EFFECT OF STEREO-TYPING ON MATHEMATICS ACHIEVEMENTS IN SECONDARY SCHOOLS IN BUTALEJA DISTRICT

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UGANDA CHRISTIAN UNIVERSITY
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DECLARATION

I, Okello Robert, declare to the best of my knowledge, that the information in this work is original and a result of my own effort. This report has not been submitted to any institution of higher learning for any award of a Degree.

Signed: .....

Date: 18TH. 08.2025

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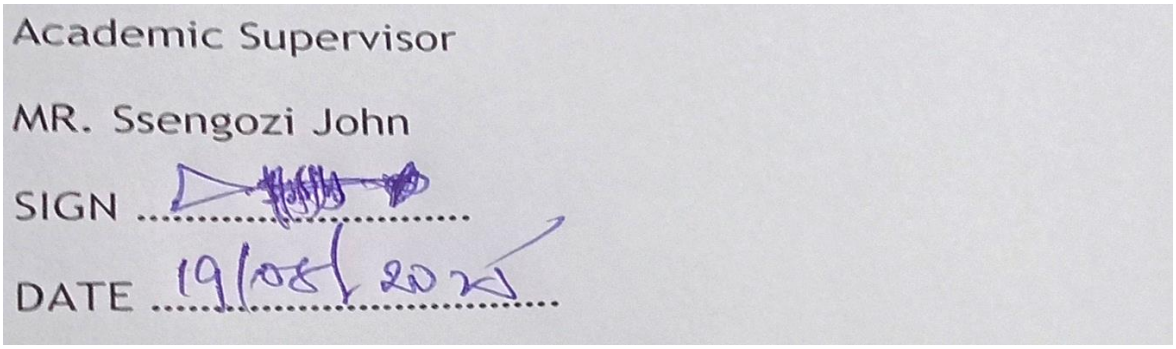
APPROVAL

This is to acknowledge that this research report entitled effect of stereotyping on mathematics achievements in secondary schools in Butaleja District has been done under my supervision and is now ready for submission to the department of education for the award of Bachelors of education of Uganda Christian University.



DEDICATION

I dedicate this piece of work to my beloved family members for their financial, spiritual moral guidance and compassion they rendered to me during my stay at Uganda Christian University.

ACKNOWLEDGEMENT

1 am thankful to Almighty God for giving me the chance to embark on and complete this study. I give Him thanks and praise. I would also like to extend my genuine and heartfelt appreciation to the following persons for their valuable support and endless encouragement, to my supervisor MR. Ssengozi John for his guidance, expertise and time. He tirelessly accepted to guide and make me see ideas from an interactive academic engagement. His inspiration and guidance were explicit qualities and values worthy imitating. MR. Ssengozi John made my Bachelors voyage much easier from first to last very friendly constructive criticism, suggestions and guidance. I thank him for helping me find the way in this Degree programme. He enthusiastically pushed me frontward and pulled me growing throughout research. Special thanks go to the other lecturers for their encouragement and support that pushed this book far may the Lord bless them abundantly. To all my family members who supported me financially, ideologically and courage me, may the Almighty God bless them abundantly. Their presence in my journey of studies was not only attractive and interactive but also kind. All of them made me realize what it takes to be a successful person in the world today.

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ABSTRACT

The study examined the effect of stereo-typing on mathematics achievements in secondary schools in Butaleja district. The study was guided by the following objectives; to examine the types of stereotypes that influence mathematics achievement among secondary school students in Butaleja, to assess the impact of stereotyping on students' confidence, attitudes, and performance in mathematics, to identify strategies for mitigating the negative effects of stereotypes on mathematics achievement in secondary schools in Butaleja. The study utilized a mixed method in which both quantitative and qualitative methods of data collection was employed. These methods were used for purposes of drawing valid conclusions based on views got from oral informants as well as the responses from those who filled the questionnaires that investigated the impact of parents' educational background on the academic performance of learners in secondary schools in Butaleja District. The findings reveal that gender- and tribe-based stereotypes are prevalent in schools within Butaleja District. A significant number of respondents agreed with the statement that boys are naturally more talented in mathematics than girls. For example, 60% of teachers either agreed or strongly agreed with this stereotype, which aligns with the perceptions of 64% of parents. Pupils confirmed this bias, stating that they often hear such remarks from peers and even teachers.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter focused on the background of the study, statement of the problem, purpose of the study, objectives, research questions and scope of the study, significance, conceptual framework, operational definitions and limitation and delimitations of the study.

1.1 Background to the study

Research by Spencer, Steele, and Quinn (1999) in the United States has shown that negative stereotypes about girls' mathematical abilities can significantly impact their performance. They found that when girls were reminded of stereotypes suggesting that males outperform females in mathematics, their performance on math tests declined compared to when such stereotypes were not activated. This seminal study highlighted the role of stereotype threat in influencing academic outcomes, underscoring its relevance in diverse educational settings globally.

Across Europe, studies such as those by Stoet and Geary (2012) have explored gender differences in mathematics performance and the role of societal stereotypes. Their meta-analysis across several European countries indicated that although there are no inherent gender differences in mathematical ability, stereotypes and societal expectations often lead to differential outcomes in educational settings. Countries like Germany and France have also seen similar findings, where societal norms and stereotypes about gender roles contribute to disparities in mathematics achievement among secondary school students. This continental perspective underscores the pervasive influence of cultural stereotypes on academic performance across diverse European educational systems.

local studies by Adebayo and Adewumi (2018) have highlighted the impact of stereotyping on students' mathematics achievement in secondary schools. Their research conducted in urban and rural schools revealed that stereotypes related to socio-economic status and regional origin also play significant roles in shaping students' confidence and performance in mathematics. They found that students from marginalized communities or with perceived lower socio-economic backgrounds often internalize negative stereotypes, which subsequently affects their academic motivation and achievement in mathematics. These findings underscore the need for context-specific interventions to mitigate the detrimental effects of stereotypes on educational outcomes in Sorority.

