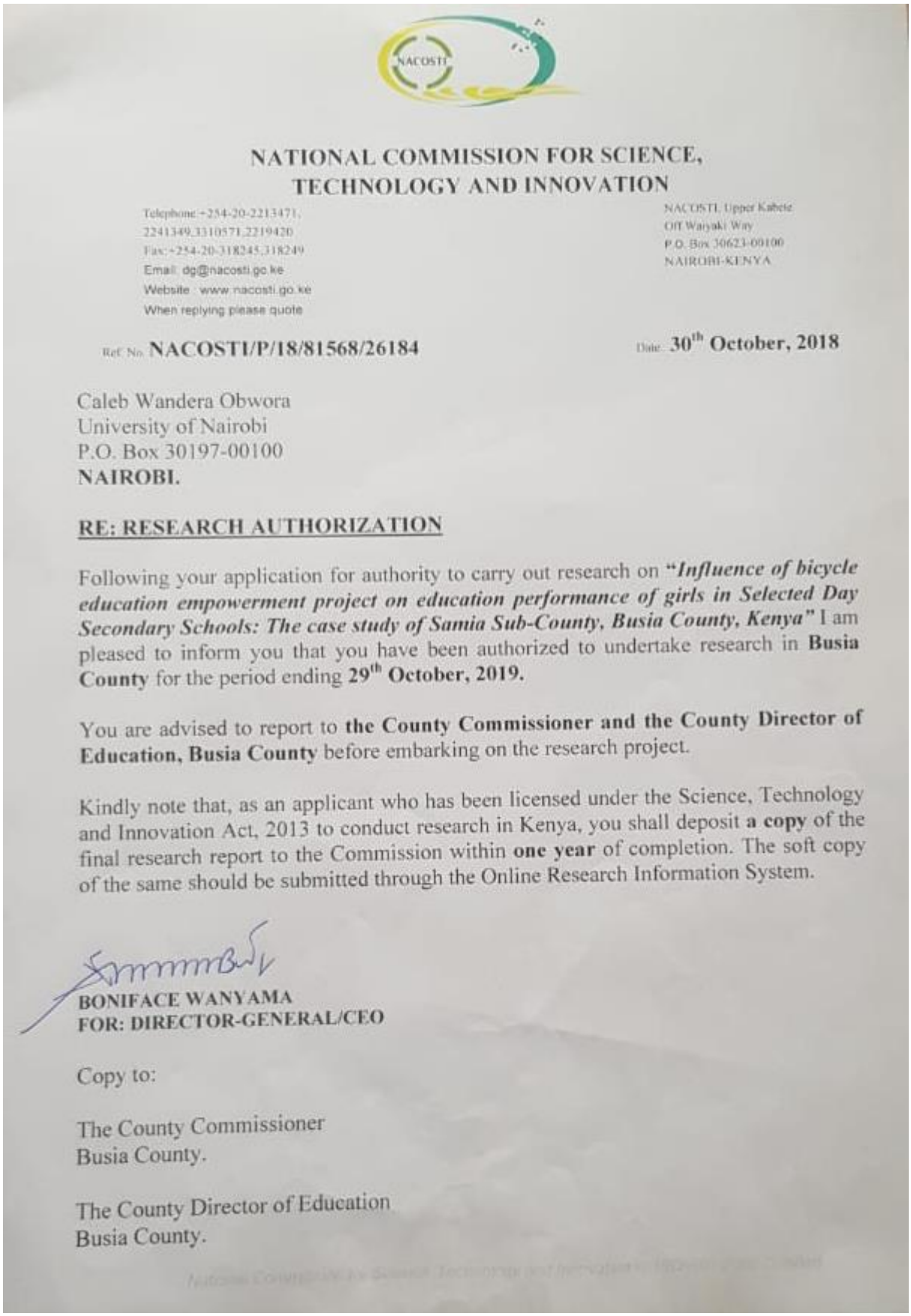
APPENDIX IV: THE RANDOM NUMBER TABLE

58941	72711	39408	91620	27963	96478	21559	19246	88097	44026
02349	71389	45608	60947	60775	73181	43264	56895	04232	59604
89210	44546	27174	27499	53523	63110	57106	20865	91683	80688
11826	91326	29664	01603	23156	89223	43429	95353	44662	59433
69810	17100	35066	00815	01552	06392	31437	70385	45863	75971
81060	33449	68055	83844	90942	74857	52418	68723	47830	63010
56135	80647	51404	06626	10042	93629	37609	57215	08409	81906
57361	65304	93258	56760	63348	24949	11839	29793	37457	59377
24548	65415	61927	64416	29934	00755	09418	14230	62887	92683
66504	02036	02922	63569	17906	38076	32135	19096	96970	75917
45068	05520	56321	22693	35089	07694	04252	23791	60249	83010
99717	01542	72990	43513	59744	14595	71326	91382	45114	20245
05394	61840	83089	09224	78530	33996	49965	04851	18280	14049
38155	42661	02363	67625	34683	95372	74733	63558	09665	22610
04319	04318	99387	86874	12549	38369	54952	91579	26023	81076
18134	90062	10761	54548	49505	52685	63903	13193	33905	66936
32012	42710	34650	73236	66167	21788	03581	40699	10396	81827
78101	44392	53767	15220	66319	72953	14071	59148	95154	72852
23469	42846	94810	16151	08029	50554	03891	38313	34016	18671
35342	56119	97190	43635	84249	61254	80993	55431	90793	62003
65846	18076	12415	30193	42777	85611	57635	51362	79907	77364
22184	33998	87436	37430	45246	11400	20986	43996	73112	88474
83668	66236	79665	88312	93047	12088	86937	70794	01041	74867

90083	70696	13558	98995	58159	04700	90443	13168	31553	67891
97765	27552	49617	51734	20819	70198	67906	00880	82899	66065
49988	13176	94217	88698	41755	56216	66832	17748	04963	54859
78257	86249	46134	51865	09836	73966	65711	41699	11732	17173
30946	22210	79302	40300	08852	27528	84648	79589	95295	72895
19468	76358	69203	02760	28625	70476	76410	32988	10194	94917
30806	80857	84383	78450	26245	91763	73117	33047	03577	62599
