# THE RELATIONSHIP BETWEEN SCHOOL-LEVELFACTORS AND GIRLS' PARTICIPATION IN PUBLIC PRIMARY SCHOOLS IN KURIA WEST SUB-COUNTY, KENYA

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## DECLARATION

This thesis is my original work prepared with no other than the indicated sources and support and has not been presented elsewhere for a degree or any other award.

Signed …… Date ……..……..…

Clarice WankioMwita

EPM/G/20/2009

## APPROVAL

The undersigned certify that they have read and hereby recommend for acceptance of Masinde Muliro University of Science and Technology a thesis entitled:

"Relationship between selected school-based factors and Girls' Participation in Public Primary Schools in Kuria West Sub - County, Kenya."

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## DEDICATION

This thesis is dedicated to my family members. I dedicate this thesis to my husband, Thomas Mwita, who has stood by me while undertaking the development of this thesis both materially and morally. I also dedicate the work to my children Juliet Robi, Elvis Chacha and Elton Kerario for their encouragement while undertaking the production of this thesis. I also dedicate the work to my loving mother, Mary Chacha, who has continually provided me with moral support.

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I acknowledge the support from all my classmates, especially whom we shared ideas that shaped this work. Special thanks to my family for their encouragement and support. To all those who contributed and supported me in one way or another for the success of this work but are not mentioned by name, God bless you.

## COPYRIGHT

## ABSTRACT

Educating girls is one of the most important investments that any country can make. However, despite the remarkable success in reducing the basic education access gap worldwide and in Kenya, challenges still exist in providing quality education, especially to the girl child. This leads to learner attrition and lower school completion rates in primary schools in various areas in the country. In Kuria West subcounty in Migori County, cases of withdrawal, absenteeism, and poor performance among girls in primary education are rampant. The purpose of the study was to examine the relationship between school-based factors and girls' participation in public primary schools in Kuria West Sub - County, Kenya. Specifically, the study sought to determine the relationship of learning resources and girls' participation in public schools, relationship between school security and girls' participation in public schools, and the relationship between school infrastructure and girls' participation in public primary schools in Kuria West Sub - County. The study was guided on the Constructivism Theory. This study employed a correlational research design targeting one Sub - County Director of Education, ninety head teachers, and two thousand class 8 girls all from public primary schools in Kuria West Sub - County. Stratified random and purposive sampling techniques were used to select a sample size of 350 respondents. Data collection instruments were questionnaires and interviews. Data analysis was done using descriptive methods like frequencies and percentages and inferential statistical methods like correlations. It was established that there is a positive correlation between the school-based factors (learning resources, school security, and school infrastructure) and girls' participation, as indicated by Spearman's rho correlations of 0.202, 0.486, and 0.664 respectively. The study thus concluded that school infrastructure, learning resources, and school security had a relationship girls' participation in schools. The study recommended that policies be designed to address the achievement gaps in public primary schools through the provision of the requisite teaching and learning materials by proper investment in learning resources.Education officials and school boards of management to increase the allocation of funds to school infrastructure, particularly the water and sanitation substructure. A multi-sectorial collaborative initiative involving teachers, parents, government administrators, security officials, civil society members, and the general public should be set up to unravel this deeply rooted socio-cultural practice of girl's insecurity, particularly girl harassment and other malpractices. The study suggests that a similar study be replicated to survey diverse county-specific factors to inform policy properly. The study also recommends that a further study can be done to determine whether classroom dynamics and teaching methodologies applied by teachers have anhad a relationship on the girls' attendance and participation in school.

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**ABBREVIATIONS AND ACRONYMS**

| | |
|---|---|
| AIDS | Acquired Immunodeficiency Syndrome |
| CDE | County Director of Education |
| CIDP | County Integrated Development Plan |
| DFID | Department for International Development |
| EFA | Education for All |
| FDSE | Free Day Secondary Education |
| FGM | Female Genital Mutilation |
| FPE | Free Primary Education |
| G& C | Guidance and Counselling |
| HIV | Human Immunodeficiency Virus |
| IDI | In-Depth Interview |
| KNBS | Kenya National Bureau of Statistics |
| NGCDF | National Government Constituency Development Fund |
| MDGs | Millennium Development Goals |
| MICS | Multiple Indicator Cluster Survey |
| MOE | Ministry of Education |
| NACOSTI | National Commission for Science, Technology and Innovations |
| NGO | Non-Governmental Organization |
| OECD | Organization for Economic Cooperation and Development |
| PASEC | Programmes for the Analysis of Education Systems |
| PISA | Program for International Student Assessment |
| SACMEQ | Southern and Eastern Africa Consortium for Monitoring Educational Quality |

| | |
|---|---|
| SCDE | Sub - County Director Education |
| SID | Society for International Development |
| UNESCO | United Nations Environmental Scientific Cultural Organization |
| UPE | Universal Primary Education |

# CHAPTER ONE
# INTRODUCTION

## 1.1 Background to the Study

Education plays a major role in shaping human development. Fundamentally, it improves the efficiency, control, and adaptability of the individual in many facets of human life (Masita et al., 2021). These initiatives, including the Millennium Declaration, the Dakar Framework for Action, and the World Declaration on Education for All (EFA) in Jomtien, Thailand, in 1990, emphasized the importance of education (Andiema, 2021). The Education for All campaign, led by the United Nations Educational, Scientific, and Cultural Organisation (UNESCO), aims to meet the educational needs of all children, adolescents, and adults worldwide by 2015. The framework called upon nations to adopt policies and strategies that would ensure universal availability and successful attainment of fundamental education, or any level of education considered fundamental, by the year 2000. (Ali and Cheema, 2021). The initiative also urged nations to aim for enhancement in educational achievements to guarantee that the agreed-upon proportion of a suitable age group meets or surpasses a predetermined standard of fundamental learning attainment (UNESCO, 2008; USAID, 2007). Education is a crucial determinant in the creation of wealth and is a highly valuable resource in an increasingly competitive society (Bridgeland et al., 2009). It imparts both essential technical and social abilities. Consequently, there has been an acknowledgment that basic education is an essential entitlement of every individual and an integral requirement on a worldwide level (Kato, 2015). From 1948 onwards, the global community has been dedicated to the goal of guaranteeing universal access to basic education for all children in every nation, as articulated in the Declaration of Human Rights (Kigaru et al., 2015).

The education of girls is one of the most critical investments that any nation can undertake independently. The EFA conference in Jomtien identified the education of girls as a critical priority area (UNESCO, 2008). The gender issue that primarily disadvantaged girls in accessing education was duly acknowledged, resulting in a formal declaration that there was an urgent need to ensure the delivery of quality education to all girls and the elimination of all impediments to ensure their active participation in formal education (Ombago, 2014). This was, therefore, anchored in the EFA Goal 2, which aimed to guarantee that by 2015, all children, with a particular emphasis on females in challenging circumstances and those from ethnic minorities, would have access to and complete free and compulsory primary education of high quality (Ozowuba, 2021).

The 2003-2004 EFA global report indicates that the economic benefits of increased education levels for females are inspirational. In the same vein, the global community and UNESCO have been striving to achieve the objectives of the Dakar Declaration on EFA. Goal five is explicitly dedicated to gender parity and equality in education. However, goal two, which specifies that all children, particularly girls from difficult circumstances and minority ethnic groups, will have access to free and compulsory primary education of high quality by 2015, placed a greater emphasis on women and girls (Densly, 2019). The education of girls contributes to the improvement of maternal health, the prevention of infant mortality, and the mitigation of the spread of HIV and AIDS. Additionally, it enhances the wealth, safety, and health of communities and societies. The advantages of education for women and girls have been demonstrated in numerous studies (Manyibe&Anyona, 2018; Masai et al., 2018; Obiero, 2018). Research indicates that education is linked to reduced rates of infant and mother death, improved healthy outcomes for children, and reduced fertility rates. Women who have attained a certain level of formal education are more inclined to utilize contraception, choose for delayed marriage, have a lower number of children, and possess greater knowledge regarding the nutritional and other needs of their children, as compared to women who lack education. Notwithstanding the advantages of educating girls, there are significant school-related elements that influence girls' choice to attend school (Changwony&Ochieng, 2020).

Despite the importance of the girl child education, the girl child continuously faces diverse challenges. In this context, King and Winthrop (2015) while addressing “Today’s challenges for girls’ education”, observed that the learning materials, in this case, textbooks speak a lot about girls and education. The content depicts accepted gender roles globally where the

female is overwhelmingly underrepresented regarding gender context and portrayed variously in stereotyped ways in occupational and domestic areas. In effect, there is an impact on the slow change in girls' progress in education(Onesmus, 2020). According to Plan International research, constraints of poverty, location, gender stereotypes, social norms, customs, and harmful practices hang on girls, their families, and communities to work against purposes of education. In the same breath, gender inequalities where patriarchy already holds girls as social and economic sources of labour, an attitude and perception socialized among girls has a constant influence on girls' participation in education (Africa Report., 2012). According to Tyoakaa *et al*. (2014) girl child low enrolment in schools was attributed to religious misinterpretation, cultural practice, poverty, early marriage, illiteracy, and inadequate school infrastructure militating against girl child education. Parents perceived girl child education as less important compared to married life, and that western type of education played a negative transformation and initiated persons into materialism, promiscuity, and inculcation into western ideologies, an idea so much detested(Sharma, 2020). These practices and beliefs hindered girls' access to education.

In a literature review on causes preventing girls from the acquisition of education, Radhika (2018) observed that while the education of girls and women was important, various factors prevented them from fully participating in education. Among such factors mentioned were the high-cost implications in educating girls than boys, which was unaffordable among the deprived, marginalized, and socio-economically weak parents(Perlman *et al*., 2018). Deprived school environments such as unfriendly female infrastructure and school furniture, lack of access to water, and sanitation came across as detrimental to girls yet fairly favourable to boys, thus preventing continued participation in schooling for the girls. Alongside this, the position of women and girls in a patriarchal society gives parents' muscles to discourage girls' schooling in favour of boys(Winarno & Robfi'ah, 2020). Social exclusion affects girls' participation and retention in schools, especially where girls are subjected to labour activities that inform their decisions to drop out of school.

Security is a critical element of the attendance of girls in education. Explicitly guaranteed in the Convention on the Rights of the Child, the right of children to protection from violence is a fundamental element of the general guarantee in the International Convention on Civil and Political Rights of children to such measures of protection required by their status as a minor

(UNESCO, 2010). According to Verma (2018), this clause mandates the implementation of all feasible economic and social measures to avoid that children are exposed to acts of violence and cruel and inhumane treatment. The recognition that the assurance of "measures of protection" encompasses safeguarding against violence acknowledges the fact that the repercussions of harassment and violence may involve the denial of other rights, such as the right to education, for minors. Female students attending school require a safe and protected setting both at home and during their commute to and from school, as well as within the school premises, in order to enhance their chances of academic success. Implementing gender equality in quality education as a targeted national government policy intervention has the potential to decrease incidents of violence in schools (Densly, 2019; Isokon et al., 2020). According to Abraham Maslow's Theory of Needs developed in (1943) in his paper "A Theory of Human Motivation", safety and security, among others, were identified as some of the basic needs. This need is important in the education of the girl child both at home and at school, and its absence explicitly affects girls' learning. It is in this regard that buildings such as classrooms, latrines/toilets should be adequate, there should be the availability of water, the roads/ paths leading to school should be secure(Perlman *et al*., 2018).

The challenge of school attendance is a global phenomenon and diverse efforts have been undertaken across the globe to ensure girls do attend school. An investigation conducted in Bihar state, India, on the use of cycling as a means to enhance girls' participation in secondary schools, found that the proportion of girls enrolled in secondary schools that were suitable for their age rose by 32%. Additionally, this initiative contributed to a 40% reduction in the gender disparity in formal education. In addition, the research verified that there was a notable 18% rise in the female population participating in the high stakes secondary certificate examination, as well as a 12% increase in the number of girls achieving outstanding results. The main outcome was the decrease in the time and financial expenses

associated with attending school, which reduced complexity and ensured the safety of the girls (Muralidharan& Prakash, 2017).

In sub-Saharan Africa, out of the total children enrolled in school, 7 out of 10 drop out, and worse is the case of girls,for example, in Ethiopia, 59% and Liberia, 57% girls drop out of school. However, although dropout rates cut across grades, it was more evident in lower classes because of school fees waiver leading to overcrowding(Chiamaka, 2018; Sidiqiah *et al*., 2022). The influx in primary schools has ostensibly accumulated challenges for the government in the provision of adequate resources; hence most children leave school before acquisition of basic literacy and numeracy skills. Similarly, higher classes dropout identified with economic and social pressures adolescent girls and families faced to ensure sustainable school participation and retention (UNESCO, 2010).

The school infrastructure has a great bearing on the girls' participation in schooling. In a randomized controlled trial in low-income villages in Northern rural Burkina Faso, West Africa, a response to improving girls' chances to succeed in schooling advanced an infrastructural intervention. It basically stood out as a living example of infrastructural benefits in girls' education as there was an overall improvement of 19% points and scored improvement by 0.41 Standard Deviation (SD) on Math and French subjects and girls' enrolment improved by 5% more than boys (Kazianga *et al*., 2012).

Kenya implemented Free Primary Education (FPE) in 2003 and Free Day Secondary Education (FDSE) in 2008 to contribute to the achievement of the Education for All (EFA) and Millennium Development Goals (MDGs). The aim was to improve student retention and boost high school transition rates (N. C. Andiema, 2021). The implementation of the FPE plan has resulted in a consistent increase in enrollment for both male and female students in primary schools. Nevertheless, although there has been significant progress in narrowing the

disparity in access to basic education, there are still obstacles in delivering high-quality education, particularly to female students, resulting in student dropout and lower rates of educational completion in primary schools across different regions of the country (Fareo&Ateequ, 2020; Khoshkhoo&Issazadegan, 2022). Nevertheless, the infrastructural aspects of schools were not taken into account, while implementing FPE in Kenya.

In a qualitative study on overcoming obstacles to educational access for Kenyan girls in TaitaTaveta, Nairobi, Kwale, and Samburu Counties, Mwakio (2017) observed that boys compared to girls made a milestone in education. Girls' lagging behind status was associated with cultural practices and beliefs such as violation of girls' rights such as the right to education and freedom of expression(Esther & Shamaki, 2022). Besides, they fall victim to forced early marriages, female genital mutilation (FGM), and sexual exploitation. Mwakio (2017) established that socio-economic, cultural beliefs that include FGM, early marriage, pregnancies, and school-based factors affect girls' participation in primary schools in Barwessa Division, Baringo District.

Kenya as a signatory to most global education policy documents, has been on the right trajectory to ensure the actualization of these policies, including FPE policy formulation(Ndawa, 2014). Nevertheless, various bottlenecks have stood in the way of girl child participation in education. In a study carried out on factors that influence girl-child access to primary school education in Mwitika Division, Mutito District, Kenya, according to the pupil respondents, 96.1% indicated that early marriage is a major cultural contributory factor limiting girls' access towards completion of their primary education. The effect of child labour accounted for 73.0% while absenteeism was cited by 65.3%, besides teacher

factors were 19.2% related to harassment from teachers. These factors combined affected girl child participation in education (Ndawa, 2014).

According to the Migori County Integrated Development Plan (2013-2017), the county has consistently fallen behind in important educational indicators, including a gross enrolment of 103% as compared to the national average of 110%, a net enrolment of 72%, a transition to secondary education of 52%, and a completion rate of 69.7%. The report highlights that the county's poor overall performance in national exams can be attributed to several significant factors, including deteriorated school physical facilities, inadequate provision of teachers, and absence of safe water supply. The findings of the study highlight the detrimental impact of teenage pregnancy, early marriage, and female genital mutilation (FGM) on the participation and completion of basic education levels among girls.