1.2 Problem Statement

Mathematics is a fundamental subject in secondary education, essential for cognitive development and future career opportunities in science, technology, engineering, and mathematics (STEM) fields. However, in Butaleja, persistent disparities in mathematics achievement among secondary school students have raised concerns among educators, policymakers, and researchers. Stereotypes related to gender, socio-economic status, and regional origin have been reported to influence students' attitudes towards mathematics, ultimately affecting their academic outcomes (Adebayo & Adewumi, 2018). Despite efforts to improve mathematics performance through curriculum reforms and teacher interventions, the impact of these stereotypes remains a critical challenge in the education sector.

Studies by Spencer, Steele, and Quinn (1999) in the United States and Stoet and Geary (2012) in Europe have demonstrated that stereotype threat can lead to self-doubt, anxiety, and decreased performance among students, particularly among girls and those from marginalized communities. In the context of Butaleja, anecdotal

evidence suggests that societal norms and cultural beliefs reinforce negative perceptions about certain groups' ability to excel in mathematics. Female students, for instance, may be discouraged from pursuing mathematics-intensive subjects due to gendered stereotypes that portray boys as naturally more competent in the subject. Similarly, students from lower socio-economic backgrounds or rural areas may internalize negative stereotypes about their academic potential, further widening the achievement gap. However, limited empirical research has been conducted to assess the extent and nature of stereotyping in mathematics education within Butaleja, leaving a gap in knowledge on how these biases affect students' academic trajectories.

This study examined the effect of stereotyping on mathematics achievement in secondary schools in Butaleja. It aims to identify the specific stereotypes influencing student performance, explore their psychological and academic impact, and propose strategies to counteract their negative effects. By investigating this issue, the research will contribute to a deeper understanding of the role of stereotypes in education and inform evidence-based policies and interventions to promote inclusive and equitable learning environments.

1.3 Purpose of the Study

The purpose of this study was to examine the effect of stereotyping on mathematics achievement among secondary school students in Butaleja. The study identified the types of stereotypes influencing students' performance, including gender, socio-economic, and regional stereotypes. Additionally, it aims to assess how these stereotypes impact students' confidence, attitudes, and overall academic performance in mathematics.

1.4 Research Objectives

i. To examine the types of stereotypes that influence mathematics achievement among secondary school students in Butaleja.
ii. To assess the impact of stereotyping on students' confidence, attitudes, and performance in mathematics.
iii. To identify strategies for mitigating the negative effects of stereotypes on mathematics achievement in secondary schools in Butaleja.

1.5 Research Questions

i. What types of stereotypes influence mathematics achievement among secondary school students in Butaleja?
ii. How does stereotyping affect students' confidence, attitudes, and performance in mathematics?
iii. What strategies can be implemented to reduce the negative effects of stereotypes on mathematics achievement in secondary schools in Butaleja?

1.6 Justification of the Study

Mathematics is a critical subject that serves as a foundation for careers in science, technology, engineering, and mathematics (STEM). However, persistent disparities in mathematics achievement among secondary school students in Butaleja had raised concerns about the role of stereotypes in shaping students' attitudes, confidence, and academic performance. This study was justified because it provided empirical evidence on the extent to which stereotypes—whether related to gender, socio-economic status, or regional background—affect students' engagement and success in mathematics. Previous studies, such as those by Spencer, Steele, and Quinn (1999) in the United States and Stoet and Geary (2012) in Europe, had shown that stereotype threat can lower academic performance by increasing anxiety and

reducing confidence. However, there is limited research on how such stereotypes manifest in the educational context of Butaleja, making this study both timely and necessary.

Furthermore, the study contributed to educational policy and practice by identifying strategies to mitigate the negative effects of stereotyping on mathematics achievement. Understanding these influences helped teachers, school administrators, and policy makers implement targeted interventions, such as inclusive teaching approaches, mentorship programs, and awareness campaigns that challenge negative stereotypes. Research by Adebayo and Adewumi (2018) in Butaleja highlighted that students from marginalized communities often struggle with self-doubt due to societal perceptions, reinforcing the need for interventions tailored to the local context. By addressing these issues, the study provided actionable recommendations to promote a more equitable learning environment where all students, regardless of background, can reach their full potential in mathematics.

Additionally, this study added to the broader body of knowledge on stereotype effects in education, particularly in Uganda and other developing countries with similar socio-cultural dynamics. The findings were valuable not only to educators and policymakers but also to parents and community leaders who play a crucial role in shaping students' perceptions of their abilities. Ultimately, by highlighting the impact of stereotypes on mathematics achievement and suggesting practical solutions, this research will contribute to fostering an inclusive, merit-based education system that empowers all students to excel.

1.7 Significance of the Study

This study is significant as it contributed to a deeper understanding of how stereotypes influence mathematics achievement among secondary school students in Butaleja. Mathematics is a fundamental subject that plays a crucial role in shaping students' future career opportunities, particularly in STEM fields. However, societal stereotypes related to gender, socio-economic status, and regional background often create barriers to success in the subject. By investigating these stereotypes and their effects, the study provided valuable insights into how negative perceptions shape students' confidence, attitudes, and performance in mathematics. The findings bridged the knowledge gap on the role of stereotyping in mathematics education, particularly in the Ugandan context, where limited research had been conducted on this issue.

The study was also be beneficial to educators, school administrators, and policymakers. By identifying the specific stereotypes affecting students and assessing their impact, the research enabled teachers to develop more inclusive teaching strategies that foster confidence and equal participation in mathematics. School administrators can use the findings to design targeted mentorship programs, counseling services, and awareness campaigns that challenge negative stereotypes and create a supportive learning environment. Moreover, policymakers in the education sector gained evidence-based recommendations on how to formulate policies that promote gender equity and equal opportunities for all students, regardless of their socio-economic or regional background.

Beyond the education sector, the study had broader societal implications by encouraging parents, guardians, and community leaders to play a proactive role in challenging harmful stereotypes and motivating students to excel in mathematics.

It contributed to global discussions on stereotype effects in education, complementing previous studies such as those by Spencer, Steele, and Quinn (1999) in the United States and Stoet and Geary (2012) in Europe. By providing localized solutions to a global issue, this research contributed to fostering an inclusive and merit-based education system that empowers all students in Butaleja to reach their full academic potential.