42163	68332	98851	50252	56911	62693	73817	98693	18728	94741
39249	51463	95963	07929	66728	47761	81472	44806	15592	71357
88717	29289	77360	09030	39605	87507	85446	51257	89555	75520
16767	57345	42285	56670	88445	85799	76200	21795	38894	58070
77516	96648	51568	48140	13583	94911	13318	64741	64336	95103
87192	66483	55649	36764	86132	12463	28385	94242	32065	45233
74078	64120	04643	14351	71381	26133	68269	65145	28152	39087
94119	20108	78101	81276	00835	63835	87174	42446	08882	27067
62180	27453	18567	55524	86088	00069	59254	24654	77371	26409
56119	05993	71201	78852	65889	32719	13758	23937	80740	16866
04994	09879	70337	11861	69032	51915	23510	32050	52052	24004
21725	43827	78862	67699	01009	07050	73324	06732	27510	33761
24365	37661	18956	50064	39500	17450	18030	63124	48061	59412
14762	69734	89150	93126	17700	94400	76075	08317	27324	72723
28387	99781	52977	01657	92602	41043	05686	15650	29970	95877

Source: Gupta (2012)

APPENDIX V: RESERCH PERMIT



NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION

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2241349,3310571,2219420
Fax:+254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/18/81568/26184**

Date. **30th October, 2018**

Caleb Wandera Obwora
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Influence of bicycle education empowerment project on education performance of girls in Selected Day Secondary Schools: The case study of Samia Sub-County, Busia County, Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Busia County** for the period ending **29th October, 2019.**

You are advised to report to **the County Commissioner and the County Director of Education, Busia County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

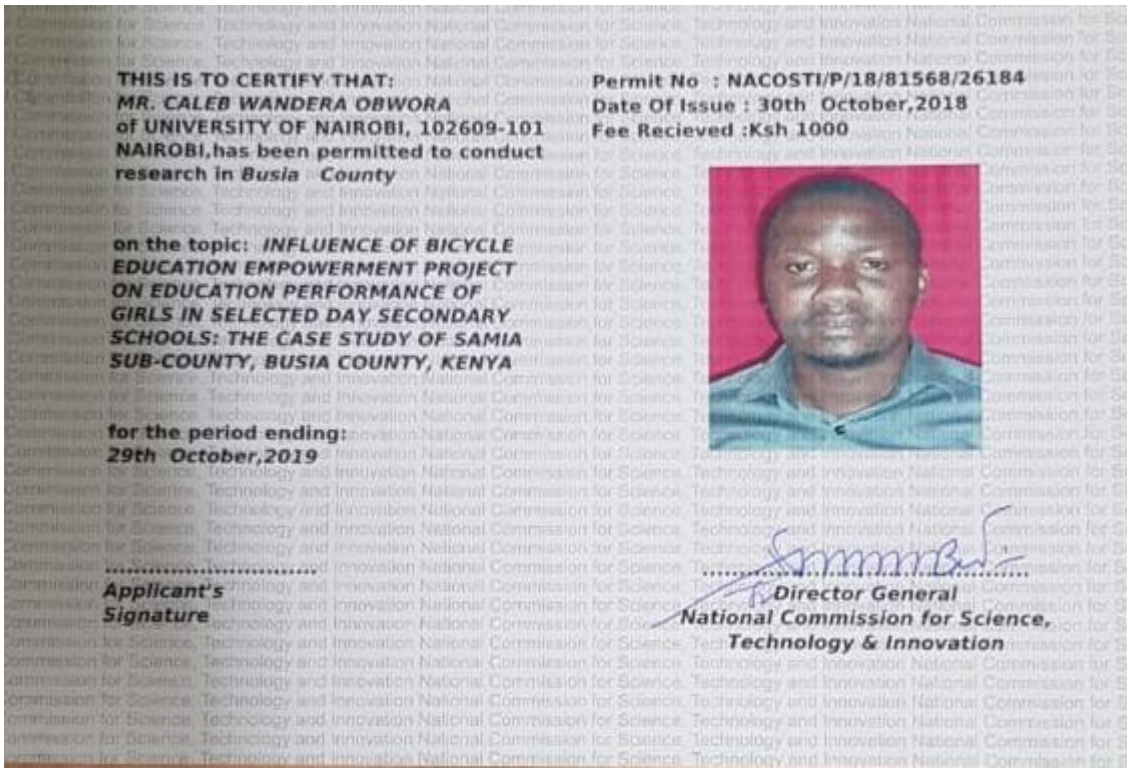
BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Busia County.