According to Legusov *et al*.(2021) as of 2014, almost 25% of young women aged between 15-24 years, translating to about 116 million in developing countries, were unlikely ever to attend or complete primary school. This situation has been attributed to certain obstacles to girl pupils, which seem to persistently affect the formal learning of girls (Lewin *et al*., 2011). Participation in learning activities in the school is an important installment in school completion and, as such, must be emphasized. However, for many girls in their teenage years, their level of participation in school remains unsatisfactory(Chiamaka, 2018). This would mean that if the situation is not urgently addressed, there will be far more boys educated than girls, and the decades of efforts and investment meant for fully educating the girl will only have minimal returns at best(Ndawa, 2014).

The Kenyan Government is signatory to diverse conventions on the girl child education and is committed towards the attainment of education for the girl child. In this context, the government of Kenya is a signatory to the Convention on the Elimination of Discrimination against Women (CEDAW), Millennium Development Goals (MDGs), and Education for All (EFA) conventions (Chiamaka, 2018). Additionally, the MDGs, EFA, and Kenya's Basic Education Act 2013 encourage elimination of gender disparity in schools (Momanyi *et al*., 2019). Kenya also has a re-admission policy of the girls who have fallen pregnant and dropped out of school to give birth (National Guidelines for School Re-Entry in Early Learning and Basic Education – MOE, 2020). The government of Kenya additionally reaffirms all Kenyan children right to education under the constitution and the Basic Education Act 2013(Kelonye *et al*., 2020). The Government of Kenya has further instituted Free Primary Education, subsidized secondary education, and 100% primary to secondary school transition policy which are all policies geared towards ensuring that all the Kenyan children access education (Alomba, 2020). The government has also outlawed negative cultural practices that were often deemed retrogressive in achieving the girl child education. These practices include Female Genital Mutilation (FGM), early marriages, and child abuse amongst other challenges.It was against this backdrop that this study sought to examine the relationship between selected school-based factors and girls' participation in public primary schools in Kuria West Sub - County, Kenya.

## 1.2 Statement of the Problem

Kuria West Subcounty has in the past, posted low school participation rates for female students compared with their male counterparts. For eight consecutive years, Chinato zone's rates for female students' participation witnessed a steady decline (Machini, 2008). In 1999

and 2000, their participation rates were 40% and 38% compared to their male counterparts at 60% and 62% respectively. For 2001, 2002, 2003, 2004, 2005, 2006, their rates were 36%, 34%, 30%, 28%, 26%, 25% respectively (Machini, 2008). However, the low rates of enrollment among girls are not exclusive to Kuria West. Available data indicates that a mere 18% of Kenyan women aged 25 years and above have successfully finished secondary education (Njeri, 2023). It is worth noting that out of the 9–13 year old girls in rural Kenya, 86.5% attend primary school and 80.8% go on to secondary school. In contrast, out of the same age group in urban areas, 68.6% finish primary school and 27.8% go on to secondary school. Around 20% of female pupils who participated in the KCPE examination in 2015 were unable to enroll in secondary institutions in 2016 (Njeri, 2023). Among the 762,569 youngsters of school-going age who were not attending primary school in 2009, almost 400,000 were female (Njeri, 2023). According to the 2023 Global Education Monitoring Report, the number of children and adolescents who were not in school in 2021 was as high as 244 million, with 119 million of them being girls. The out-of-school population in sub-Saharan Africa increased by 12 million between 2015 and 2021 (UNESCO, 2023).

Manchini's (2008) research presented factors affecting enrolment and retention girls in school. With a sample of 390 respondents, these factors included retrogressive cultural factors (51%), household factors (21%), lack of proper guidance and counselling (10%), school factors (13%) and unwanted pregnancies (5%).

### 1.3 Purpose of the Study

The purpose of this study was to examine the relationship between learning resources, school security and school infrastructure on the girls' participation in public primary schools in Kuria West Sub - County, Kenya.

## 1.4 Study Objectives

i. To examine the relationship between learning resources and girls' participation in public primary schools in Kuria West Sub - County.

ii. To establish the relationship between school security and girls' participation in public primary schools in Kuria West Sub - County.

iii. To determine the relationship between school infrastructure and girls' participation in public primary schools in Kuria West Sub - County.

## 1.5 Research Hypotheses

$H_0 1$: Learning resources have no significant relationship statistically, with girls' participation in public primary schools in Kuria West Sub - County.

$H_0 2$: School security has no significant relationship statistically,,with girls' participation in public primary schools in Kuria West Sub - County.

$H_0 3$: School infrastructure has no significant relationship statistically, with girls' participation in public primary schools in Kuria West Sub - County.

## 1.6 Justification for the Study

Achieving gender parity in primary education has been elusive despite the government's efforts in initiating policies and removing obstacles to education for the girl child such as free primary education, re-admission of teenage mothers into school, outlawing female genital mutilation, and outlawing teenage marriages to ensure that girls participate fully in primary education as agreed by the EFA Global Campaign. Besides, the government has enacted the 2010 constitution, which makes basic education a human right, and the 2013 Basic Education Act, which makes it criminal for any parent not to take their school-age going children to school. However, these initiatives have only been partly successful in closing the gender gap and, hence, a lot needs to be done to augment the government's initiatives to ensure that every girl child in the country is guaranteed unfettered access to education. Thus, the present

study makes a valuable contribution to the efforts of the government and other education stakeholders in closing the gender gap in not only education access but also quality learning.

## 1.7 Significance of the Study

The significance of this work is multifaceted. First, the paper examines the issue of girls' low involvement in secondary schools by identifying the causes contributing to the problem and proposing several remedies for the issue. Secondly, data on girls' participation will serve as a foundation for other stakeholders to understand the extent of the issue and develop appropriate measures to effectively tackle it. Furthermore, the results can be used to enhance or refine policies regarding the education of girls. Hence, the obtained data can serve as a foundation for the Ministry of Education (MOE), County Director of Education (CDE), Sub-County Director of Education (SCDE), stakeholders, and policy makers to formulate their future policies on this issue. The long-term outcome of this may be an enhancement in the academic achievement of female students in the Sub County. Ultimately, this study serves as a significant resource and source of valuable information about the issue of girls' involvement in school, whether for comparison or other objectives. Consequently, it is anticipated that the research will contribute to the expanding body of knowledge in this discipline.

## 1.8 Scope of the Study

The study focused on the relationship of selected school-based factors and girls' participation in public primary schools in Kuria West Sub - County, Migori County. The selected factors were learning resources, school security, and school infrastructure. The research was carried out over a period spanning one academic year.

## 1.9 Limitations of the Study

The study was limited by the respondents expressing apathy in filling the questionnaires due to the sensitivity of the questions being asked. These challenges were addressed by the respondents being provided with consent statement and the undertaking of adequate ethical considerations in the execution of the study. The respondents were then assured that the responses provided were to be used for academic purposes only and data was used only for such purposes.

## 1.10 Assumptions of the Study

The study was based on the following assumptions:

i. That the respondents have and would provide adequate information on the factors within the school that affect girls' participation in schools.
ii. It is assumed that Learning resources, school security, and school infrastructure are the most common factors in the context of the study that had a relationship girls' participation and which are also easy to observe.

## 1.11 Theoretical Framework

The research was pursued under the framework of the Constructivism Theory. The theory was initially formulated by Piaget in 1976. Individual learners engage in purposeful exploration of their surroundings by expanding upon their preexisting cognitive frameworks or schema. Acquisition of knowledge takes place through the process of assimilation when these schemas are sufficient to handle a novel object, circumstance, or difficulty. When a current schema is insufficient to handle a new object, circumstance, or difficulty, learners must adopt a process of accommodation in which they adjust their present schema (Lewin et al., 2011).

The constructivist approaches emphasise the provision of activities that enhance children's

existing knowledge and align with their suitable developmental stage. These activities aim to challenge children and facilitate their ongoing progress through the process of accommodation. Research suggests that both individual and group work focused on problem-solving and project work are suitable (Altinyelken, 2010).

The Constructivist approach is useful in this study in examining how a girl child adapts to the changing learning environment while considering physiological changes she is undergoing.

In essence, the theory may help explain whether the level of participation of the girl in the school can be attributed to her ability to process the learning environment, make necessary adjustments and continue pursuing her goals or whether she may opt to identify herself more as less of a learner due to her experiences as a growing girl within the school set up. Moreover, the theory may provide insight on whether the schools are more child-centered, hence, willing to support the girl child as she grows into a young adult (Carney, 2008).

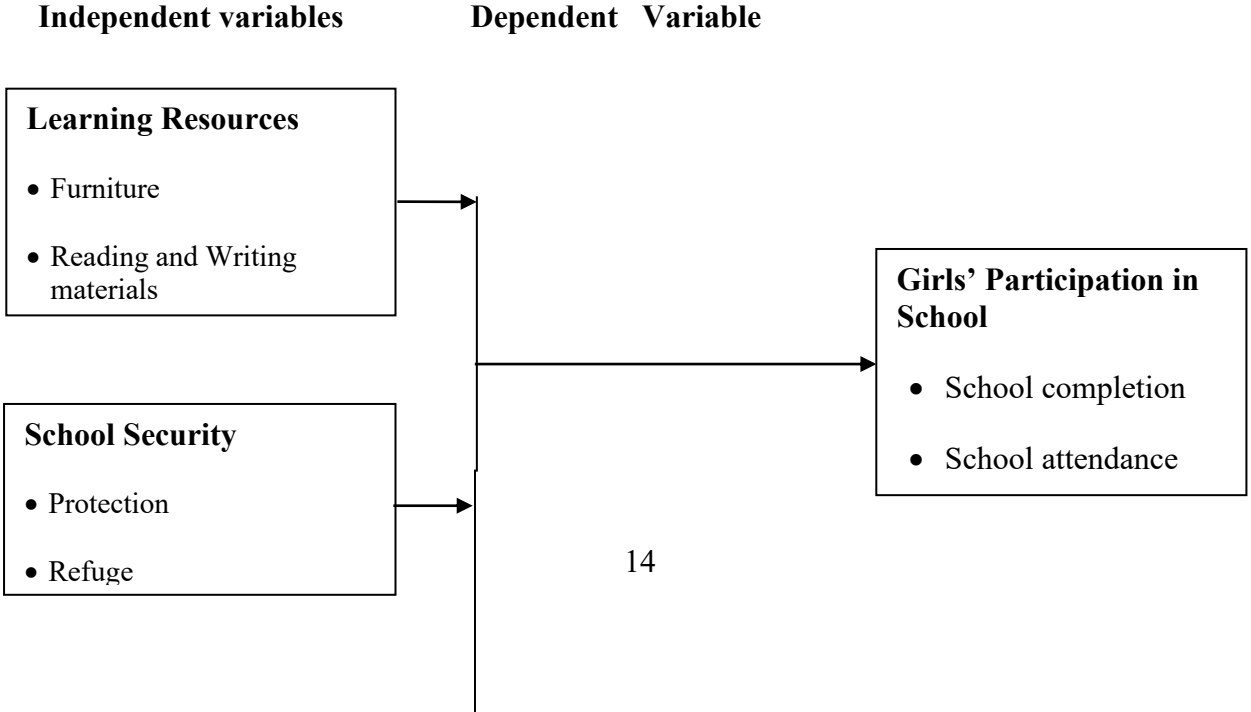
Knowledge is developed through personal experiences and environmental hypotheses. Continuously, learners evaluate these hypotheses by means of social negotiation. Individuals possess distinct interpretations and constructions of the process of acquiring knowledge. The learner is not devoid of knowledge or personal background (tabula rasa) but rather contributes previous experiences and cultural influences to a given scenario (Ertmer& Newby, 1993). An often held misconception about constructivism is that teachers should refrain from providing explicit instructions to students and instead, should consistently afford them the opportunity to independently build knowledge. In fact, this is conflating a theory of pedagogy (teaching) with a theory of knowing. Constructivism posits that all information is formed from the learner's preexisting knowledge, irrespective of the instructional methods used. Therefore, even to passively listen to a lecture requires deliberate efforts to build new

information.

Nevertheless, critics of child-centered education argue that it is influenced by the individual circumstances rather than being universally applicable and may even result in elitist consequences (Lewin et al., 2011). Typically, children hailing from middle-class households possess a higher level of familiarity with the school's culture and expectations. Bernstein, Bourdieu, and Foucault, along with other post-structuralists, viewed child-centered education as a hidden method of social control that marginalizes working-class children and those from ethnic minorities, pathologizing them in order to consolidate the dominance of the middle class (Carney, 2008).

### 1.12 Conceptual Framework

The study was guided by a conceptual framework showing the interrelationship between school-based factors and girls' participation as conceptualized by the author. In this study, girls' participation in primary school is influenced by many factors such as level of school security, school infrastructure, and learning resources. These relationships are conceptualized in Figure 1.1below.



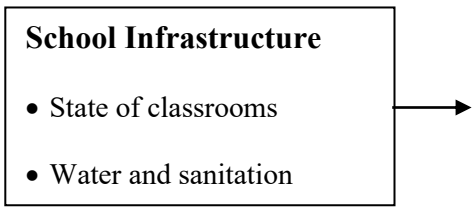



*Figure 1;* **Conceptual Framework**

Figure 1.1 presents a conceptual framework that illustrates the anticipated interaction between the independent factors and the dependent variable. The dependent variable in this study is the participation of girls in school, while the independent factors include learning resources, school security, and school infrastructure. The independent factors exert an impact on the dependent variable, whereas the intervening variables may in turn have a substantial influence on their interaction.

## 1.13 Operational Definition of Terms

**Learning Resources** Refers to all the facilities required for effective teaching and learning, such as furniture, playground, textbooks, and ICT resources.

**Participation** School attendance and completion rate of class eight girls in public primary schools.

**School Attendance** The total number of days a class eight girl is present in a given year in the primary school calendar as recorded in the school register.

**School-Based Factors** Theenvironment of a primary school as indicated by the level of school security, school infrastructure, and nature of teaching-learning resources.

| | |
|---|---|
| **School Infrastructure** | Refers to the school physical set–up in terms of location, state of buildings, water and sanitation facilities, medical facilities, fencing, catering, and boarding facilities. |
| **School Security** | The state of the school, assures the learner of protection, safety, refuge, and that inspires the confidence of the learner. |

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter provides a comprehensive survey of the literature pertinent to the study, organized by themes that are derived from the objectives of the study. The first objective pertains to the correlation between learning resources and the participation of girls in public primary schools in Kuria West Sub County. The second objective pertains to the correlation between school security and the participation of girls in public primary schools in Kuria West Sub County. The third objective reviews the literature on the relationship between school infrastructure and the participation of girls in public primary schools in Kuria West Sub County. The in-built gaps are summarized at the conclusion of each section.

## 2.2 The Concept of Participation

In the past years, international focus has improved on research, practice, and policy on the participation of students at school. Various factors drive this interest, like the children's rights agenda informed by the UNCRC (United Nations Convention of the Rights of the Child) Article 12. According to this article, children have a right to freely express their views on things that directly affect them and the subsequent right for those views to be given due weight, according to the child's age and maturity. Many contemporary advancements in the education practice and policy align with this emphasis, entailing student-centered pedagogies and personalized learning. Also, a shred of evidence relates student participation in the institutions with enhanced outcomes concerning life skills, democratic skills, self-esteem, citizenship, social status, school ethos, adult-student relationships, student well-being and health, competence, belonging, and agency(Chiamaka, 2018).There has been a powerful interest focused on enhancing student participation in learning institutions. However,

understanding what the participation entails, its constituting elements, and how institutions should assess, measure, and monitor the progress of student participation is less articulated.