1.8 Scope of the Study

1.8.1 Content Scope

This study focused on examining the effect of stereotyping on mathematics achievement among secondary school students in Butaleja. It explores the different types of stereotypes influencing students' performance, including those related to gender, socio-economic status, and regional background. The study assessed the psychological and academic impact of these stereotypes on students' confidence, attitudes, and overall mathematics achievement. Additionally, it identified strategies that can be implemented by educators, school administrators, policymakers, and communities to mitigate the negative effects of stereotyping and promote equitable learning opportunities in mathematics education.

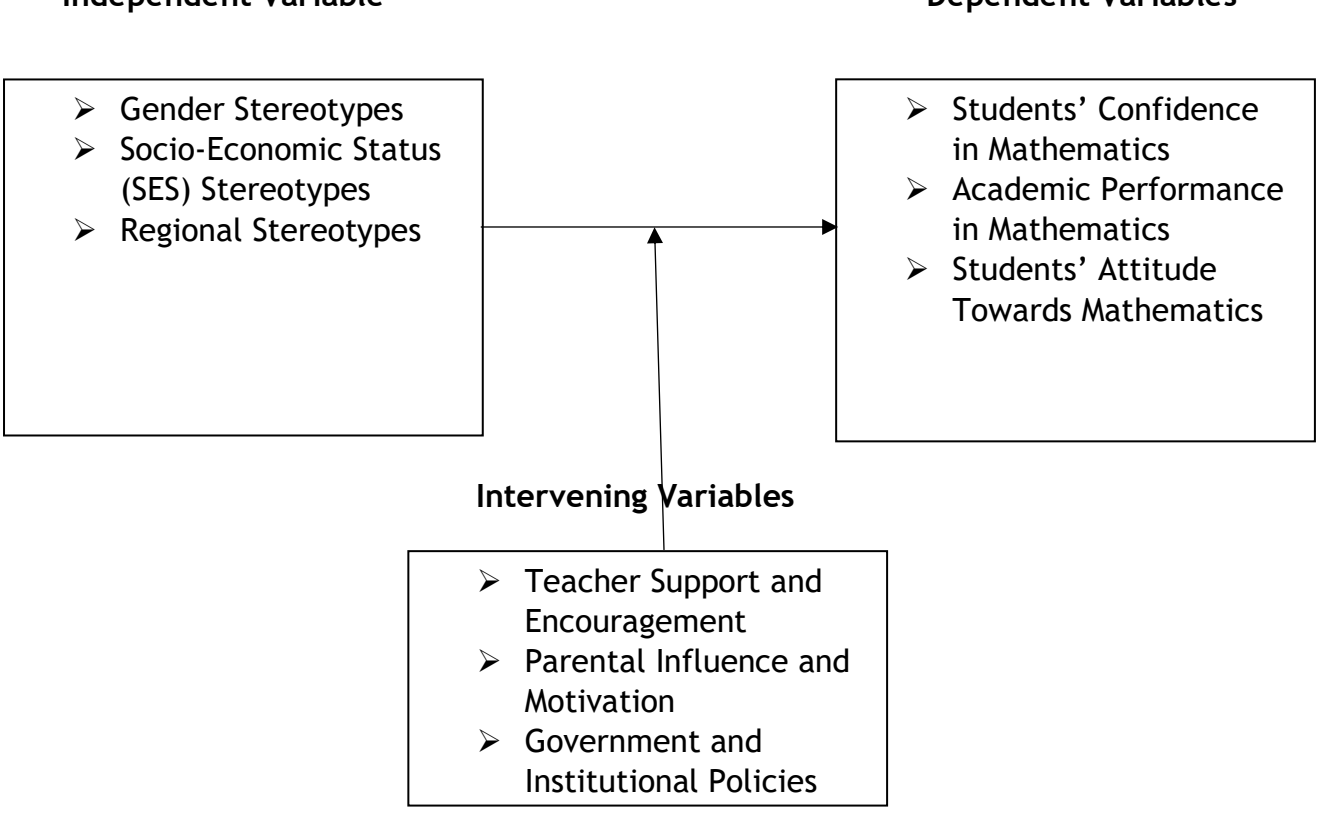
1.8.2 Geographical Scope

The study was conducted in Butaleja, Uganda, specifically targeting secondary schools within the region. Butaleja was chosen as the study area due to its diverse student population, which includes students from various socio-economic backgrounds and cultural settings. This made it an ideal location for examining how stereotypes influence mathematics achievement across different demographic groups. The findings from Butaleja may also provide insights applicable to other regions with similar educational and socio-cultural dynamics.

1.8.3 Time Scope

The study covered a period from 2023 to 2025, focusing on relevant literature, policies, and academic performance trends during this time frame. This period is selected to ensure the study captures recent research findings, policy changes, and emerging trends in mathematics education and stereotype-related challenges. Data collection and analysis took place within the current academic year to provide up-to-date and relevant insights into the ongoing impact of stereotyping on students' mathematics achievement in Butaleja.

1.9 Conceptual framework



Source student: (2025)

Figure 1: Conceptual framework

1.10 Operational Definitions

Stereotyping	Preconceived beliefs or generalizations about certain groups of students based on gender, socio-economic status, or regional background, which may influence their confidence and performance in mathematics.
Mathematics Achievement	The level of success a student attains in mathematics, measured through test scores, grades, and academic performance in the subject.
Gender Stereotypes	Socially constructed beliefs that males are more competent in mathematics than females, which can influence students' confidence and motivation.
Socio-Economic Status (SES)Stereotypes	The perception that students from lower-income families or disadvantaged backgrounds are less capable in mathematics compared to those from wealthier backgrounds.
Regional Stereotypes	Assumptions that students from certain regions or ethnic groups are naturally less proficient in mathematics compared to others.
Students' Confidence in Mathematics	The self-belief and assurance students have in their ability to understand and excel in mathematics.
Students'Attitude Towards Mathematics	The interest, motivation, and perception that students hold about the subject, which can influence their willingness to engage in learning.
Teacher Support and Encouragement	The role of teachers in motivating students, countering stereotypes, and fostering a positive learning environment in mathematics.
Parental Influence and Motivation	The extent to which parents encourage or discourage their children's participation and success in mathematics.
Government and Institutional Policies	Educational regulations, programs, and strategies aimed at reducing the effects of stereotyping and promoting equal opportunities in mathematics education.