The County Director of Education
Busia County.

APPENDIX VI: RESEARCH AUTHORIZATION



THIS IS TO CERTIFY THAT:
MR. CALEB WANDERA OBWORA
of UNIVERSITY OF NAIROBI, 102609-101
NAIROBI,has been permitted to conduct
research in *Busia County*

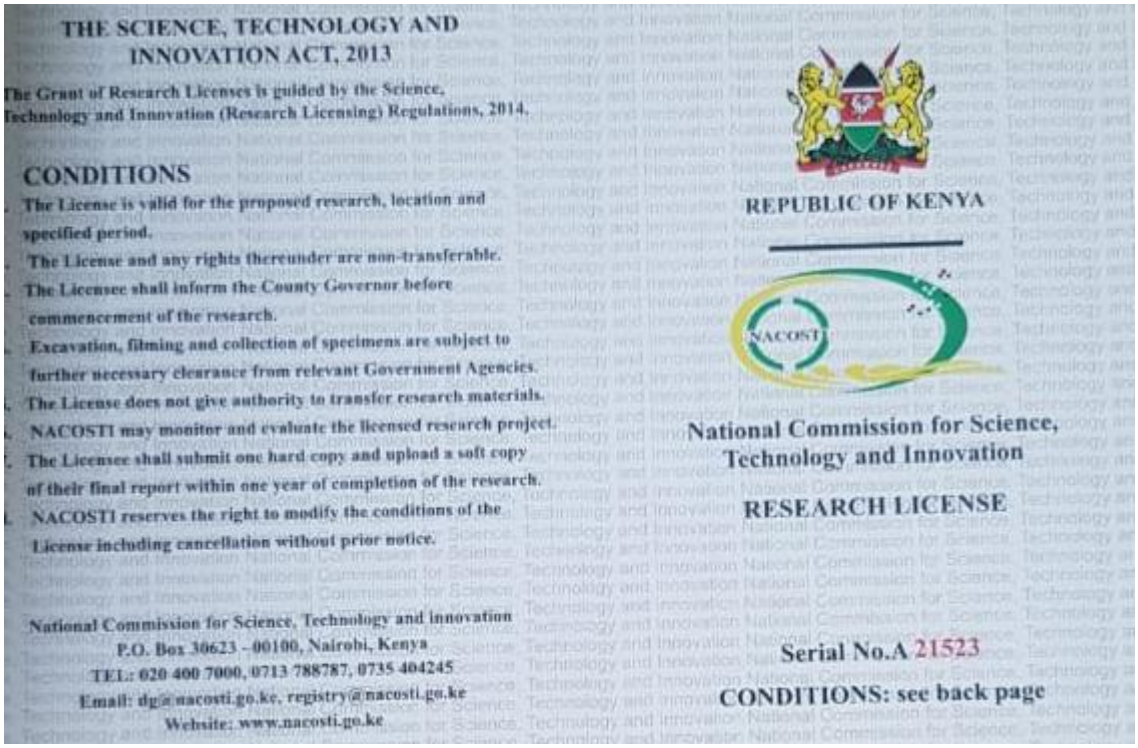
on the topic: *INFLUENCE OF BICYCLE EDUCATION EMPOWERMENT PROJECT ON EDUCATION PERFORMANCE OF GIRLS IN SELECTED DAY SECONDARY SCHOOLS: THE CASE STUDY OF SAMIA SUB-COUNTY, BUSIA COUNTY, KENYA*

for the period ending:
29th October,2019

.....
Applicant's Signature

Permit No : NACOSTI/P/18/81568/26184
Date Of Issue : 30th October,2018
Fee Recieved :Ksh 1000

.....
Director General
National Commission for Science, Technology & Innovation



THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014.

CONDITIONS

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