In applied literature and scholarly perspective, student participation has been defined in numerous ways, from mere school attendance to taking part in a class or extra curriculum activities to having a voice concerning topics that entail young adults(Kataike, 2018). Physical presence and school attendance in schools do not guarantee that students will study and develop their competencies and understanding. For learning to occur, students need to take part in educational activities(Esther & Shamaki, 2022). Generally, participation delegates to the endurance, intensity, the time spent by students while actively socializing with adults, materials, activities, and peers in their surroundings in a manner appropriate to their growth, environmental context, and competency level(Abur & Iyoho, 2019). Students' participation in learning intervenes between the quality of study environment, student learning participation, and outcomes that can measure the quality of students' participation in their institution surroundings.

The institution environment needs to provide multiple opportunities for students to interact with teachers, activities, peers, and educational materials. There is also a need for valid and reliable assessment of participation to help investigate how to support institution participation and check out students with low concentration and those that can benefit from interventions in the learning environments (Webb *et al*., 2019).Several participation measures are available in the English language and are being used in the educational context of America; however, there is only one that the Sweden educational context has adopted so far; the Swedish Cultural Adaptation and is meant to be used by preschool children (Webb *et al*., 2019). Children's expressions and experiences of participation alter as they develop and grow. In following the participation trajectories of children over a long time and across distinct

educational contexts, the used measures need to tap similar participation construct as they reflect the natural alteration in development, skills competencies, and role expectations(Rwegasira, 2017;Strochlic, 2020). Even though children, regardless of their age, show basic participation features like being attentive or having persistent behaviour and interest or enjoyment feelings, there is a need for adaptation of assessment of participation to the educational level and developmental level the child is in. School participation needs validation of participation measure that is appropriate for school children to study the Sweden educational context(Kihombo *et al*., 2017). In analyzing children's attention over time from preschool to the school attainment age, the school participation measures need to be comparable to those of preschool children.

The bio ecological systems framework theory defines participation as the proximal process between the child and the immediate surroundings. Even though connected to the child's characteristics such as disability status, age, hyperactivity symptoms, negative and positive effects, and participation is a child's fixed attribute but a possible malleable condition influenced by contextual details. Therefore, it can be enhanced by adapting the surroundings to the child(I. P. Okafor, 2020). If participation is taken as the interaction between the environment and the child, with time, it is expected to fluctuate as the context alters and the child's dynamic state alters (Udvari-Solner & Thousand, 2018).. Participation observational measures view participation as a condition that varies based on the context the child is in.

In contrast, global assessment views it as a constant behavioural pattern, same to psychological characteristics(Esther & Shamaki, 2022). As stable characteristics impact participation, children are expected to indicate a recognized participation pattern within various contexts. These global participations can be achieved by doing a child survey using

ratings of teachers, parents, or any other person who interacts with the child for long and knows how the child shows participation (Udvari-Solner & Thousand, 2018). The ability for Metacognitive reflection and introspection on someone's learning and participation enhances with age, so when assessing the children's concentration, one should use proxy participation ratings of caregivers, teachers rather than self-report(Webb *et al*., 2019). In a learning environment, teachers need to identify children with high or low participation tendencies. Generally, global assessments are better predictors of future educational and developmental results than brief observations.

## 2.3 Relationship between Learning Resources and Girls'Participation in Public Primary Schools

Since the report on equality of educational opportunity in the United States of America in 1966, the role of learning institutions in academic achievement has been examined in various nations (Chepkonga, 2017). Different outcomes have arisen from the research that examines the connection between academic achievement and schools' educational resources. Some research shows that the school educational resources do not affect the students' academic achievement. However, other studies have a different say on this. KewalRamani *et al*. (2018) acknowledge the effects economic and physical resources have on students' achievement. Physical achievement is classified under the leadership of individuals, financial, equipment, and material resources. According to KewalRamani *et al*. (2018) the school and family resources account for 26 percent of mathematics and Turkish scores and 26 percent of students' science scores. The school variables only account for a variance of 4.3 percent.

Instructional learning resources are essential for the academic performance of students. Teaching is a multifaceted and challenging undertaking that necessitates highly specialised abilities, expertise, and resources to have a substantial impact on student learning (Action Aid

International Kenya, 2008; UNICEF, 2012). Optimizing the availability and effective use of resources within an organization is crucial for attaining its goals and objectives. Hence, the effective use of school resources has a direct impact on the academic achievements of students (Eames et al., 2010).

Teaching and learning resources significantly enhance the educational progress of both individuals and society. An investigation conducted by Radhika (2018) in India on the determinants of students' academic achievement in secondary schools found that the availability of learning resources facilitates students in gaining a more comprehensive grasp of academic principles and their practical application. Research conducted by Menesini and Salmivalli in 2017 revealed that students hailing from disadvantaged, marginalized, and socio-economically backward regions of society have challenges in terms of the cost of books and learning materials. Under these conditions, female students would withdraw from school because of their dissatisfaction with the insufficient learning resources to support their engagement in the learning process, coupled with their underperformance. Nevertheless, the research promptly noted that unappealing school infrastructure and overcrowded classrooms, among other factors, do contribute to low academic achievement. Extensive research has established a clear correlation between the availability of teaching and learning materials and the academic achievement of students in different educational institutions worldwide (Wango, 2012). An analysis by the Program for International Student Assessment (PISA) comparing student performance in different Organisation for Economic Co-operation and Development (OECD) countries revealed that 21% of young adults in Germany have a low literacy level due to underutilization of teaching and learning resources. The study highlighted that only 20% of Germans regularly use a public library.

Some research argues that the education resources effects on students' performance depend on the country's level of development. To explain students' academic achievement, factors connected to the school in developing countries are more effective, and the student's social background in developed nations is more active (Chepkonga, 2017). According to Ziegler *et al*. (2017) there is a positive connection between students' academic performance and financial, physical resources; however, human resources are not related to students' academic achievement. Lack /insufficient physical resources negatively affect and hinder student learning(Ministry of Education., 2008). The relationship between teacher-student ratio, student achievement, school facilities, and teachers' educational level is more apparent than in developed countries(Mwanahamisi, 2014). Developing nations trail developed nations regarding educational resources like teacher-student ratio, the level of education for teachers, and school facilities, whereas developing nations trail developed nations on academic performance on the international scale. Educational resources seem to have a diminishing effect on academic performance.

There are positive effects of educational materials, teacher-student ratio, teacher education, and library size on learning outputs (Boonk *et al*., 2018). Some research in ensuring effective learning in low-income nations stresses the importance of financial and human resources that entail sub-construction of learning institutions, teacher experiences, classroom size, educational materials, and teaching abilities(Fielmua & Boye Bandie, 2012). According to Boonk *et al*. (2018), the teacher-student ratio is a significant predicament of academic performance; however, learning institutions' financial and physical potential does not significantly affect performance.

Physical constraints connected to sub-construction have a minimal restrictive effect on the school's instruction capacity (Esther & Shamaki, 2022). School managers in Mexico, Turkey,

Greece, Indonesia, Uruguay, and Thailand state that lack/poor teaching aids affect the instruction quality. Above two-thirds of these managers believe that students' learning under 15 years is prevented due to the absence of quality in physical sub-construction. According to Raj *et al*. (2019), 80% of managers think these students' learning under 15 years is precluded due to inequality in educational resourcesKukali *et al*.(2010) Half of the managers indicate that failure to have quality resources by schools hinders students from learning. Insufficient school teachers is also a factor affecting student learning.

Mbugua (2011) examined the availability and sufficiency of teaching and learning materials in Kenyan secondary schools and discovered that when it comes to mathematics, schools aren't very well-prepared. Since mathematics mostly involves calculations on chalkboards, the lack of adequate textbooks and poor quality chalkboards in secondary schools had an impact on both the teaching and learning of the subject. Not only were there no high-quality, three-dimensional models or tools for teaching and learning mathematics, but instructors often failed to make good use of what was available. For students, drawing in three dimensions on a two-dimensional surface like a chalkboard could lead to distorted thinking; for instance, angles that are 90% cuboids would look different on the board. Ndege (2019) looked at how institutional factors affected secondary school education quality in Kenya's Migori County. The results showed that after adjusting for the impact of pedagogical materials on secondary school curriculum quality, the adjusted variance in educational quality was 0.618. The high value of R-0.791 was further taken to mean that there was a favorable and robust relationship between educational materials and the standard of secondary school curricula. Secondary school education quality was found to be affected by instructional materials (Obwari, 2013). The study's authors urged policymakers and other interested parties to increase funding for educational materials including computers, textbooks, and other technology in the classroom. However, the present study sought to

address a gap in the literature by examining the connection between instructional materials and the enrollment of female students in elementary school.

This study was conducted in Migori District, Migori County, Kenya, to investigate the factors that influence the involvement of female children in secondary school education. The results clearly demonstrated that the absence of teaching and learning resources significantly impacts the level of girls' involvement in secondary school education. The absence of computers, books, radios, and other necessary teaching and learning resources in most schools considerably hinders the effectiveness of girls' involvement in secondary school education (Ouma, 2013). While the study was carried out in secondary schools, there might be no difference with regard to teaching and learning materials in primary schools in Kuria West Sub-County, Migori County. Therefore, this study undertakes to examine this aspect in primary schools.

## 2.4 Relationship between School Security and Girls' Participation in Public Primary Schools

Millions of children attend schools that conform to reasonable safety standards. However, schools in the majority of underdeveloped nations do not effectively safeguard students from the repercussions of natural disasters and untoward incidents. There have been instances of students, particularly girls, being fatally burned in boarding schools where doors are believed to be securely secured, presumably for their protection. In several nations, children face the danger of being abducted for ransom or, in a growing alarming trend among youths, being involved in violence associated to gangs (UNICEF, 2012).

School climate is defined as a product of schools' focus on enhancing safety; encouraging a supportive academic, physical, and disciplinary environment; maintaining and encouraging,caring, trusting, and respectful relationships in the school setup (Boston & Warren, 2017). Climate entails shared values, norms, expectations, educational associations, practices, and the institutional environment and is based on a series of experiences of parents, students, and school workers (Boston & Warren, 2017). Consistency and quality of school climate impact children's social, cognitive, and psychological growth, and school climate changes give an evidence-based strategy for enhancing school safety. Schools without supportive climates are more likely to have students experiencing violence, victimization, poor attendance, and reduced academic performance(Heidari *et al*., 2017). Risk factors like disorganized schools, insecure and disorganized neighbourhoods are bound to lead to academic failure.

Research indicates four critical areas of focus; learning and teaching, relationships, safety, and institutional/external environment, even though an agreement concerning key dimensions of school climate has not been arrived at (Heidari *et al*., 2017). The environment's supportive and safe schools model is categorized into three topics—safety, engagement, and environment. There are three major domains of school safety: physical safety, emotional-social safety, and substance use. Outcomes indicate that students' perception of physical safety while in school is determined by whether the school is well equipped to handle conflicts, aggression and bullying, and whether substance abuse causes a problem in the school. Engagement entails indicators that address students, teachers, and the entire school and involvement of parents, academic attention, and the presence of equity (Heidari *et al*., 2017). The environment domain comprises items tackling discipline, emotional support, cleanliness, level of disorder, and physical comfort. The validity of this model was confirmed

by different school students indicating that safety is a central aspect of the school climate model that should reinforce students' ability to be safe at school.

Civil conflicts often result in the deliberate targeting of schools, therefore exposing children to the danger of abduction and coerced recruitment as child soldiers, workers, or sex slaves (UNESCO, 2011). The UN Study on Violence against Children demonstrates that children at a global scale are vulnerable to violence both within and in the vicinity of educational institutions. Educational institutions occasionally neglect their duty to safeguard children from health risks such as pollution, hazardous chemicals, noise, odors, or may expose them to unsanitary conditions that jeopardize their well-being (UNICEF, 2012). Schools may encounter challenges if they fail to effectively anticipate, avoid, and prepare for potential hazards to the health and safety of students in a fast evolving environment. School environments mirror the broader society, and girls, being more susceptible, are more likely to withdraw from school for safety reasons.

The climate of the school determines the school safety as opposed to location or academic performance levels. The school climate plays a significant role in ensuring safe feelings in the school community. A favourable school climate positively impacts students' motivation, the feeling of engagement and connectedness with the school, and academic achievement (Ruiz *et al*., 2018). School climate favourably correlated with students' self-esteem, reduced absenteeism, decreased harassment and bullying, and lowered psychiatric problems and substance use. Also, a positive school climate is associated with reduced aggression and violence, but this relationship depends on the students' connectedness to their institution. According to Ruiz *et al*. (2018) school climate impacts students' outcomes in numerous

ways, including intellectual, emotional, social, and physical safety; healthy relationships and mental health; high rates of graduation; school engagement and connectedness. School climate effects and conditions that lead to them are firmly interconnected.

Research shows that the perceptions of school danger and safety can have a considerable impact on student's success than the actual incidents. There have been three categories of school safety that have been identified by faculty and students: physical features and characteristics that entails concrete equipment and items like video cameras, fences, existing emergency plan, and locked doors; school discipline that entails a well communicated and consistent system of behaviour and discipline, teacher interventions and awareness in disruptive fights and behaviors; and finally school staffing that includes positive teamwork, relationships, and administrative support. There is a positive correlation between academic achievement and school climate. The school safety and survey items tackle violence and crime, bullying, threats, discipline, and teacher perceptions regarding safety. More immense student performance achievements are more in schools with higher quality contexts or climates, and contextual or climate improvements are connected with corresponding performance gains. Security is strongly linked with academic performance(Ruiz *et al*., 2018).

Educating girls and boys indeed has many gains for individuals, societies, and the country at large in helping break the cycle of poverty. According to Africa Report. (2012) studies in Sub-Saharan Africa indicated that 7 out of 10 primary school pupils stay in school to completion. However, the dropout rates revealed 59% of girls dropped out in Ethiopia and 57% in Liberia. Child labour was identified as a contributory factor to girls' non-full participation in education. For instance, in Guinea Bissau, over 40% of girls who took part in the study registered their frustrations in the manner they took part in house chores for more than five hours every day. This home factor, they observed, made it difficult for them to

attend school regularly, concentrate in class or even revise while at home. The household pressure, according to teachers and girls, led to absenteeism and ultimate dropout from school. The house chores pressures were due to HIV and AIDS, which placed girls at the centre of responsibility as a source of family income.

Maluli and Bali (2014) study explored experiences of pregnant and mothering secondary school students in Tanzania. The findings established that corporal punishment, sexual assault by teachers, diseases, and rules prohibit pregnant girls from attendance. Corporal punishment for any mistake or non-performance scared both boys and girls from school attendance. Besides, forced sexual assault by male teachers against the girls was identified as contributing to girls' missing of class, school attendance and ultimately led to drop out. The unlucky ones became pregnant and were in some cases infected with STDs, HIV, and AIDs, forced into early marriage, and expelled from school since the Tanzania government has no provision for school re-entry after birth.

Violence perpetrated by teachers or other adults represents the worst manifestation of a broader spectrum of behaviour linked to the misuse of authority. The influence of teachers and other adults on the lives of children is substantial, and at times, they misuse this influence. Gender-based violence occurs within and in the vicinity of numerous educational institutions worldwide. Maltreatment is perpetrated not only by educators but also by administrators, other school staff, peers, and those from outside the school community (Juma, 2012).