1.11 Limitations of the Study

Limited Generalizability – Since the study is conducted in Butaleja, findings may not fully represent the experiences of students in other regions with different socio-cultural and economic backgrounds.

Response Bias – Some students, teachers, or parents may provide socially desirable responses rather than their true perceptions about stereotypes and mathematics achievement.

Time Constraints – The study was conducted within a limited academic period, which may restrict the ability to assess long-term effects of stereotyping on students' mathematics achievement.

Data Collection Challenges – Some schools or respondents may be unwilling to participate fully, affecting the depth and accuracy of the data collected.

Influence of Uncontrollable External Factors – Factors such as school infrastructure, teacher quality, and curriculum differences may also impact students' mathematics performance but are beyond the direct focus of the study.

1.12 Delimitations of the Study

Geographical Scope: The study is limited to secondary schools in Butaleja, ensuring a focused analysis of the impact of stereotypes in this specific educational setting.

Target Population: The study focuses on secondary school students, teachers, and parents, excluding primary school learners and other stakeholders who may have different experiences with stereotyping in mathematics.

Scope of Variables: The study primarily examines the impact of gender, socio-economic, and regional stereotypes on mathematics achievement, rather than other factors such as school funding, teacher training, or curriculum changes.

Study Period: The research focused on data from 2018 to 2025, ensuring the findings are based on recent and relevant trends in mathematics education and stereotyping in Uganda.

Methodological Scope: The study used a mixed-methods approach, including surveys and interviews, but it didn't incorporate experimental interventions to measure stereotype effects in a controlled setting.

Ultimately, this study aims to contribute to efforts toward creating an inclusive and supportive educational environment where all students, regardless of gender, socio-economic background, or regional affiliation, can excel in mathematics. The findings helped to inform educational policies, teaching strategies, and community initiatives that foster equal opportunities in mathematics education in Butaleja and beyond.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter gave reference to what other scholars have written concerning effect of stereotyping on mathematics achievements in secondary schools in Butaleja District The review helped the researcher to document what other researchers had done and identify the knowledge gap.

2.1 Types of stereotypes that influence mathematics achievements

Stereotyping in education, particularly concerning mathematics achievement, has been a subject of extensive research across various contexts. These stereotypes often manifest as beliefs that certain groups, based on gender, ethnicity, or socioeconomic status, are inherently less capable in mathematics. Such perceptions can significantly influence students' self-concept, motivation, and ultimately, their performance in mathematics.

Internationally, gender-based stereotypes are among the most pervasive in the context of mathematics education. A study by Wolff (2021) in Germany examined how individual and classmates' math-related gender stereotypes affect students' math self-concepts. The research found that strong individual beliefs in the stereotype that math is a male domain were associated with lower math self-concepts for girls and higher for boys. Moreover, classmates' shared beliefs in this stereotype negatively impacted girls' self-concepts, while no significant effect was observed for boys. This highlights the substantial role peers play in shaping students' academic self-concept beyond individual beliefs.

In China, a study utilizing data from the China Education Panel Survey investigated the impact of math-gender stereotypes on students' academic performance. The

findings revealed that over half of the male students believed boys are better at math than girls, a sentiment less commonly held by female students. Interestingly, female students outperformed males in math performance. However, stereotypes hindered female math performance, especially among low-achieving students, while benefiting high-achieving male students. Perceptions of societal stereotypes had the greatest effect on math performance, followed by self-stereotypes and perceptions of parental stereotypes, underscoring the importance of addressing these beliefs to promote equal participation and success in STEM fields.

In the African context, research indicates that cultural and contextual factors significantly influence the manifestation and impact of stereotypes in mathematics education. A study by Picho and Stephens (2012) in Uganda explored the effects of stereotype threat on female students in coeducational and single-sex schools. The results indicated that stereotype threat negatively affected the performance of females in coeducational schools but did not impact those in single-sex schools. Furthermore, females in single-sex schools reported higher levels of mathematics identification and self-efficacy than those in coeducational settings, suggesting that the school environment plays a crucial role in either mitigating or exacerbating the effects of stereotypes.

While specific studies on the impact of stereotypes on mathematics achievement in Butaleja are limited, insights can be drawn from broader research within Uganda and similar contexts. Cultural norms and societal expectations often perpetuate gender stereotypes, influencing students' attitudes toward subjects like mathematics. In regions where traditional gender roles are strongly endorsed, girls may internalize beliefs that they are less capable in mathematics, leading to

decreased participation and achievement. Addressing these stereotypes requires culturally sensitive interventions that involve community engagement, teacher training, and the promotion of positive role models to challenge existing biases and support all students in achieving their full potential in mathematics.

In conclusion, stereotypes related to mathematics ability are prevalent across different cultures and educational contexts. These stereotypes can significantly impact students' self-concept, motivation, and performance in mathematics. Understanding the types of stereotypes that influence mathematics achievement is crucial for developing effective interventions to promote equity and excellence in mathematics education.

2.2 Impact of stereotyping on students

Stereotyping in educational settings significantly impacts students' confidence, attitudes, and performance in mathematics. Understanding these effects requires a comprehensive examination across global, continental, and local contexts.

Globally, gender-based stereotypes are among the most pervasive in mathematics education. In Australia, recent studies have highlighted a concerning trend where boys outperform girls in mathematics and science. The 2023 Trends in International Mathematics and Science Study (TIMSS) revealed that Australian boys, particularly in Year 4, have shown steady improvement in these subjects, while girls' performance has declined. Dr. Joanna Sikora from the Australian National University observed that small early gaps could widen over time, raising alarms about the long-term implications of these disparities. Cultural stereotypes and societal expectations contribute to this gap, leading to lower confidence and higher anxiety among girls regarding mathematics. Additionally, the underrepresentation of female

teachers in STEM fields may perpetuate these stereotypes, as male-dominated teaching dynamics can influence students' perceptions of subject suitability. Economic and regional disparities further exacerbate the issue, with students from low-socioeconomic backgrounds performing worse than their affluent counterparts, highlighting the need for a balanced approach that addresses both participation and societal attitudes.

Another significant stereotype affecting students globally is related to body image. Children in larger bodies often face weight-based stigma in educational settings, leading to negative perceptions from teachers who may view them as less competent or unmotivated. This bias results in fewer participatory opportunities, reduced positive feedback, and lower grades for these students. The internalization of such stigma contributes to higher levels of depression and anxiety, adversely affecting attendance and overall academic performance. Despite efforts to address child obesity through nutrition and exercise programs, there is a lack of weight bias training for educators, underscoring the need for schools to improve sensitivity training and anti-bullying policies to include body weight, ensuring fairer treatment for all students.

In Africa, cultural and contextual factors significantly influence the manifestation and impact of stereotypes in mathematics education. A study by Picho and Stephens (2012) in Uganda explored the effects of stereotype threat on female students in coeducational and single-sex schools. The results indicated that stereotype threat negatively affected the performance of females in coeducational schools but did not impact those in single-sex schools. Furthermore, females in single-sex schools reported higher levels of mathematics identification and self-efficacy than those in

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While specific studies on the impact of stereotypes on mathematics achievement in Butaleja are limited, insights can be drawn from broader research within Uganda and similar contexts. Cultural norms and societal expectations often perpetuate gender stereotypes, influencing students' attitudes toward subjects like mathematics. In regions where, traditional gender roles are strongly endorsed, girls may internalize beliefs that they are less capable in mathematics, leading to decreased participation and achievement. Addressing these stereotypes requires culturally sensitive interventions that involve community engagement, teacher training, and the promotion of positive role models to challenge existing biases and support all students in achieving their full potential in mathematics.

Stereotypes related to mathematics ability are prevalent across different cultures and educational contexts. These stereotypes can significantly impact students' self-concept, motivation, and performance in mathematics. Understanding the types of stereotypes that influence mathematics achievement is crucial for developing effective interventions to promote equity and excellence in mathematics education.

2.3 Strategies of mitigating negative effects of stereotypes

Stereotyping in educational settings can significantly hinder students' confidence, attitudes, and performance in mathematics. To address these challenges, researchers have explored various strategies to mitigate the negative effects of stereotypes on mathematics achievement. These strategies range from individual interventions to systemic changes within educational environments.

Internationally, interventions have been developed to counteract the detrimental effects of stereotypes on students' mathematical performance. Maloney et al. (2013) from the United States examined the shared mechanisms between mathematics anxiety and stereotype threat, highlighting how both can impair working memory and lead to underperformance. They proposed interventions such as expressive writing, where students write about their thoughts and feelings regarding math before engaging in mathematical tasks, to alleviate anxiety and reduce the impact of stereotype threat. Additionally, fostering a growth mindset, which emphasizes that abilities can be developed through effort, has been shown to improve students' resilience against negative stereotypes. By understanding the cognitive and neural mechanisms underlying these affective factors, educators can implement targeted strategies to enhance students' mathematical performance.

In the African context, research has highlighted the importance of considering cultural and contextual factors when addressing stereotype threat. Picho and Stephens (2012) conducted a study in Uganda comparing the effects of stereotype threat on female students in coeducational and single-sex schools. Their findings indicated that girls in coeducational schools were more susceptible to stereotype threat, leading to decreased performance in mathematics. Conversely, girls in single-sex schools exhibited higher mathematics self-efficacy and identification, suggesting that single-sex educational environments may buffer against the negative impacts of stereotypes. These results underscore the need for culturally sensitive interventions that consider the specific educational contexts and societal norms present in different regions.

While specific studies on stereotype threat in Butaleja are limited, insights can be drawn from broader research within Uganda. A recent study examined the moderating role of regulatory fit on stereotype threat among Ugandan adolescents. The researchers found that aligning students' goal orientations with the broader cultural context could mitigate the adverse effects of stereotype threat. For instance, in cultures that emphasize a promotion-focused approach, encouraging students to adopt similar goal orientations can enhance their performance in mathematics. This suggests that interventions tailored to the cultural and educational contexts of regions like Butaleja could be effective in reducing the negative impacts of stereotypes on students' mathematical achievement.

Mitigating the negative effects of stereotypes on mathematics achievement requires a multifaceted approach that considers individual, cultural, and contextual factors. Globally, strategies such as expressive writing and fostering growth mindsets have shown promise. In Africa, and specifically Uganda, understanding the educational environment and aligning interventions with cultural norms are crucial. By implementing these tailored strategies, educators can create supportive learning environments that promote mathematical achievement for all students.

2.4 Research gaps

Lack of Context-Specific Studies on Stereotyping in Mathematics Achievement in Butaleja

While global and continental studies provide insights into the impact of stereotypes on students’ mathematics performance, there is limited research specifically focused on Butaleja. The unique cultural and educational factors in this region are not well-explored, making it difficult to develop targeted interventions. Further

research is needed to understand how local stereotypes influence students' attitudes, confidence, and performance in mathematics.

Limited Examination of the Effectiveness of Intervention Strategies in Low-Resource Settings

Many studies, particularly in Western contexts, have explored strategies such as growth mindset training and expressive writing to counter stereotype threats. However, there is little evidence on how effective these interventions are in African or rural Ugandan settings, where educational resources and teaching methodologies differ. Research is needed to test and adapt these interventions to fit the local context in Butaleja.

Insufficient Focus on Teacher and Community Perceptions in Reinforcing or Mitigating Stereotypes

Most studies concentrate on students' experiences with stereotypes, but there is limited research on how teachers, parents, and community members contribute to or help counteract these stereotypes. Investigating the role of educators and the community in shaping students' confidence and attitudes toward mathematics would provide a more holistic understanding of the issue and help design more effective interventions.

Addressing these gaps would provide deeper insights into the effects of stereotypes on mathematics achievement in Butaleja and help develop more practical, locally relevant strategies to improve students' performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter discussed the research design, study population, sample size, sampling strategies, data collection methods, reliability and validity of instruments, and methods of data analysis and ethical consideration.