Kenya has put several policies to protect girls while at school. For teachers, the TSC code of conduct is very clear on this and the consequences for the teachers who defy it. Basic Education Act 2013 is also clear on protection of the child.Juma (2012) carried out a study on

institutional factors influencing girl child participation in education in public primary schools in Tenges division, Baringo district, Kenya. While addressing sexual harassment as a factor and its impact on girls' participation in education, findings revealed that girls' security at school was wanting. For instance, sexual harassment was rife in primary schools where 45% of the girls affected pointed at male schoolmates, 25% at teachers, 10% neighbours, 10% others, 5% identified rich politicians who lured them with material and financial gifts while 5% cited school support staff. The effect of sexual harassment flanks pregnancy, early marriage, and, in some cases, HIV and AIDS infections and STDs, which result in dropout from schools.

Kukali (2013) conducted a study on the implementation of safety policy in girls' boarding secondary schools in Bungoma East District, Kenya. The findings revealed that some of the security concerns in girls' boarding secondary schools were instigated by outsiders or the surrounding school community who invaded schools (Mbelwa and Isangula, 2012). The invasions were blamed on porous school fencing structures, which hardly provided security to the girls in schools. The invasions led to some cases of rape and traumatic stress leading to disturbed smooth full participation in education. There was a notable lack of perimeter fences, surveillance cameras, and hiring of well-trained security personnel from known firms, and this led to failure to provide full security measures to girls. The implication was dropout due to security scare to the girls hence affecting full participation.

According to the Multiple Indicator Cluster Survey Report 2011, 49% of children aged 5-14 years in Migori are engaged in child labour; 59% aged 2-14 years are subjected to violent disciplinary methods by their mothers/caretakers. Further afield, 43% were subjected to psychological aggression while 17% of women aged 15-49 years were married before attaining fifteen years of age. Schools that are secure and acting as refuge could easily foster

high rates of participation in view of the foregoing. The utility of these studies lies in the need to undertake corrective measures that improve the participation of students in the learning process, especially in public institutions. This study sought to examine the relationship between school security and girls' participation in education which the foregoing studies have not addressed especially in Kuria West Sub - County.

## 2.5 Relationship between School Infrastructure and Girls' School Participation in Public Primary Schools

The adequacy of physical resources alongside their effective utilization is a matter of serious concern to educators. The current state of school infrastructure in most schools does not augur well with the objectives of quality education, yet the school infrastructure has an impact on access and quality of education.Factors such as shorter distance from the learner's home and good infrastructure can result in higher school attendance(Ouma, 2013). However, providing adequate primary education facilities in the least developed countries in the world, especially those in Sub-Saharan Africa and Asia, is quite difficult and requires colossal sums of money (DFID, 2014).

The significance of high-quality instructional infrastructure in schools is emphasised by the Department for International Development (DFID, 2010). According to the survey, by maintaining and enhancing the quality of facilities, especially water and sanitation facilities, there is an improvement in enrollment and completion rates, reduced teacher absenteeism, and enhanced learning outcomes. The research concluded by proposing the essential attributes or primary criteria that should comprise a fundamental minimum set of school teaching and learning facilities. These standards encompass accessibility, durability, functionality, safety, hygiene, and ease of maintenance. Once all these elements are fully adopted, the system is expected to effectively implement the objectives outlined in the plan

for attaining the goals for elementary education. Physical amenities in basic level schools refer to the building, furniture, and playgrounds that constitute the tangible infrastructure in primary schools. The study conducted by Nandamuri(2012) examined the current state of secondary education in the Krishna district of Andhra Pradesh, India. The results indicated that the physical facilities had a statistically significant impact of 0.026 on the quality of education, with a significance level of 0.05. This was understood to indicate a tenuous correlation between the quality of physical infrastructure and academic achievement in secondary schools. This analysis revealed that out of the eight factors used to assess the school infrastructure, only 60% had enough room in buildings, 68% reported a lack of furniture, and 41% mentioned appropriate space on playgrounds. Going beyond that, 25% of respondents noted a need for gender-specific toilet facilities, particularly in government institutions, while 34% in local boarding schools and 44% reported a scarcity of buildings in schools. Consequently, the scarcities had an impact on any form of complete engagement in schooling.

Although the Free Primary Education (FPE) program has improved the availability of elementary education, particularly for economically disadvantaged families, the additional expenses associated with primary education, such as school uniforms, nevertheless impede the academic achievement of many children. Furthermore, ensuring the delivery of high-quality education continues to be a major obstacle (Nandamuri, 2012). This was underscored by a review conducted by UWEZO in 2010, which revealed unsatisfactory levels of academic achievement among elementary school students. The supply of clean water and sanitation has positive effects on both education and population health. Insufficient quality of sanitary facilities exacerbates the phenomenon of girls dropping out, especially during the period of puberty.

A study was carried out on the assessment of factors contributing to girls' school attendance and academic performance on form four national examinations in Mbeya Region, Tanzania. The study established that poor school infrastructure contributed to girls' poor school attendance and academic performance. Lack of latrines was noted as having gender-specific effects on girls' school attendance and performance. Most of the school infrastructure was said to be available but inadequate, which included girls' latrines and hostels, classes, and libraries. The study recommended that stakeholders should come to assist schools in improving infrastructure to enable girls to attend school (Kihombo *et al*., 2017).

The role of physical facilities such as sanitation and buildings generally play an important role in girls' participation in education. Wango (2012) conducted a study on institutional factors influencing girls' participation in secondary schools' education in Garissa Central Division, Kenya. The findings indicated that some school-based factors were associated with girls' low participation in education. On a 4-Likert scale, students cited the lack of toilets for girls at school. The results showed 10.2% indicated a lack of girls' toilets at school as Most Likely, 12.5% likely; 14.2% scored as Rarely while 22.8% stated as Not at All. This finding demonstrated that the lack of girls' toilets at school did not greatly contribute to girls' non-participation in education. Another item that was responded to was "lack of physical facilities at school," where 16.2% rated as Most Likely, 16.3% Likely, 14.2% Rarely indicated, while 28.5% rated as Not at All. This showed that lack of school physical facilities did not affect girls' participation in education. The impact of school-based factors on girls' participation in education may vary from school to school.

According to Ndawa (2014) study indicated that 62.96% of the pupils were of the view that lack of education facilities may influence girls' access to education in the Mwitika division,Mutito district, Kenya. However, 37.04% had a divergent view on the lack of education facilities and girls' access. Head teachers' responses indicated 60% strongly disagreed with the statement. According to 62.20% of the students, an unfriendly school environment limited girls' access to education, while 35.80% were opposed to the statement. Of the head teachers in the unfriendly environment, 40% disagreed, while 40% agreed. This implied that school facilities have an effect on girls' participation in education.

Onkangi *et al*. (2018) carried out a study in Nakuru town, Nakuru County, Kenya. The findings indicated that there was some infrastructure that was rated as well-maintained or not. While the schools had some toilets only, 2.4% stated that they were well maintained, 16.6% averagely maintained, while a whopping 81% were poorly maintained. This was disturbing as girls chose to hold on to their already full bladder than bear the bad smell of the toilets. Some pupils would queue for a long time to use the available toilets. In some schools, the latrines were dilapidated with cracks running on the walls and floor, some without shutters, while others were broken. This denied the girls the privacy required during latrine use. In such situations, girls would feel insecure and tend to miss lessons while they line up for the few maintained latrines and, to some extent, led to absenteeism and dropout.

Mohochi (2008) conducted a study on the state of education in both primary and secondary schools in both Kuria East and Kuria West sub counties inMigori County, Kenya. The findings revealed that there was a lack of physical facilities and the few available ones were not only overstretched but in poor and dilapidated conditions hence ineffectively used. A case in point was in Masaba Division, where a school with 536 pupils had only eight classrooms with an expected occupancy of 40 pupils. This was evidence of crowded facilities that

certainly goes against the Ministry of Education. (2008) policy on safety in schools. With regard to pupil furniture, it was established that desks were inadequate in that, a single desk was shared among four pupils. In terms of adequacy of school buildings, secondary schools recorded a high lack of physical facilities such as libraries, computer rooms, and toilets.

The implication is that inadequacy and total lack of physical facilities had an impact on access to education since overcrowded facilities cause body discomfort, headaches, poor concentration span, and pupils become sleepy to participate in learning actively. While this study addressed the issue of physical facilities, it was not specific on the relationship between infrastructure and girls' participation in education, the gap the current study attempted to fill. The foregoing studies did not address the relationship between school infrastructure and girls' participation in education in Kuria West Sub - County. This study, therefore, sought to fill this gap by examining the relationship between school infrastructure and girls' participation in public primary schools in Kuria West Sub - County.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

The present chapter undertakes an examination of the research design, study location, study population, sampling technique, and sample size. Furthermore, it emphasizes the research tools, their validity and reliability, the data collecting technique, and the data analysis plan employed.

## 3.2 Research Design

This study utilized a correlational research design, which is performed to elucidate the relationship or association between variables in a theoretical investigation. As to Gathii et al. (2019), the correlational study approach looks at how variables are related without explaining why they are related. This study employed a suitable design to investigate the correlation between learning resources and girls' involvement in public schools, as well as the correlation between school security and girls' participation in public schools. The correlational research methodology accordingly allowed the researcher to effectively ascertain the link between the variables.

## 3.3 Study Area

The study was conducted in Kuria West subcounty, which has the lowest proportion of inhabitants with a primary level of education at 63%, whereas Uririsubcounty has the largest proportion at 68%. In Kuria West, some 10.8% of the female population were enrolled as full-time primary students. According to the Kenya National Bureau of Statistics and the Society for International Development (2013), only over 65% of people living in Migori County have completed only their primary education.

### 3.4 Target Population

The study population comprised of the Sub - County Director of Education (SCDE), ninety (90) head teachers, and two thousand class 8 girls in all public primary schools in Kuria West Sub - County. The SCDE was included as a key informant in the study. This target population was chosen due to the ability of these respondents to provide critical information relating to the girls's school participation.

### 3.5 Sampling Procedures and Sample Size

According to Mugenda&Mugenda (2019), sampling involves selecting a subset of a population to take part in a study in such a manner that it is statistically indicative of the entire. The size of the student sample was established using the Krejcie and Morgan Sample Measurement Table (Appendix 4), which was created by Krejcie and Morgan in 1970. Therefore, the minimal sample size required for students in this study was 322. The researchers employed purposive sampling in accordance with the guidelines provided by Mugenda and Mugenda (2019). Therefore, the study comprised a total of 27 head teachers, as well as the sole Sub-County Director of Education, accounting for 30% of the sample. In conjunction with the 322 pupils, this increased the overall sample size to 350. Subsequently, the sample was allocated based on the corresponding strata detailed in Table 1.

Table 3.1Sample Size Distribution in Relation to the Study Population

| Category | Population | Sample size |
|---|---|---|
| Sub - County Director of Education | 1 | 1 |
| Head teachers | 90 | 27 |
| Class 8 Pupils | 2000 | 322 |
| Total | 2091 | 350 |

Source: Kuria West SCDE office (2017)

### 3.6 Research Instruments

Data collection in this study was conducted using a questionnaire. A questionnaire is a compilation of items into which a respondent is required to provide written responses. The prepared written pieces are disseminated to the participants. This approach efficiently gathers a substantial amount of data within a limited timeframe (Orodho, 2005). This approach is appropriate when the required information can be readily articulated in written form and when there is a constraint on time. Questionnaires were distributed to both students and head teachers. Respondents were given enough time to go and fill them at their own pace before returning them for analysis. The questionnaire had both open and close ended questions. For structured questions, an 11-point rating scale was used with 0=Absence of attribute being measured and 10=Full presence of theattribute. Respondents were required to indicate a numerical number on the rating school that represents their best position judgement on the scale.

### 3.7 Piloting of Research Instruments

Preceding the main study, the researcher conducted a pilot study in three specifically chosen schools in Kuria East Sub-County (Kombo & Tromp, 2006). This study aimed to evaluate the effectiveness of the instruments in collecting relevant data. The pilot project consisting of data collecting from three headteachers and 35 students. In order to enhance the diversity of responses, the findings indicated a transition from a five-point Likert Scale to an 11-point rating scale (Cooper & Schindler, 2008).

#### 3.7.1 Validity of Research Instruments

The content validity of the study was evaluated by the researcher through the application of expert judgment. Supervisors and pilot study participants served as the expert evaluators by

which the research instruments' validity was evaluated. According to Mugenda&Mugenda (2019), validity is the degree to which the conclusions drawn from the examination of data faithfully represent the subject under study. Statistical data representativeness is a measure that assesses the extent to which data gathered in a study precisely represents the variable under investigation (Henly, 2015).

It assesses the precision and significance of conclusions in research (Kothari, 2004).

### 3.7.2 Reliability of Research Instruments

Reliability refers to the extent to which research instruments produce consistent outcomes under repeated testing (Pandey & Pandey, 2015). An internal consistency approach was used to evaluate the dependability of the instruments in this study. Therefore, the dependability value was calculated using Cronbach's Alpha value established by Pandey and Pandey in 2015. Kathuri and Pals (1993) argue that there is no absolute minimum level of reliability necessary to get predetermined degrees of accuracy in data description. Nevertheless, they argue that in the context of research, the minimum acceptable degree of reliability should surpass 70%. Cronbach alpha values of 0.7 (70%) and higher were deemed satisfactory in this study.

Table 3.2 Reliability Test

| Variable | No. of Test Items | Cronbach Alpha |
|---|---|---|
| Learning resources | 8 | .876 |
| School security | 8 | .765 |
| School infrastructure | 8 | .822 |
| Girls' participation in schools | 2 | .812 |

A reliability test conducted on the pilot data, including both head teachers and girls, revealed that the Cronbach Alpha scores for learning resources, school security, school infrastructure,

and girls' engagement in school were 0.876, 0.765, 0.822, and 0.812, respectively. Provided that the Cronbach Alpha values above 0.7, it can be concluded that the data was credible. According to Mohsen and Reg (2011), a reliability coefficient equal to or more than.70 signifies a significant level of consistency. Consequently, this allowed the researcher to proceed with the primary data gathering activities.

### 3.8 Data Collection Procedures

The research was initiated following the acquisition of a research permit from the National Commission for Science Technology and Innovation (NACOSTI) through the Director School of Graduate Studies at Masinde Muliro University. The SCDE and the head teachers of the chosen schools were informed about the planned study during a preliminary visit of the Sub-County and the schools. Subsequently, the researcher proceeded to visit the SCDE and the pertinent schools on the established appointment days and distributed the questionnaires to the students (see Appendix 2). Concurrently, the head teachers were provided both the questionnaires (Appendix 3) and in-depth interviews using interview schedules (Appendix 4). The head teachers' questionnaires were collected after one week, but the in-depth interviews were conducted on the day of administering the tools. The two tools were used for the purpose of triangulation. On the other hand, the required information from the Sub - County Director of Education was conducted in person using in-depth interviews where the interview guides (Appendix 5) were used to direct the researcher on the major aspects of the interview.

### 3.9 Data Analysis

The researcher used the Stata version 15.1 for data management and analysis. tatistical Package for Social Sciences (SPSS) version 23 to conduct initial data analysis, deviations for Likert Scale data, and percentages for individual items to give a glimpse of the general trend. Likert scale items can be combined to describe a personality trait or attitude's mean and

standard deviations (Carifio & Perla, 2007). This means that parametric analysis of averages of Likert scale data is justifiable by the Central Limit Theorem ( Carifio & Perla, 2007). Thus, Likert scale data were combined into a single composite score to be analyzed as interval data for Test of Difference of Correlations for Two samples and Correlations analysis to determine the nature of the relationship between variables at a generally accepted conventional significant level of P = 0.05 (Sekaran, 2003).

Table 3.3: Summary of Objectives and Variable Analysis

| Research Objective | Independent Variables | Dependent Variable | Descriptive Tools | Inferential Tools |
|---|---|---|---|---|
| To assess the relationship between learning resources and girls' participation in public primary schools in Kuria West Sub - County | Learning resources | Girls' participation in public primary schools | Mean, Frequencies, Percentages | Correlation analysis, Multiple linear regression |
| To establish the relationship between school security and girls' participation in public primary schools in Kuria West Sub - County | School security | Girls' participation in public primary schools | Mean, Frequencies, Percentages | Correlation analysis, Multiple linear regression |
| To determine the relationship between school infrastructure on girls' participation in public primary schools in Kuria West Sub - County | School infrastructure | Girls' participation in public primary schools | Mean, Frequencies, Percentages | Correlation analysis, Multiple linear regression |

### 3.10 Ethical Considerations

The ethical considerations relates to the ethics that will be adhered to by the researcher in undertaking their research (Gathii *et al*., 2019). The ethical considerations prevent the research participants from coming to any harm during the undertaking of the research process. Some of the research respondents being minors are also considered vulnerable groups and need special considerations in the undertaking of the research. In this context, the researcher sought authorizations from the NACOSTI, ethics review board and the parental consent for the study to use the minors in using them in the research for the study. The information collected from the respondents were kept confidential and anonymous in order to protect the respondents.

# CHAPTER FOUR

# RESULTS AND DISCUSSIONS

## 4.1 Introduction

This study sought to examine the relationship between selected school-based factors and girls' participation in public primary schools in Kuria West Sub - County, Kenya. This chapter presents socio- demographic characteristics of respondents, data analysis, study findings, and discussion based on the following study objectives:

(i) Assess the relationship between learning resources and girls' participation in public primary schools in Kuria West Sub - County.

(ii) Establish the relationship between school security and girls' participation in public primary schools in Kuria West Sub - County.

(iii) Determine the relationship between school infrastructure and girls' participation in public primary schools in Kuria West Sub - County.

## 4.2 Instruments Return Rate

This study targeted SCDE, head teachers, and class 8 girls (pupils) as respondents in public primary schools. Table 4.1 presents the distribution and return rates of the instruments administered to respondents.

Table 4.1Interview and Questionnaire Return Rate Response

| Target Category | Target Number | Return Rate | Percentage (%) |
|---|---|---|---|
| SCDE | 1 | 1 | 100 |
| Head teachers | 27 | 27 | 100 |
| Class 8 girls | 322 | 243 | 75 |
| **Total** | **350** | **271** | **77** |

A face-to-face interview tool was used to collect data from the SCDE and head teachers from Kuria West Sub - County, where the response was 100%, respectively. A self-administered questionnaire was further administered to 27 head teachers and 322 class 8 girls, where the return rate was 27(100%) for head teachers and 243(75%) for class 8 girls. Barrett et al.

(2019) defined a satisfactory response rate as a minimum of 70%; however, the aggregate response rate was 77%. The researcher's personal interaction with respondents during interviews and the administration of the questionnaire instrument was responsible for the acceptable return rate.

## 4.3 Demographic Characteristics of Respondents

Table 4.2 presents the respondents' demographic characteristics such as age, gender, experience, and education.

Table 4.2. Demographic Characteristics

| **Girls' Ages** | | |
|---|---|---|
| **Age** | **Frequency(f)** | **Percent(%)** |
| 13 years | 122 | 50 |
| 14 years | 77 | 32 |
| 15 years | 32 | 13 |
| 16 years | 12 | 5 |
| Total | 243 | 100 |
| **Gender of the Head teachers** | | |
| Male | 17 | 63 |
| Female | 10 | 37 |
| Total | 27 | 100 |
| **Age of Head Teachers** | | |
| 30-40 Years | 5 | 19 |
| 41-51 Years | 12 | 44 |
| Over 51 Years | 10 | 37 |
| Total | 27 | 100 |
| **Head teacher's Experience** | | |
| 0-5 Years | 4 | 15 |
| 6-10 Years | 9 | 33 |
| Over 10 Years | 14 | 52 |
| Total | 27 | 100 |
| **Sub-County Direct of Education's Background Information** | | |
| Gender | Male | |
| Age | 48 years | |
| Experience | 10 years as SCDE | |
| Education | Masters' degree level | |

Majority of the girls were aged 13, followed by 14 years, the appropriate age for class 8. The girls were also old enough to comprehend and respond to issues affecting girls in a school environment with regard to study objectives.

There were 17 (63%) males head teachers and 10 (37%) females with 5 (19%) aged between 30-40 years, 12 (44%) between 41- 51 years, while 10 (37%) over 51 years.Four (15%) of the headteachershad an experience of between 0 and 5 years, 9 (33%) had between 6 and 10 years, while 14 (52%) had an experience of over 10 years. The SCDE was a male aged 48 years with a working experience of 10 years as SCDE and held a Masters' degree. He was well placed to respond to an interview guide regarding the study objectives.

## 4.4 Univariate Statistics for the Outcome Variable: Participation of Girls in Public Primary Schools in Kuria West Sub County

The outcome variable for this study was participation of girlsin public primary schools in Kuria West subcounty, measured as the Mean of the percentage column in Table 4.3. Sampled girls were asked questions g61-g66 whose responses produced the values in the Mean and SD columns in Table 4.3. These were converted to percentages where possible for same-scale interpretation. Participation was measured by g61 which asked the girls to give the number of days they attended school for the FIVE school days of last week. The mean was 4.78 days which works out to 4.78/5*100=95.6% attendance or particpation. Complimentary statistics are generated by questions g62-g66. For instance in g63, the grils were asked to give the enrolment of their class including themselves. A Mean was calculated from their responses per school as 32.47 with a standard deviation of 1.254. In g64, they were asked if they could remember how many of those did not attend school for the previous FIVE school days. With a Mean of 1.18, non-attendance/ participation was calculated as 1.18/32.47*100 giving a percentage of 3.63.This suggests an attendance of 96.37% (100-3.63).Table 4.3 presents the results of their responses on their participation as well as the computations thereof.

Table4.3. Girls' Responses on their Participation in Public Primary Schools

| Statements | Mean | SD | % |
|---|---|---|---|
| **g61** How many of the FIVE school days did you attend school last week?(4.78/5*100=95.6%) | 4.78 | 0.086 | 95.6 |
| **g62** How many of the FIVE school days did your best girlfriend attend school last week? (4.62/5*100=92.4%) | 4.62 | 0.093 | 92.4 |
| **g63** How many girls are in your class including yourself? | 32.47 | 1.254 | |
| **g64** If you can remember, how many of those did not attend school for the FIVE school days last week? (1.18/32.47*100) | 1.18 | 0.03 | 3.63 |
| **g65** How many girls do you know that started school with you in Class One have since dropped out of school? (3.82+32.47=36.29, so 3.82/36.29*100=10.52) | 3.82 | 0.078 | 10.52 |
| **g66** How many girls of your age do you knowin your village that have never attended school? | 2.13 | 0.012 | |

The school headteachers were asked to rate the participation of girls, on a scale of 0-10 where 0=complete absence of attribute being measured and 10=complete presence of the attribute. This was an 11-point rating scale measured on the interval scale with 5 as the mid-point. Table 4.4 presents the results. With a Mean of 8.89, the girls rarely missed school unless there were unavaoidable circumstances. The lowest Mean was at 6.30 for most female pupils that started school in the current schoolstill being there, meaning a substantial number had left.

Table 4.4 Headteachers' responses to girls 'participation in public primary schools

| Statements | Mean | SD |
|---|---|---|
| h81 Pupils do not attend school regularly because of unavailability of textbooks and writing materials in the school | 8.52 | .631 |
| h82 The state of our classrooms and school in general makes it easy for girls to concentrate in the learning activities | 7.78 | .986 |
| h83 Pupils usually try not to miss school | 7.04 | .928 |
| h84 Pupils rarely miss classes unless there are unavoidable circumstances | 8.89 | .986 |
| h85 Pupils usually intend to complete their primary education in this school | 6.67 | .535 |
| h86 Most of the female pupils that started school here are still in the school | 6.30 | .758 |

| | | |
|---|---|---|
| Overall mean | 7.53 | .870 |

## 4.5 Objective 1: Assess the Relationship Between Learning Resources and Girls' Participation in Public Primary Schools in Kuria West Subcounty

Tables 4.5 and 4.6 present the rating of sampled students (girls) and head teachers on various statements on learning resources in public primary schools in Kuria West Subcounty. They were asked to rate, on a scale of 0-10 where 0=complete absence of attribute being measured and 10=complete presence of the attribute with 5 as the the mid-point.

Table 4.5Girls' responses on learning resources

| Statements | Mean | SD |
|---|---|---|
| g31 My school provides me with all writing materials required | 6.79 | 1.069 |
| g32 As a girl child I can replace writing materials at my school whenever I run out of them | 6.75 | .890 |
| g33 In my school I sometimes share textbooks with other pupils | 7.94 | .972 |
| g34 I have missed school because I lacked books or other school equipment | 8.56 | .872 |
| g35 My school provides me with other reading materials like encyclopedias | 9.22 | .923 |
| g36 I have my own desk and chair provided by the school | 7.86 | 1.019 |
| g37 I sometimes share my desk and chair in school | 8.19 | .839 |
| Overall mean | 7.90 | .940 |

Table 4.6Headteachers' responses on learning resources

| Statements | Mean | SD |
|---|---|---|
| h51 My school provides pupils with writing materials required | 8.52 | .973 |
| h52 The school replaces writing materials for the pupils whenever they run out of them | 7.04 | .615 |
| h53Pupils in the school share textbooks with others | 7.41 | .997 |
| h54 Pupils sometimes miss school because of lack of books or other school equipment | 9.26 | .730 |
| h55 The school provides pupils with other reading materials like encyclopedias | 6.30 | 1.037 |
| h56 Each pupil has their own desk and chair provided by the school | 5.56 | 1.232 |
| h57 Pupils sometimes share their desk and chair with others | 7.78 | .850 |

| | | |
|---|---|---|
| Overall mean | 7.41 | .919 |

For the girls, the highest and lowest Means were 9.22 and 6.75 for "my school provides me with other reading materials" and "as a girl child I can replace writing materials at my school whenever I run out of them" respectively. For the headteachers, "each pupil has their own desk and chair provided by the school" was the lowest at a Mean of 5.56.

### 4.5.1 Bivariate Correlation for Objective 1

The $H_0 1$ stated that learning resources did not have a statistically significant relationship with girls' participation in public primary schools in Kuria West Subcounty.Pearson correlation coefficient (r) was preferred to test this null hypothesis because it is the most common way of measuring linear correlations for outcome variables measured on interval or ratio scales. The outcome variable was the total number of days in g61 "How many of the FIVE school days did you attend school last week?" with a count of between zero and five.Table 4.7 presents the correlation matrix.

Table 4.7 Correlation Matrix Between the Outcome Variable (g67) and its Correlates, Objective 1

| Variable | | g61 | g31 | g32 | g33 | g34 | g35 | g36 |
|---|---|---|---|---|---|---|---|---|
| g67 | | 1 | | | | | | |
| g31 | a | -0.260 | 1 | | | | | |
| | b | .268 | | | | | | |
| g32 | a | 0.535 | 0.100 | 1 | | | | |
| | b | .065 | .620 | | | | | |
| g33 | a | -0.317 | 0.170 | -0.059 | 1 | | | |
| | b | .074 | .398 | .769 | | | | |
| g34 | a | **-0.812** | 0.154 | 0.232 | 0.098 | 1 | | |
| | b | **.025** | .442 | .245 | .626 | | | |
| g35 | a | **0.718** | 0.218 | -0.131 | -0.222 | -0.253 | 1 | |
| | b | **.044** | .274 | .515 | .266 | .204 | | |
| g36 | a | -0.083 | **-0.721** | 0.040 | -0.086 | -0.067 | -0.019 | 1 |
| | b | .728 | <.001 | .842 | .671 | .741 | .926 | |

*Note.* a=Pearson correlation coefficient; b=p-values (α=0.05); Pair-wise correlation: ≤0.35 = Weak correlation; 0.36-0.67 = Moderate correlation; 0.68-0.89=Strong correlation; ≥0.90 = Very strong correlation; Adapted from Interpretation of correlation coefficient, by R. Taylor, 1990, Journal of Diagnostic Medical Sonography, 6(1), p. 37

The Pearson's correlation coefficient results in Table 4.7 suggest a statistically significant negative correlation between girls' participation in public primary schools in Kuria West subcounty (g61) and g34("I have missed school because I lacked books or other school

equipment") r(241)=-.812, *p*=.025and a positive correlation with g35("my school provides me with other reading materials like encyclopedias"), r(241)=.718, *p*=.044. The rest of the other potential correlates are statistically insignificant at 5%.

### 4.5.2 Mulitivariate Modelling (Multiple Linear Regression) for Objective 1

In objective 1, the researcher fitted a multiple linear regression model with $k$ independent predictor variables$x_1 \dots, x_k$ and one response/ outcomevariable $y$. This was written as

$$y = \beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k + \epsilon \quad (4.1)$$

Where:

| | |
|---|---|
| $y$ | The predicted value of the response/ outcome variable (number of days the respondent and her best girlfriend attended school $[y = 0, \dots, 10]$) |
| $\beta_0$ | The y-intercept (value of y when all other parameters are set to 0) |
| $\beta_1 x_1$ | The regression coefficient $\beta_1$ of the first independent variable $x_1$ |
| $\beta_k x_k$ | The regression coefficient $\beta_k$ of the last independent variable $x_k$ |
| $\epsilon$ | The error term (how a given statistical model differs from reality) |

The model was fitted as

$$y = \beta_0 + \beta_1 g34x_1 + \beta_2 g35x_2 + \beta_3 g11x_3 + \beta_4 g12x_3 + \epsilon \quad (4.2)$$

Where g34 and g35 are measured on a rating scale of 0-10 with 0 denoting nil and 10, full attribute being measured

| | |
|---|---|
| g34 | I have missed school because I lacked books or other school equipment |
| g35 | My school provides me with other reading materials like encyclopedias |
| g11 | Student's age in years, 12, …,16) |
| g12 | Student's class, 6, …,8 |

Table 4.8 presents the results of multiple linear regression modelling

Table 4.8 Multiple Linear Regression Coefficients of the Effect of School Level-Factors on Girls Participation in Primary School in Kuria West Subcounty

| Variable label | Model 1 (g61) | | | | Model 2 (g61) | | | |
|---|---|---|---|---|---|---|---|---|
| | UC | RSE | *p* | β | UC | RSE | *p* | β |
| g34 I have missed school because I lacked books or other school equipment: 0-10 scale | -0.20 | 0.11 | 0.031 | -0.08 | -0.16 | 0.20 | 0.042 | -0.08 |
| g35 My school provides me with other reading materials like encyclopedias: 0-10 scale | 0.15 | 0.09 | 0.023 | 0.07 | 0.10 | 0.19 | 0.037 | 0.04 |
| g11 Student's age in years, (12,…,16) | | | | | -0.22 | 0.18 | 0.029 | -0.10 |
| g12 Student's class, (6,…,8) | | | | | 0.01 | 0.14 | 0.107 | 0.06 |
| Constant | 1.01 | 2.49 | <.001 | | 1.20 | 3.42 | <.001 | |
| Model Statistics | | | | | | | | |
| n | 243 | | | | 236 | | | |
| Prob> F | 0.005 | | | | <.001 | | | |
| $R^2$ | 0.5308 | | | | 0.5871 | | | |
| Root Mean Squared Error (RMSE) | 9.61 | | | | 7.26 | | | |

*Note.* UC=Unstandardized Coefficient; RMSE=Standard deviation of the regression model (the closer to zero better the fit); RSE=Robust Standard Error; Prob=Probability

Model 1, estimates the effect of school-level factors on girls' participation in public primary schools in Kuria West subcounty, Kenya. An extra book or school equipment lacked by the girls is associated with missing school of by up to 0.20 days (*p*=.031). While this looks like less than a day, several books and equipment in that order could lead to a full day or days out of school. An extra provision of other reading material like encyclopedia increases school participation by up to 0.15 days (*p*=.023). Model 1 is statistically significant (*p*=.005)and explains 53.08% of the variation in the outcome variable.