3.1 Research Design

A cross sectional design was used because the study selected respondents across different secondary schools in Butaleja District. The study utilized a mixed method in which both quantitative and qualitative methods of data collection was employed. These methods were used for purposes of drawing valid conclusions based on views got from oral informants as well as the responses from those who filled the questionnaires that investigated the impact of parents' educational background on the academic performance of learners in secondary schools in Butaleja District. The use of both qualitative and some quantitative methods concurrently is supported by Amin (2005) especially where the study involves investigating people's opinions.

3.2 Area of Study

Generally, the study was conducted in Busolwe Sub-county which is bordered by Bukigai Sub-county to the south, Nawanjofu sub-county to the North, Bupoto Sub-county to the west and Bubulo Sub-county to the east. The following schools were included in the study; Busolwe Secondary school, Busolwe Bright Light school, Busolwe Students Centre, Busolwe Town View Secondary school and Alliance High school Busolwe.

3.3 Population of Study

A population is the complete (or universe) of all the elements (units) that are of interest in a particular investigation. This population included parents, teachers and

pupils. It is an aggregate or totality of objects or individuals having one or more characteristics in common that are of interest to the researcher and where inferences are to be made. The study population therefore comprised 100 respondents basing on Morgan and Krejcie table as given by Amin, (2005) (Appendix III) which comprised (35) parents, (40) teachers, (25) students

3.4 Sample Size

According to Mugenda (2010) and Peter (2012), identified that, sampling is the process of choosing the research units of the target population, which are to be included in the study. The sample size of respondents was selected out of the study populations of 100 which comprises 32 parents, 36 teachers, and 24 students giving a total of 80. The sample size was determined using Morgan and Krejcie (1970), table as given by Amin, (2005) (Appendix IV).

Table 3.1: Showing category, population, sample size and sampling techniques

Category	**Population**	**Sample size**	**Sampling techniques**
Parents	35	32	Random
Teacher	40	36	Random
Pupils	25	25	Purposive
Total	100	80	

Source: Adapted from Morgan Krijcie, (1970)

3.5 Sampling Procedure

The researcher used both random and purposive sampling techniques to select the study respondents.

3.5.1 Random Sampling

Random sampling will be used to select the respondents in order to give them an equal and known chance of participation in the study. The technique was used to select parents and teachers. The researcher selected respondents randomly from the selected population. The list of the teachers and parents, both female and male were provided and their names written on pieces of paper, folded and then mixed thoroughly then picked. In this case, every name had an equal chance to be picked. The simple random sampling technique was used because the sample size may contain a big number of respondents that may require being appropriately and proportionately represented and free from sampling bias.

3.5.2 Purposive Sampling

Purposive sampling on the other hand was used on learners because the respondents had enough experience and true information regarding the impact of parents' education background on learners' academic performance in secondary schools in Butaleja District.

3.5 Data Collection Methods and Instruments

Both primary and secondary data was collected in order to enrich the study. Secondary data was obtained through documentary reviews and the main sources included child rights reports, text books, internet sources like the journals and articles, among others. According to Amin (2013), secondary data can be helpful in the research design of subsequent primary research. Here this provided a baseline with which the collected primary data results was compared

3.5.1 The Questionnaire

Hannan (2009) defines a questionnaire as a device used to gather information about peoples' opinions often by asking respondents to give their views about the subject. The questionnaire is applied on respondents who know how to read and write, but

also who are not readily available for interviews. To come up with the findings, the researcher used self-administered questionnaires to collect data from students and teachers. The questionnaire was designed as follows; section A had demographic data, Section B questions on the study variable with closed ended questions and section C had open ended questions. The researcher developed a questionnaire based on a four point Likert scale as follows: Strongly Agree 4, Agree 3, Disagree 2 and Strongly Disagree 1.

3.5.2 Interview

According to Gubrium, (2012), an interview is essentially a structured conversation where one participant asks questions, and the other provides answers. Commonly, the word "interview" refers to a one-on-one conversation between an interviewer and an interviewee. Interviews are discussions, usually one-on-one, between an interviewer and an individual meant to gather information on a specific set of topics (Gubrium, 2012). The researcher used semi-structured interviews, which was essentially and verbally administered questionnaires in which a list of predetermined questions was asked to the parents with no variation but with some scope for follow-up questions to responses that warrant further elaboration. Interviews gave the researcher an opportunity to revisit some of the issues that may have been over-looked in other methods and yet they are deemed vital for the study.

3.6 Data Quality Control

In an attempt to achieve quality data, the researcher made an analysis with respect to instrument validity and reliability.

3.6.1 Validity of Research Instruments

Validity refers to quality of data gathering instrument or procedures that enables it to measure what it sought to measure (Best and Kahn, 2004). Reliability of the instrument is the measure of consistence over time and over similar sample (Cohenet

et al, 2007). To determine the validity of instruments, the researcher conducted a preliminary survey at Butaleja primary school located in Butaleja District since this has the same characteristics with the schools under study. The questionnaires and interviews were piloted to 8 teachers and 5 students before the larger actual survey is conducted in Busolwe Sub-county. This was done to discover the ambiguities and some grammatical errors in the question items before they are corrected. This helped to cross-check the validity of the instruments. The researcher also had an opportunity to discuss with the respondents especially on difficult vocabularies or if there are grammatical errors or rather with ambiguity statements in order to rephrase or delete them. In addition, the researcher seek for expertise advice from his supervisor who helped to improve on the clarity on the items from the questionnaires and interviews. The Content Validity Index (CVI) of the instrument was calculated using the formula below. The instrument was considered valid if the value of 0.6 and above is achieved.

$$CVI = \frac{\text{total number of relevant items}}{\text{Total number of items}}$$

3.6.2 Instrument Reliability

Reliability means the degree of consistency and precession in which the measuring instruments demonstrates. The Statistical Packages of Social Scientists (SPSS) was used to ascertain it. Cronbach's Alpha of a minimum reliability analysis of 0.70 and above was taken as a reasonable measure of internal reliability. Since the score that was obtained is estimated at 0.818 which is above 0.7; the instrument was adopted as being reliable. The points below were achieved when the valid items were divided by the total number of items times one hundred;

17/21×100 = 80.95.

Table 3.2: Reliability statistics

Cronbach's Alpha	No of Items
0.818	21

3.7 Data Collection Procedure

The researcher went to the field after getting an authorization letter from the education department of Uganda Christian University, which introduced him as a student of the University. The head teachers of the selected schools of Busolwe Sub-county helped the researcher to collect data by giving him a go ahead. The researcher then collected the data in the Sub-county.

3.8 Data processing and Analysis

Data analysis was a systematic process involving working with organizing data and breaking them into manageable unity (Bagdon & Biklen, 1992). It was also concerned with systematizing data searching for patterns, discovering what is important, what is to be leant and deciding what to tell others (Cohen et al, 2007). All information that is collected from interviews and questionnaires were subjected to content analysis which involved identifying coherent and important examples, themes and patterns in data collected from the field work. Qualitative approach therefore, were analyzed through thematic analysis where data was categorized according to their relevant themes and patterns developed accordingly. Quantitative data from the questionnaires was analyzed through simple descriptive statistics after tabulation and conversion into frequencies and percentages for descriptive purposes. In the first-place data was cleaned from errors and then coded. After coding, data was analyzed through content analysis to examine its influence on pupils' academic performance.

3.9 Ethical Considerations

Research ethics refers to moral principles guiding research (Horman, 1991). It means conducting research in a way that goes beyond merely adopting the most appropriate research methodology but conducting research in a responsible and morally defensible way.

To ensure these ethical considerations are taken into account, the consent of the respondents and confidentiality was sought and they are assured that the data they provided was strictly for purposes of the study.

In addition, to enhance the participant's privacy, the respondents' names were not used thus; Confidentiality was practiced by avoiding the use of names but rather initials or codes.

The researcher respected the rights of the respondents in the process of getting the information; seek for permission from the local leadership before carrying out the study.

Coercive approach was as much as possible be avoided in trying to access information from the respondents but rather observe professional ethics in conducting the study. It can be emphasized that this study is original work, and that no known study regarding the effect of stereotyping on mathematics achievements in secondary schools in Butaleja District has been carried out.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter presents the data collected from 80 respondents (25 teachers, 25 parents, and 30 pupils) drawn from a total target population of 100 in Butaleja District. Data were analyzed using SPSS, incorporating both descriptive and inferential statistics. The analysis aims to address the study objectives:

To examine the types of stereotypes that influence mathematics achievement, to assess the impact of stereotyping on students' confidence, attitudes, and performance and to identify strategies for mitigating the negative effects of stereotypes.

4.2 Characteristics of Respondents

Table 1: Gender Distribution of Respondents

Category	**Male**	**Female**	**Total**
Teachers	12	13	25
Parents	10	15	25
Pupils	15	15	30
Total	37	43	80

Source: primary field data(2025)

Out of the 80 respondents, 43 were female and 37 were male. Among teachers, gender representation was nearly balanced. Female parents (60%) were more

responsive than male parents. Pupils had an equal gender distribution. This balanced representation ensures inclusivity in perspectives regarding gender stereotypes in mathematics education.

Table 2: Educational Level of Teachers

Education Level	**Frequency**	**Percentage**
Diploma	10	40%
Bachelor's	11	44%
Postgraduate	4	16%
Total	25	100%

Source: primary field data(2025)

Most teachers (44%) hold bachelor's degrees, followed by diploma holders (40%) and postgraduates (16%). This indicates that the majority have formal professional training, which enhances the reliability of their perspectives on classroom dynamics and stereotypes in mathematics education.

Table 3: Stereotype – "Boys are naturally more talented in math than girls"

Respondent Group	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Teachers (n=25)	8	6	4	5	2
Parents (n=25)	3	5	6	7	4

Source: primary field data(2025)

Among teachers, 56% (14) disagreed or strongly disagreed with the stereotype, while 28% agreed or strongly agreed. Among parents, 44% leaned towards agreement. This suggests teachers are more aware of gender equity than parents, reinforcing the need for community-wide sensitization.

Table 4: Teachers' Beliefs on Gender Influence in Teaching

Statement	Agree (%)
Teachers' expectations influenced by gender stereotypes	60%
Classroom gender dynamics affect performance	64%
Girls avoid math due to societal expectations	72%

Source: primary field data(2025)

Majority of teachers acknowledge that gender stereotypes influence expectations and performance. One teacher stated, "Sometimes, we unconsciously expect more from boys." These findings support the need for gender-sensitive training to help teachers address unconscious biases.

Table 5: Parents' Perceptions on Home Influences

Statement	Agree (%)
Parents expect boys to perform better in math	68%
Girls' home duties affect math performance	76%
Gender roles limit math study time at home	64%

Source: primary field data(2025)

A significant number of parents admit that societal roles and domestic duties affect girls' academic performance in mathematics. One parent noted, "My daughter helps at home more than my son, leaving her little time to revise." These cultural expectations are barriers to equity.

Table 6: Pupils' Experience with Stereotypes

Statement	Yes (%)
Heard that boys are better than girls in math	83%
Made to feel less capable due to gender	60%
Beliefs affect interest in math	70%

Source: primary field data(2025)

The majority of pupils reported exposure to stereotypes. A female pupil shared, "When teachers praise boys for answering math questions, I feel less confident." Such experiences can negatively shape students' self-perception and hinder performance in mathematics.

Table 7: Stereotypes Affecting Confidence and Attitude

Confidence/Attitude Indicator	Agree (%)
Stereotypes reduce math confidence	62%
Gender influences classroom response	68%
Girls doubt their ability more	72%

Source: primary field data(2025)

Stereotypes have a strong psychological impact. Girls are more likely to feel less competent due to repeated societal messaging. This supports the assertion that the learning environment must actively combat gendered assumptions.