Controlling for the students' age and class inModel 2 (final), the explanatory variables g34 and g35 remain statistically significant. An extra book or school equipment lacked by the girls is associated with missing school by up to 0.16 days (*p*=.042). An extra provision of other reading material like encyclopedia increases school participation by up to 0.10 days (*p*=.037). An extra year in the age of the student (g11) is associated with missing school by up to 0.22 days (*p*=.029). The results of the effect of the students' class (g12) on their school

participation in Model 2 is not statistically significant. Model 2 is statistically significant (<.001) and explains 58.71% of the variation in the outcome variable.

### 4.5.3 Diagnostics for Model (4.2) for Objective 1

A normality test was conducted on Model 4.2 to ensure that the errors conform to a normal distribution. For hypothesis tests to be valid, it is essential that the estimation of the coefficients assumes the errors are identically and independently distributed. Depicted in Figure 4.1 is the Kernel density estimate for the normalcy test.
.

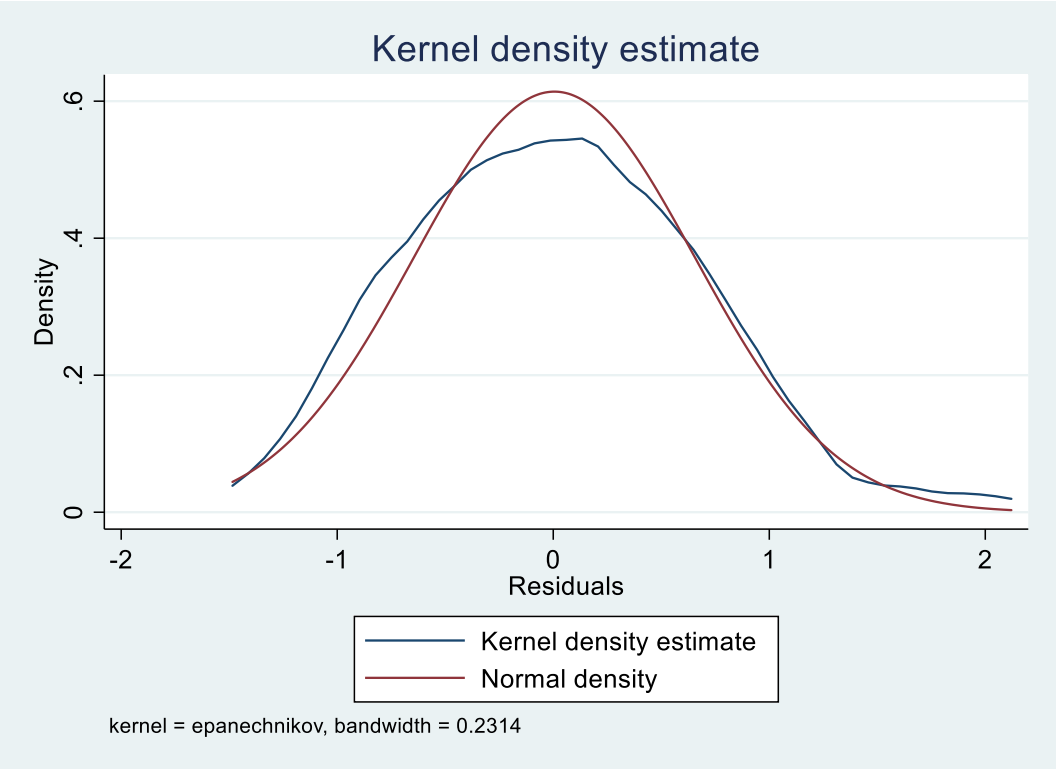



*Figure 4.1. Kernel Density Estimate for the Test of Normality, Objective 1*

From Figure 4.1, the residuals appear to follow a normally pattern indicating that Model 4.2 did a fairly good job at fitting the data.

### 4.5.4 Testing $H_0 1$

The $H_0 1$ stated that learning resources did not have a statistically significant relationship with girls' participation in public primary schools in Kuria West Subcounty.WithAn extra book or school equipment lacked by the girls (g34)being associated with missing school by up to 0.16 days (p=.042) and an extra provision of other reading material like encyclopedia (g35) increasing school participation by up to 0.10 days (p=.037), the null hypothesis was rejectedwith the conclusion that there is evidence suggesting that books, school equipment, other reading materials such as encyclopediahave an effect on the participation of girls in public primary schools in Kuria West subcounty.

### 4.5.5 Discussion of the Findings Under Objective 1

The process of teaching and learning is often characterized as an intricate and challenging endeavor that necessitates specific expertise, knowledge, and resources in order to have a substantial influence on student learning (Ingwersen et al., 2019). This study aligns with the findings of Esther and Shamaki (2022), which indicate that the presence and effective use of resources within an organization play a crucial role in attaining its goals and objectives. Consequently, the learning outcomes of students are impacted by the proper utilization of school resources.

The findings are consistent with those of Kumar (2020), who asserted that allocating resources towards education, particularly teaching and learning materials, is crucial for transforming schools into institutions where students collaborate, acquire knowledge from one another, and benefit from a nurturing school atmosphere. Consequently, this approach optimizes student learning, enabling all students to reach their maximum learning potential. The findings were consistent with those of Meza and Marttinen (2019), who identified learning and teaching resources as a significant determinant of academic success in the

school system. The instructional materials encompass educational resources designed for the purpose of teaching and learning.

The findings described here support the findings of Obogno (2019), which indicate that the presence of books significantly enhances reading, writing, listening, vocabulary, and grammatical skills, particularly among younger age groups and when children are learning in a language other than their native tongue. They also concur with the findings of Ugboha and Namo (2019), which revealed that students in years 4 and 5 who were given a range of 100 to 200 books per school achieved three times more reading proficiency compared to those in the control schools. Additionally, they showed similar enhancements in writing and listening comprehension proficiency.

The qualitative findings also revealed nearly identical responses on the correlation between the learning resources and the academic engagement of females in public primary schools in Kuria West Sub County. For instance, it was stated in an interview one of the head teachers stated that:

> It is our responsibility to ensure that each and every learner is provided with basic learning resources such as text books, writing materials and other reading materials like encyclopedias and the schools are supposed to replace these writing materials for the pupils whenever they run out of them. Each of the pupils is also supposed to have their own desk and chair provided by the school to ensure that they keenly concentrate on what brought them to school (IDI-HT1).

On the contrary, in another interview with another head teacher, it was revealed that not all schools provide such basic resources to all their pupils. He stated that;

> Despite the fact that we are mandated to provide our pupils with basic learning resources, sometimes we are unable to supply them to each and every pupil due to their big number in some schools. The big number of pupils in some schools is always attributed to scarcity of schools in some areas and also due to the fact that public schools are supposed to provide free education to all Kenyan children hence they tend to attract big numbers of learners. Therefore,

> in schools where the learning resources are not enough pupils share textbooks, desks and chairs with others(IDI-HT3).

The researcher also conducted an interview with the Sub County Director of Education who suggested that schools try as much as possible to provide learning resources in public primary schools:

> Schools tend to try as much as they can to provide learners with the necessary learning resources but sometimes the demand for education and learning resources surpasses their budget due to the growing number of learners in the sub county. However where they have some deficits, they tend to adjust to their budgetary allocation in the subsequent academic years.

## 4.6 Objective 2: Establish the Relationship Between School Security and Girls' Participation in Public Primary Schools in Kuria West Subcounty.

Tables 4.9 and 4.10 present the rating of sampled students (girls) and head teachers on various statements on security in public primary schools in Kuria West Subcounty. They were asked to rate, on a scale of 0-10 where 0=complete absence of attribute being measured and 10=complete presence of the attribute with 5 as the the mid-point.

Table 4.9: Girls' Responses on School Security

| Statements | Mean | SD |
|---|---|---|
| g41 I feel secure all the time while in school | 1.69 | .474 |
| g42 My fellow schoolmates threaten me with violence sometimes | 1.32 | .935 |
| g43 My teachers harass or threaten me with violence sometimes | 9.42 | .474 |
| g44 The school authorities take my complaints about security seriously | 1.19 | .363 |
| g45 I usually fear coming to school early due to security | 5.64 | .322 |
| g46 Leaving school late poses a security problem for me | 3.70 | .439 |
| g47 I am comfortable being in school most of the time | 5.23 | .292 |
| g48 I am confident sharing my personal troubles with my schoolmates and teachers | 6.42 | .917 |
| Overall mean | 4.33 | .652 |

For the girls, the highest and lowest Means were 9.42 and 1.19 for “my teachers harass or threaten me with violence sometimes” (g43) and “the school authorities take my complaints about security seriously” (g44) respectively. For the headteachers, “pupils feel secure while in school” (h61) was the lowest at a Mean of 5.93.

Table 4.10 Head teachers’ responses on school security

| Statements | Mean | SD |
|---|---|---|
| h61 Pupils feel secure while in school | 5.93 | .855 |
| h62 Schoolmates threaten each other with violence sometimes | 6.30 | .900 |
| h63 Teachers sometimes harass or threaten pupils with violence | 6.67 | .898 |
| h64 School authorities take pupils complaints about security seriously | 6.67 | .898 |
| h65 Pupils fear coming to school early due to security | 8.52 | 1.234 |
| h66 Leaving school late poses a security problem for the pupils | 8.89 | .983 |
| h67 Pupils find school a place they would rather be most of the time | 8.52 | .999 |
| h68 Pupils are confident sharing their personal troubles with schoolmates and teachers | 9.26 | .776 |
| Overall mean | 7.60 | .943 |

### 4.6.1 Bivariate Correlation for Objective 2

The $H_0 2$ stated that school securitydid not have a statistically significant relationship with girls’ participation in public primary schools in Kuria West Subcounty. Pearson correlation coefficient (r) was preferred to test this null hypothesis because it is the most common way of measuring linear correlations for outcome variables measured on interval or ratio scales. The outcome variable isthe participationof girls in public primary schools (g61) in Table 4.3. Table 4.11 presents the correlation matrix.The Pearson’s correlation coefficient results suggest a statistically significant negative correlation between girls’ participation in public primary schools in Kuria West subcounty and g46(“Leaving school late poses a security

problem for me") r(241)=-.625, $p$<.001. Two variables, g42 and g47 are marginally significant at 10% and won't be discussed as the alpha level for this correlation was set at 5%.

Table 4.11. Correlation Matrix Between the Outcome Variable (g61) and its Correlates, Objective 2

| Variable | | g61 | g41 | g42 | g43 | g44 | g45 | g46 |
|---|---|---|---|---|---|---|---|---|
| g67 | | 1 | | | | | | |
| g41 | a | -0.051 | 1 | | | | | |
| | b | .206 | | | | | | |
| g42 | a | 0.082 | 0.235 | 1 | | | | |
| | b | .053 | <.001 | | | | | |
| g43 | a | 0.008 | 0.071 | 0.389 | 1 | | | |
| | b | .850 | .080 | <.001 | | | | |
| g44 | a | 0.060 | -0.016 | 0.186 | 0.268 | 1 | | |
| | b | .140 | .692 | <.001 | <.001 | | | |
| g45 | a | 0.016 | 0.201 | 0.012 | -0.015 | -0.038 | 1 | |
| | b | .690 | <.001 | .762 | .719 | .342 | | |
| g46 | a | **-0.625** | -0.026 | 0.074 | 0.148 | 0.336 | 0.059 | 1 |
| | b | **<.001** | .528 | .067 | <.001 | <.001 | .147 | |
| g47 | a | 0.091 | 0.083 | 0.328 | 0.314 | 0.171 | 0.104 | 0.145 |
| | b | .065 | .039 | <.001 | <.001 | <.001 | <.001 | <.001 |
| g48 | a | 0.062 | -0.078 | 0.201 | 0.160 | 0.137 | -0.066 | 0.091 |
| | b | .127 | .054 | <.001 | <.001 | <.001 | .100 | .024 |

*Note.* a=Pearson correlation coefficient; b=p-values (α=0.05); Pair-wise correlation: ≤0.35 = Weak correlation; 0.36-0.67 = Moderate correlation; 0.68-0.89=Strong correlation; ≥0.90 = Very strong correlation; Adapted from Interpretation of correlation coefficient, by R. Taylor, 1990, Journal of Diagnostic Medical Sonography, 6(1), p. 37

### 4.6.2 Mulitivariate Modelling (Multiple Linear Regression) for Objective 2

Equation (4.1) is replicated for Objective 2 for a multiple linear regression model with $k$ independent predictor variables$x_1 \dots, x_k$ and one response/ outcomevariable $y$, fitted as

$$y = \beta_0 + \beta_1 g46x_1 + \beta_3 g11x_3 + \beta_4 g12x_3 + \epsilon \quad (4.2)$$

Where g46is measured on a rating scale of 0-10 with 0 denoting nil and 10, full attribute being measured

g46 Leaving school late poses a security problem for me

g11 Student's age in years, 12, ... ,16)

g12 Student's class, 6, ... ,8

Table 4.12 presents the results of multiple linear regression modelling

Table 4.12 Multiple Linear Regression Coefficients of the Effect of School Security on Girls Participation in Primary School in Kuria West Subcounty

| Variable label | Model 1 (g61) | | | | Model 2 (g61) | | | |
|---|---|---|---|---|---|---|---|---|
| | UC | RSE | *p* | β | UC | RSE | *p* | β |
| g46 Leaving school late poses a security problem for me: 0-10 scale | -0.13 | 0.09 | 0.039 | -0.05 | -0.09 | 0.12 | 0.048 | -0.06 |
| g11 Student's age in years, (12,…,16) | | | | | -0.25 | 0.21 | 0.041 | -0.14 |
| g12 Student's class, (6,…,8) | | | | | 0.07 | 0.11 | 0.168 | 0.05 |
| Constant | | | | | 1.32 | 2.21 | 0.009 | |
| Model Statistics | | | | | | | | |
| n | 243 | | | | 232 | | | |
| Prob> F | 0.031 | | | | <.001 | | | |
| $R^2$ | 0.2702 | | | | 0.3291 | | | |
| Root Mean Squared Error (RMSE) | 7.58 | | | | 7.18 | | | |

*Note.* UC=Unstandardized Coefficient; RMSE=Standard deviation of the regression model (the closer to zero better the fit); RSE=Robust Standard Error; Prob=Probability

Model 1 estimates the effect of school security variables on girls' participation in public primary schools in Kuria West subcounty, Kenya. Aone-point increase on a scale of 0-10 in leaving school late thereby posing a security risk to the girls is associated with missing school by up to 0.13 days (*p*=.039). Model 1 is statistically significant (*p*=.031) and explains27.02% of the variation in the outcome variable.

Controlling for the students' age and class inModel 2 (final), a one-point increase on a scale of 0-10 in leaving school late poses a security risk to the girls and is associated with missing

school by up to 0.09 days ($p$=.048). An extra year in the age of the student (g11) is associated with missing school by up to 0.25 days ($p$=.041). The results of the effect of the students' class (g12) on their school participation in Model 2 is not statistically significant. Model 2 is statistically significant ($p$<.001) and explains 39.21% of the variation in the outcome variable.

### 4.6.3 Diagnostics for Model 4.2 for Objective 1

The effectiveness of Model (4.3) was assessed for specification errors by executing the linktest command in Stata v15.1. The observed response variable Y(g61) was compared to the independent variables Yhat(hat_predicted or X) and Yhat-squared (hatsq). The key factor to consider here is the importance of hatsq. The null hypothesis for this test proposes the absence of any specification error. If the p-value of _hatsq is not statistically significant, we cannot reject the null hypothesis and hence infer that Model (4.3) is accurately defined. In this case, p=0.712 for _hatsq leading to a failure to reject the null and the conclusion that the model is correctly specified.Table 4.13 presents the results of the test.

Table 4.13 Test of whether the regression model for school attendance (p53) under objective 1 is misspecified

| Variable | Coef. | Std. Err. | t | P>t | [95% CI] | |
|---|---|---|---|---|---|---|
| _hat | 5.81 | 9.24 | 0.66 | 0.59 | -11.29 | 17.04 |
| _hatsq | -0.09 | 0.04 | -0.5 | 0.712 | -0.08 | 0.04 |
| _cons | -1.15 | 1.27 | -0.1 | 0.71 | -4.48 | 7.18 |

*Note.* n=232; Coef.=Coefficient; Std. Err=Standard Error; CI=Confidence Interval; $R^2$ =0.4051; Adjusted $R^2$ =0.3940; Root Mean Square Error=7.63

### 4.6.4 Testing $H_0 2$

The $H_0 2$ stated that school securitydid not have a statistically significant relationship with girls' participation in public primary schools in Kuria West Subcounty.With a one-point increase on a scale of 0-10 in g46("Leaving school late poses a security problem for me") posing a security risk to the girls and associated with missing school by up to 0.09 days ($p$=.048), the null hypothesis is rejected. The conclusion is that leaving school late poses a risk to the girls and may lead to missing school altogether.

### 4.6.5 Discussion of the Findings Under Objective 2

The results agree with those of Ogwuche and Shamo (2019)and Abdulsalam(2018)who found that girls become vulnerable to sexual harassment on their way to and from the toilet and separate toilets for girls help to address the safety of the girls in public places.The results also agree with the views from a 2008 report by Amnesty International where it was found that Educational institutions mirror the broader society, and the same types of violence that women endure throughout their lifetimes - physical, sexual, and psychological - are also prevalent in the lives of girls within and in the vicinity of their schools. Daily, girls are subjected to physical attack while commuting to school, physical aggression and physical injury on school premises, ridicule and insults from their peers, and humiliation due to the dissemination of rumors about them through whisper campaigns, mobile phones, or the internet.

While conducting interviews, some head teachers assured the researcher that pupils are in safe hands but also acknowledged that there are some instances where some teachers tend to

be so ruthless when dealing with pupils without regard to what they are going through. One of the head teachers stated that;

> Pupils are secure while in school. There are some instances where schoolmates threaten each other with violence sometimes but this issue of learners molesting their colleagues has been there for a long time though we condemn it especially in primary schools. Also in some places due to vulnerability of children to so many factors we normally advice parents to accompany their children in the morning especially in instances where they are supposed to be in schools early for security reasons. And when they are going back home we tend to advice them to move in groups (IDI-HT6)

While still on the same issue of security, the Sub County Director of Education stated that:

> As administrators of education, we take pupils complaints about their security as a serious issue. We usually advise them to share their personal issues with schoolmates and teachers so that they can also communicate to us to find a lasting solution. In cases where teachers treat pupils harshly, we tend to condemn it and I would take this opportunity to urge training colleges and other higher institutions that train teachers to emphasize on the issue of teaching ethics. Let teachers know how to handle pupils in a different way from adults.

The results agree with those of Okafor(2020)and Byaruhanga(2019)who found that girls become vulnerable to sexual harassment on their way to and from the toilet and separate toilets for girls help to address the safety of the girls in public places. Chemtai(2018)also found that long distance to school from home makes access difficult for some pupils especially girls. This is because of problems associated with girls' safety such as attacks by wild animals, poor and bushy roads, and insecurity among others.

## 4.7 Objective 3: Determine the Relationship Between School Infrastructure and Girls' Participation in Public Primary Schools in Kuria West Subcounty.

Tables 4.14 and 4.15 present the rating of sampled students (girls) and head teachers on various statements on infrastructure in public primary schools in Kuria West Subcounty. They were asked to rate, on a scale of 0-10 where 0=complete absence of attribute being measured and 10=complete presence of the attribute with 5 as the the mid-point.

With latrines/ toilets (g54) for girls at just about adequate (M=5.27, SD=.216), clean water for drinking and for personal hygiene (g56 and g57) were rated inadequate at M=2.18, SD=.593 M=2.96, SD=.611 respectively. The headteachers responses seem to agree with this rating at M=3.41, SD=.070 and M=3.11, SD=.031 respectively.

Table 4.14:Girls'Responses on School Infrastructure

| Statements | Mean | SD |
|---|---|---|
| g51 The space in the class room where I am learning is adequate | 6.01 | .108 |
| g52 Our classrooms are overcrowded | 5.88 | .127 |
| g53 Our classes are warm and well ventilated | 5.39 | .171 |
| g54 The toilet facilities in the school are adequate for girls | 5.27 | .216 |
| g55 The toilet facilities are always cleaned | 6.01 | .245 |
| g56 There is enough clean drinking water in the school for pupils | 2.18 | .593 |
| g57 There is access to clean water for personal hygeine | 2.96 | .611 |
| Overall mean | 4.81 | .398 |

Table 4.15:Headteachers'Responses on School Infrastructure

| Statements | Mean | SD |
|---|---|---|
| h71 Space in the class room where pupils learn is adequate | 9.26 | .785 |
| h72 The classrooms are overcrowded | 7.41 | .143 |
| h73 The classes are warm and well ventilated | 8.89 | .828 |

| | | |
|---|---|---|
| h74 The toilet facilities in the school are adequate for girls | 9.26 | .817 |
| h75 The toilet facilities are always cleaned | 8.52 | .999 |
| h76 There is enough clean drinking water in the school for pupils | 3.41 | .070 |
| h77 Pupils have access to clean water for personal hygiene | 3.11 | .031 |
| Overall mean | 7.12 | .753 |

### 4.7.1 Bivariate Correlation for Objective 3

The $H_0 3$ stated that school infrastructuredid not have a statistically significant relationship with girls' participation in public primary schools in Kuria West Subcounty. Again, just like in Objectives 1 and 2, Pearson correlation coefficient (r) was preferred to test this null hypothesis because it is the most common way of measuring linear correlations for outcome variables measured on interval or ration scales. The outcome variable is girls' participation in public primary schools in Table 4.3. Table 4.16 presents the correlation matrix.

Table 4.16. Correlation Matrix Between the Outcome Variable (g61) and its Correlates, Objective 3

| Variable | | g67 | g51 | g52 | g53 | g54 | g55 | g656 |
|---|---|---|---|---|---|---|---|---|
| g67 | | 1 | | | | | | |
| g51 | a | 0.135 | 1 | | | | | |
| | b | .061 | | | | | | |
| g52 | a | 0.078 | 0.409 | 1 | | | | |
| | b | .053 | <.001 | | | | | |
| g53 | a | -0.002 | 0.223 | 0.369 | 1 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | b | .957 | <.001 | <.001 | | | | |
| g54 | a | -0.015 | 0.067 | 0.117 | 0.138 | 1 | | |
| | b | .720 | .098 | .004 | .001 | | | |
| g55 | a | 0.064 | 0.037 | 0.092 | 0.044 | 0.210 | 1 | |
| | b | .113 | .359 | .022 | .277 | .000 | | |
| g56 | a | 0.146 | 0.154 | 0.231 | 0.128 | 0.223 | 0.275 | 1 |
| | b | .070 | <.001 | <.001 | .001 | <.001 | <.001 | |
| g57 | a | 0.064 | 0.058 | 0.186 | 0.194 | 0.134 | 0.196 | 0.213 |
| | b | .113 | .154 | <.001 | <.001 | .001 | <.001 | <.001 |

*Note.* a=Pearson correlation coefficient; b=p-values (α=0.05); Pair-wise correlation: ≤0.35 = Weak correlation; 0.36-0.67 = Moderate correlation; 0.68-0.89=Strong correlation; ≥0.90 = Very strong correlation; Adapted from Interpretation of correlation coefficient, by R. Taylor, 1990, Journal of Diagnostic Medical Sonography, 6(1), p. 37

The Pearson's correlation coefficient results in Table 16did not find any statistically significant correlation between girls' participation in public primary schools in Kuria West subcounty and variables under school infrastructure (g51-g57) at the 5% significance level. Three variables, g51 (the space in the classroom where I am learning is adequate), g52 (our classroom is overcrowded), and g53 (there is enough clean drinking water in the school for pupils) were marginally significant at 10% which is beyond the 5% significance level for this study.With this results, pursuing this relationship in a multivariate model did not seem plausible and would not add value to the results already obtained at bivariate level.

### 4.7.2 Testing $H_0 3$

The $H_0 3$ stated that school infrastructuredid not have a statistically significant relationship with girls' participation in public primary schools in Kuria West Subcounty. With none of the variables under infrastructure (g51-g57) being statistically significant at the 5% level, the study fails to reject$H_0 3$.

### 4.7.3 Discussion of the Findings Under Objective 3

These results seem to agree with those of some reseachers who have not found statistically significant effects of school infrastructure on schooling outcomes. For instance, Eric Hanushek has authored a substantial body of work on the production functions of education in connection to academic success. Most, if not all, of his analysis on resource inputs have

reached the conclusion that there is no substantial correlation between student academic performance and school resources. For example, he contends that although there was a rise in spending per student in public schools in the United States from USD992 in 1960 to USD1898 in 1975, together with a decline in Pupil Teacher Ratios (PTR) and a 32% increase in teacher salaries during the same timeframe, the academic performance of students continued to decline (Hanushek, 1981). He conducted a comprehensive analysis of 38 scholarly articles researching the correlation between school inputs and student academic performance. He reached the conclusion that there was no convincing data to indicate that more school spending per student directly correlates with superior academic performance among students. Through a synthesis of 147 studies utilizing education production functions, Hanushek (1986) determines that the findings consistently indicate a lack of compelling evidence regarding the impact of PTR, teacher education, or experience on student achievement. Another round of synthesis including 400 regression equations for education production functions did not reveal a significant or consistent correlation between student performance and school resources, even when accounting for changes in household inputs. Educational institutions also appeared to be managed in an economically wasteful way (Hanushek, 1997).

However, previous studies have shown that some elements of school infrastructure do really impact school participation to some extent. Noteworthy studies conducted by Jadidi and Nohegar (2019) and Ugboha and Namo (2019) have revealed that schools often lack segregated toilet facilities for boys and girls, causing significant hardship for girls who menstruate. Inadequate sanitary facilities also pose health hazards that discourage females from attending school, and in some instances, this deprivation of dignity and privacy leads to girls withdrawing from school entirely. A study conducted by Okafor and Piesse (2022)

revealed that the quality of school facilities had a substantial impact on teaching and learning. Consequently, the inadequate state of school facilities hindered the provision of education to pupils. Furthermore, Andiema (2021) found that maintaining a comfortable classroom temperature and having smaller classes not only improve teachers' effectiveness but also provide students with more chances to get individualized attention, ask more questions, actively participate in discussions, minimize discipline issues, and outperform students in schools with inadequate facilities by several percentage points.

A study conducted by Kumar (2020) revealed that educators have expressed significant worry regarding the sufficiency and efficient use of physical resources. Similarly, Wulandari et al. (2021) discovered that the condition of school infrastructure directly affects the accessibility and quality of education. Higher school attendance can be attributed to factors such as a closer proximity to the learner's home and well-developed infrastructure.

In-Depth Interviews (IDIs) with headteachers and the Subcounty Director of Education suggested that school infrastructure such as classrooms, toilet facilities as well as availability of clean water in schools play a big role in the participation of learners in schools. For instance, one of the headteachers suggested that:

> Sanitation facilities especially to girls that are aged between 13 to 17 years play a very crucial role in their well being. This age bracket is where many girls' bodies tend to experience changes (puberty), and as they start experiencing strange things happening for instance onset of menstruation, some of them become very shy to even attend classes. However, with proper sanitations facilities in place and guidance on how to use them, their confidence can be enhanced (IDI-HT2).

The Sub County Director of Education also added to this voice by stating that;

The government of kenya through the County Government of Migori, the National Government Constituency Development Fund (NGCDF) of Kuria West together with other partners like NGOs, has taken a responsibility of ensuring that each school in the county gets access to adequate infrastructure in order to support education of our children. As one of the implemetors of such policies, I can confirm to you that most schools especially in this sub county have all necessary inftrastructure in place. For instance, we have ensured that we have adequate classrooms as a way of avoiding overcrowding, adequate toilet facilities and clean drinking water. We are also soon starting to support our girls in primary schools with personal hygiene facilities like pads. We are also faced with few challenges related to what I have just stated but everything will soon be sorted out.

# CHAPTER FIVE
# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

The present chapter provides a concise overview of the study's findings, conclusions, and suggestions, which are derived from the research objectives. Additional recommendations for future investigation are provided at the conclusion of the chapter. Implications of the study are analysed and recommendations are provided on potential areas for future study. Several valuable suggestions are provided by this study at the conclusion of the chapter to inform and empower all the stakeholders in developing practical solutions for the problem statement, based on the research findings.

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## 5.2 Summary of the Findings

For Objective 1, there are statistically significant results suggesting that an extra book or school equipment lacked by the girls is associated with missing school by up to 0.16 days ($p$=.042). Also, extra provision of other reading material like encyclopedia increases school participation by up to 0.10 days ($p$=.037). An extra year in the age of the student (g11) is associated with missing school by up to 0.22 days ($p$=.029).

On Objective 2, a one-point increase on a scale of 0-10 in leaving school late poses a security risk to the girls and is associated with missing school by up to 0.09 days (p=.048). An extra year in the age of the student (g11) is associated with missing school by up to 0.25 days (p=.041).

For Objective 3, The Pearson's correlation coefficient results did not find any statistically significant correlation between girls' participation in public primary schools in Kuria West subcounty and variables under school infrastructure (g51-g57) at the 5% significance level.

Three variables, g51 (the space in the classroom where I am learning is adequate), g52 (our classroom is overcrowded), and g53 (there is enough clean drinking water in the school for pupils) were marginally significant at 10% which was beyond the 5% significance level for this study.

## 5.3 Conclusions

From the findings, it was concluded that there is a positive relationship between learning resources and girls' participation in education in Kuria West Sub - County. The study concludes that learning resources contribute to an increase in girls' participation in schools in Kuria West Sub - County. This is because educational resources, mainly teaching and learning resources, ensure that schools become institutions where pupils work together, learn from each other and benefit from a supportive school environment, and consequently maximize their knowledge acquisition and achievement of full learning potential. The changing educational institutional framework and curriculum reviews for example by curriculum development have a huge impact on girls' participation.

The study also concludes that school security increases girls' participation in education in Kuria West Sub - County. The girls should thus be protected from leaving school late as this would expose them to dangers such sexual assault, abuse, harassment, bullying, taunting, stereotyping and other forms of humiliation. At times, teachers, school authorities and peers are the perpetrators of such security issues.

Finally, the study concluded that school infrastructure variables were not statistically significantly correlated with girls' participation in public primary schools in Kuria West Subcounty at the 5% level.

## 5.4 Recommendations

Based on the study findings, the following recommendations were made based on the study objectives:

i. Stakeholders in the education sector should consider increasing their budgetary allocation for learning resources so that these are adequate, perhaps to the ratio of 1:1. This will enable girls revise and do assignments individually. The study also recommends that the learning materials include books and other study materials, educational tools and other equipment.Investing in educational resources, mainly teaching and learning resources, is key to ensuring schools become institutions where pupils work together, learn from each other and benefit from a supportive school environment and achieve their full learning potential.

ii. There is a need for stakeholders in the education sector to improve on the security of girls especially on very early reporting to school or late leaving. This could be achieved through escorts or group-walking to and from school. Other measures could include contributing towards the installation of CCTV cameras, construction of perimeter walls or simply a well-kept permanent fence. This can also be improved by having a gated compound that is well manned by security personnel. This improves girls' security within the school.

iii. Although the study did not find statistically significant results on infrastructure, it is recommended thatstakeholders in the education sector improve on the quality and adequacy of physical infrastructure like classrooms, sanitation facilities and water in accordance with the Ministry of Education's 2008 Safety Standards Manual for schools.

## 5.5 Recommendations for Further Research

The study recommends that further research should be carried out to determine whether classroom dynamics and teaching methodologies applied by teachers have an influence on the girls' attendance and participation in school. This is occasioned by comments from the girls that they are interested in lively classes.

The study recommends that in-depth research be done to establish the critical factors that influence security in the society and how this impacts the pupils in their learning environment. Such a study will be able to clearly demarcate the boundary between the security issues relating to the community and those influencing the school environment.

The study also recommends that further studies be done to determine the socio-cultural factors that may contribute to low participation of the girl child in school. Similar studies to be undertaken in order to survey diverse county-specific factors to properly inform policy. Such cultural factors include early marriages, incidences of household chores, and taking care of other family members, preference in education of boys than girls, cultural beliefs, and initiation into adulthood among others.

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## APPENDICES

### Appendix 1: Permission Letter to Sampled Schools to Collect Data

Clarice WankioMwita
P.O. Box 190, Kakamega
Date: _____

The Head Teacher _____

Dear Sir/Madam

Re: Data collection for research purposes

I am a master's student of Masinde Muliro University of Science and Technology. I am writing a research thesis on Relationship between School Based Factors and Girls' Participation in Public Primary Schools in Kuria West Sub - County. This study involves class eight girls, head teachers and the Sub - County Director of Education. A questionnaire will be administered to the class eight girls and the head teachers. An interview schedule will also be used to collect data from the head teachers while an interview guide will be used to collect data from the Sub Abbrev- County Director of Education.

I am therefore writing to request you to allow the sampled respondents to participate in this study at an agreed date. I take this opportunity to assure you that the data solicited will be confidentially handled and only used for the purpose of this study. Attached is a research permit from National Commission for Science, Technology and Innovations (NACOSTI), authorization letter from the Migori County Director of Education and the Kuria West Sub - County Director of Education.

Thank you.

Yours faithfully,

Clarice WankioMwita

EPM/G/20/2009

## Appendix 2: Questionnaire for Girl Students

The questions below are for the purposes of finding out the *Relationship between schoolBased Factors and Girls' Participation in Public Primary Schools in Kuria West Sub - County, Kenya.* Your opinion as reflected in this questionnaire is important to this study and will be held in confidentiality. Therefore, you are requested to fill this questionnaire in the most free and honest way possible.

Please tick (√) the appropriate answers in the boxes provided or write down the appropriate answers in the spaces provided. Do not write your name on the questionnaire. Thank you in advance for your time and cooperation.

**SECTION A: Background Information**

1. Age :.....
2. Class:.....

**PART B**: **Learning resources in public primary schools in Kuria West Sub - County**

3. The following are statements related to learning resources in public primary schools in Kuria West Sub - County. Please rate them according to your understanding by ticking (√) where it is appropriate.

**On a Scale of 0-10 where 0=COMPLETE ABSENCE OF ATTRIBUTE and 10=COMPLETE PRESENCE OF ATTRIBUTE, rate the following statements**

| **Statements** | **RATE** |
|---|---|
| g31 My school provides me with writing materials required | |
| g32 I can replace writing materials at my school whenever I run out of them | |
| g33 In my school I share textbooks with other pupils | |
| g34 I have missed school because I lacked books or other school equipment | |
| g35 My school provides me with other reading materials like encyclopedias | |
| g36 I have my own desk and chair provided by the school | |
| g37 I sometimes share my desk and chair in school | |
| g38Our blackboard in school is not in good condition | |

**PART C: School Security in public primary schools in Kuria West Sub - County**

4.The following are statements related to the relationship between school security and girls' participation in public primary schools in Kuria West Sub - County. Please rate them according to your understanding by ticking (√) where it is appropriate.

**On a Scale of 0-10 where 0=COMPLETE ABSENCE OF ATTRIBUTE and 10=COMPLETE PRESENCE OF ATTRIBUTE, rate the following statements**

| Statements | RATE |
|---|---|
| g41 I feel secure while in school | |
| g42 My fellow schoolmates threaten me with violence | |
| g43 My teachers harass or threaten me with violence | |
| g45 School authorities take mycomplaints about security seriously | |
| g46 I you fear coming to school early due to security | |
| g47I fear leaving school late, does it pose a security problem for you? | |
| g48 I find school a place I would rather be most of the time | |
| g49I am confident sharing my personal troubles with my schoolmates and teachers? | |

5.The following are statements related to the relationship between school infrastructure and girls' participation in public primary schools in Kuria West Sub - County. Please rate them according to your understanding by ticking (√) where it is appropriate.

**On a Scale of 0-10 where 0=COMPLETE ABSENCE OF ATTRIBUTE and 10=COMPLETE PRESENCE OF ATTRIBUTE, rate the following statements**

| Statement | RATE |
|---|---|
| g51 I find the space in my class room where I learn from adequate | |
| g52 My classroom is crowded | |
| g53 My classroomis warm and well ventilated | |
| g54 The toilet facilities in myschool are adequate for girls | |
| g55 Our toilet facilities are always cleaned | |
| g56 There is enough clean drinking water in my school for pupils | |
| g57 I have access to clean water for personal hygeine | |
| g58 I have a safe place to dispose used sanitary pads | |

**PART E: Girls' participation in public primary schools in Kuria West Sub - County**

6.The following are statements related to the status of girls' participation in public primary schools in Kuria West Sub - County. Please indicate the number appropriate as your response for each question.

| **Question** | **Number** |
|---|---|
| **g61** How many of the FIVE school days did you attend school last week? | |
| **g62** How many of the FIVE school days did your best girlfriend attend school last week? | |
| **g63** How many girls are in your class including yourself? | |
| **g64** If you can remember, how many of those did not attend school for the FIVE school days last week? | |
| **g65** How many girls do you know that started school with you in Class One have since dropped out of school? | |
| **g66** How many girls of your age do you know in your village that have never attended school? | |

***Thank you for your time***

***God bless you***

## Appendix 3: Questionnaire for Head Teachers

The questions below are for the purposes of finding out the *Relationship between schoolBased Factors and Girls' Participation in Public Primary Schools in Kuria West Sub - County, Kenya.* Your opinion as reflected in this interview is important to this study and will be held in confidentiality. Therefore, you are requested to respond in the most free and honest way possible. Thank you in advance for your time and cooperation.

**SECTION A: Background Information**

1. Gender : Male ☐ Female ☐

2. Age :19-29 yrs ☐ 30-40 yrs ☐ 41-51 yrs ☐ Above 51 years ☐

3. Highest level of education:

   O-level ☐ Certificate ☐ Diploma ☐ Degree ☐

   Masters ☐ PhD ☐

4. Work experience as a teacher ;

   0-5 yrs ☐ 6-10 yrs ☐ Above 10 years ☐

**PART B: Learning resources in public primary schools in Kuria West Sub - County**

5.The following are statements related to learning resources in public primary schools in Kuria West Sub - County. Please rate them according to your understanding by ticking (√) where it is appropriate.

**On a Scale of 0-10 where 0=COMPLETE ABSENCE OF ATTRIBUTE and 10=COMPLETE PRESENCE OF ATTRIBUTE, rate the following statements**

| Statements | RATE |
|---|---|
| h51 My school provides pupils with writing materials required | |
| h52 The school replaces writing materials for the pupils whenever they run out of them | |
| h53 Pupils in the school share textbooks with others | |
| h54 Pupils sometimes miss school because of lack of books or other school equipment | |
| h55 The school provides pupils with other reading materials like encyclopedias | |
| h56 Each pupil has their own desk and chair provided by the school | |
| h57 Pupils sometimes share their desk and chair with others | |
| H58 The blackboards in school are not in good condition | |

**PART C: School Security in public primary schools in Kuria West Sub - County**

6.The following are statements related to the relationship between school security and girls' participation in public primary schools in Kuria West Sub - County. Please rate them according to your understanding by ticking (√) where it is appropriate.

**On a Scale of 0-10 where 0=COMPLETE ABSENCE OF ATTRIBUTE and 10=COMPLETE PRESENCE OF ATTRIBUTE, rate the following statements**

| Statements | RATE |
|---|---|
| h61 Pupils feel secure while in school | |
| h62 Schoolmates threaten each other with violence sometimes | |
| h63 Teachers sometimes harass or threaten pupils with violence | |
| h64 School authorities take pupils complaints about security seriously | |
| h65 Pupils fear coming to school early due to security | |
| h66 Leaving school late poses a security problem for the pupils | |
| h67 Pupils find school a place they would rather be most of the time | |
| h68 Pupils are confident sharing their personal troubles with schoolmates and teachers | |

**PART D: School infrastructure in public primary schools in Kuria West Sub - County**

7.The following are statements related to the relationship between school infrastructure and girls' participation in public primary schools in Kuria West Sub - County. Please rate them according to your understanding by ticking (√) where it is appropriate.

**On a Scale of 0-10 where 0=COMPLETE ABSENCE OF ATTRIBUTE and 10=COMPLETE PRESENCE OF ATTRIBUTE, rate the following statements**

| Statement | RATE |
|---|---|
| h71 Space in the class room where pupils learn is adequate | |
| h72 The classrooms are overcrowded | |
| h73 The classes are warm and well ventilated | |
| h74 The toilet facilities in the school are adequate for girls | |
| h75 The toilet facilities are always cleaned | |
| h76 There is enough clean drinking water in the school for pupils | |
| h77 Pupils have access to clean water for personal hygeine | |
| h78 Girls have a safe place to dispose used sanitary pads | |

**PART E: Girls' participation in public primary schools in Kuria West Sub - County**

8.The following are statements related to the status of girls' participation in public primary schools in Kuria West Sub - County. Please rate them according to your understanding by ticking (√) where it is appropriate.

**On a Scale of 0-10 where 0=COMPLETE ABSENCE OF ATTRIBUTE and 10=COMPLETE PRESENCE OF ATTRIBUTE, rate the following statements**

| Statement | RATE |
|---|---|
| h81 Pupils do not attend school regularly because of unavailability of textbooks and writing materials in the school | |
| h82 The state of our classrooms and school in general makes it easy for girls to concentrate in the learning activities | |
| h83 Pupils usually try not to miss school | |
| h84 Pupils rarely miss classes unless there are unavoidable circumstances | |
| h85 Pupils usually intend to complete their primary education in this school | |
| h86 Most of the female pupils that started school here are still in the school | |

***Thank you for your time***

***God bless you***

## Appendix 4: Interview schedule for head teachers

The questions below are for the purpose of finding out the *Relationship between schoolBased Factors and Girls' Participation in Public Primary Schools in Kuria West Sub - County, Kenya.* Your opinion as reflected in this interview is important to this study and will be held in confidentiality. Therefore, you are requested to respond in the most free and honest way possible. Thank you in advance for your time and cooperation.

Work experience;

0-5 yrs ☐ 6-10 yrs ☐ Above 10 years ☐

**PART B: Comment on the following issues about your school**

Learning Resources

1. Pupil text book ratio in class eight
2. Avaliability of Writing materials

Security Issues

3. What security measures have you put in place to ensure safety of the learners?
4. Pupils reporting and leaving time in the morning and in the evening
5. Total number of female teachers in your school
6. Girl Harassment

School Infrastructure

7. Type of infrastructure in School
8. Pupil/ toilet ratio per gender
9. Elecricity Connectivity
10. Source of water in the school

Girl's Participation

11. Girls drop out rates
12. Regularity of attendance
13. Transition rates

***Thank you for your time! God bless you!***

## Appendix 5: Interview guide for the Sub - County Director of Education

The questions below are for the purpose of finding out the *Relationship between schoolBased Factors and Girls' Participation in Public Primary Schools in Kuria West Sub - County, Kenya.* Your opinion as reflected in this interview is important to this study and will be held in confidentiality. Therefore, you are requested to respond in the most free and honest way possible. Thank you in advance for your time and cooperation.

i. How long have you been in the current position?

ii. What is your view about the level of Participation of girls in various activities in Public Primary Schools in Kuria West Sub - County, Kenya.

iii. In your view, do you think inadequate learning resources affect girls' participation in public primary schools?Please elaborate.

iv. Is there any relationship between school security and girls' participation in public primary schools? Please elaborate.

v. How does school infrastructure affect girls' participation in public primary schools?

vi. Do you have any other remark to supplement on the above?

## Appendix 6: Krejcie & Morgan Sample Determination Table

| *N* | *S* | *N* | *S* | *N* | *S* |
|---|---|---|---|---|---|
| 10 | 10 | 220 | 140 | 1200 | 291 |
| 15 | 14 | 230 | 144 | 1300 | 297 |
| 20 | 19 | 240 | 148 | 1400 | 302 |
| 25 | 24 | 250 | 152 | 1500 | 306 |
| 30 | 28 | 260 | 155 | 1600 | 310 |
| 35 | 32 | 270 | 159 | 1700 | 313 |
| 40 | 36 | 280 | 162 | 1800 | 317 |
| 45 | 40 | 290 | 165 | 1900 | 320 |
| 50 | 44 | 300 | 169 | 2000 | 322 |
| 55 | 48 | 320 | 175 | 2200 | 327 |
| 60 | 52 | 340 | 181 | 2400 | 331 |
| 65 | 56 | 360 | 186 | 2600 | 335 |
| 70 | 59 | 380 | 191 | 2800 | 338 |
| 75 | 63 | 400 | 196 | 3000 | 341 |
| 80 | 66 | 420 | 201 | 3500 | 346 |
| 85 | 70 | 440 | 205 | 4000 | 351 |
| 90 | 73 | 460 | 210 | 4500 | 354 |
| 95 | 76 | 480 | 214 | 5000 | 357 |
| 100 | 80 | 500 | 217 | 6000 | 361 |
| 110 | 86 | 550 | 226 | 7000 | 364 |
| 120 | 92 | 600 | 234 | 8000 | 367 |
| 130 | 97 | 650 | 242 | 9000 | 368 |
| 140 | 103 | 700 | 248 | 10000 | 370 |
| 150 | 108 | 750 | 254 | 15000 | 375 |
| 160 | 113 | 800 | 260 | 20000 | 377 |
| 170 | 118 | 850 | 265 | 30000 | 379 |
| 180 | 123 | 900 | 269 | 40000 | 380 |
| 190 | 127 | 950 | 274 | 50000 | 381 |
| 200 | 132 | 1000 | 278 | 75000 | 382 |
| 210 | 136 | 1100 | 285 | 1000000 | 384 |

Note. — *N* is population size.
*S* is sample size.

## Appendix 6: Research License

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