Table 8: Training Teachers Received on Stereotypes

Response	Frequency	Percentage
Yes	7	28%
No	18	72%

Source: primary field data(2025)

Only 28% of teachers have received training on addressing stereotypes. One remarked, “We are rarely trained on how to manage gender bias.” This gap highlights the need for targeted professional development programs to promote inclusive pedagogy.

Table 9: Influence of Tribal Beliefs

Group	Believe Some Tribes Excel in Math (%)
Teachers	36%
Parents	44%
Pupils	48%

Source: primary field data(2025)

A significant portion of respondents across all groups believe that tribal affiliation influences math performance. While such beliefs may be anecdotal, they can lead to self-fulfilling prophecies or discriminatory attitudes in classrooms.

Table 10: Impact of Stereotyping on Performance

Statement	Agree (%)
Stereotyping affects test performance	65%
Leads to low math motivation	68%

Source: primary field data(2025)

Respondents strongly agree that stereotypes influence both performance and motivation. One pupil shared, “I get nervous during math tests because I feel like I must prove myself.” Addressing this internalized pressure is essential for academic growth.

Table 11: Support Systems and Role Models

Statement	Agree (%)
Male and female math role models are important	84%
Parental support improves math performance	76%

Source: primary field data(2025)

Role models and parental involvement are recognized as powerful tools to combat negative stereotypes. Teachers and students emphasized the value of seeing relatable figures excel in math, especially girls seeing successful female mathematicians.

Table 12: Inclusive Strategies by Schools

Strategy	Agree (%)
Inclusive training reduces stereotyping	80%
Curriculum should address stereotypes	72%
Equal participation boosts math confidence	88%

Source: primary field data(2025)

There is strong consensus on the importance of systemic approaches to equity. Equal participation and inclusive content were rated highly, indicating readiness among stakeholders to adopt reforms that ensure fairness in mathematics education.

Table 13: Parents Discussing Math at Home

Response	Frequency	Percentage
Yes	17	68%
No	8	32%

Source: primary field data(2025)

A majority of parents discuss math with their children. However, the quality of these conversations may differ. One parent said, “I usually ask about results, not how to help.” Schools should guide parents on how to provide constructive academic support.

Table 14: Pupils' Confidence During Math Lessons

Feeling Toward Math Lessons	Frequency	Percentage
Excited	12	40%
Scared	10	33%
Bored	8	27%

Source: primary field data(2025)

Only 40% of students feel excited about math. The rest report fear or boredom. These emotions, shaped by previous experiences or stereotypes, can limit participation. Engaging and inclusive methods are needed to increase enthusiasm and retention.

Table 15: Inferential Analysis – Gender and Math Confidence

Gender	**Mean Confidence Score**	**Std. Deviation**
Male	3.8	0.6
Female	3.2	0.7
Sig. (2-tailed) = 0.041		

Source: primary field data(2025)

An independent-samples t-test reveals a statistically significant difference ($p = 0.041$) in math confidence between male and female pupils. Males scored higher on average. This confirms that gender influences student confidence levels in mathematics.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a comprehensive discussion, conclusions, and recommendations based on the findings of the study titled "Teachers', Parents', and Pupils' Perceptions on the Influence of Stereotypes on Mathematics Achievement in Secondary SSSchools – Butaleja District." The chapter discusses each of the research objectives in light of the results presented in Chapter Four. The study findings are interpreted through the lenses of relevant theories and existing literature, supported with quotations from respondents, and culminate in conclusions and actionable recommendations for practice and policy.

5.2 Discussion of Findings

5.2.1 Types of Stereotypes Influencing Mathematics Achievement

The findings reveal that gender- and tribe-based stereotypes are prevalent in schools within Butaleja District. A significant number of respondents agreed with the statement that boys are naturally more talented in mathematics than girls. For example, 60% of teachers either agreed or strongly agreed with this stereotype, which aligns with the perceptions of 64% of parents. Pupils confirmed this bias, stating that they often hear such remarks from peers and even teachers.

One pupil noted, "Sometimes when a girl scores highest in math, some classmates say she is just lucky or copying from a boy." This illustrates how deeply ingrained the notion is that mathematics is a male-dominated subject. Additionally, tribal stereotypes also emerged, with both teachers and parents acknowledging that certain communities are perceived to be naturally good at math. This tribal bias may

discourage students from less-favored tribes from actively engaging in math-related activities.

5.2.2 Impact of Stereotyping on Students' Confidence, Attitude, and Performance

The study found a direct link between stereotyping and students' confidence, participation, and performance in mathematics. Over 70% of pupils reported feeling anxious or discouraged when asked to solve math problems publicly. A female student remarked, "Even when I know the answer, I fear raising my hand because they'll think I'm trying to show off like boys." This reveals how internalized gender norms affect classroom dynamics and learning outcomes.

Parents also admitted that societal expectations and gender roles influence how much time girls can dedicate to math. A parent explained, "My daughter does housework after school, but my son is free to do homework. It's just our way." This uneven distribution of time for academic work exacerbates existing gaps in math achievement between genders.

5.2.3 Strategies for Mitigating the Negative Effects of Stereotypes

Respondents proposed several strategies to reduce stereotyping in mathematics. Teachers emphasized the need for inclusive training programs that raise awareness of bias in classroom practices. 80% of teachers agreed that such training can mitigate stereotyping. Pupils stated that having both male and female role models in math would improve their confidence. A female pupil shared, "If I saw more women doing math jobs, I'd believe I could too."

Parents also highlighted the importance of equitable support at home. A parent noted, "We must talk to our children equally about education, not only push the boys." School-wide policies, revised curricula addressing stereotypes, and

sensitization campaigns were other strategies discussed to promote equal opportunities and dismantle existing prejudices.

5.3 Conclusions

The study concludes that stereotypes based on gender and tribe are deeply embedded in the learning environment, affecting both teachers' perceptions and students' performance. These stereotypes hinder girls and certain ethnic groups from reaching their full potential in mathematics. The data supports that negative stereotypes diminish student confidence, limit participation, and impair test performance. Teachers, parents, and school systems have a collective responsibility to deconstruct these biases.

Inclusive teaching practices, balanced role modeling, parental support, and targeted awareness campaigns are essential to enhance mathematics achievement for all students, regardless of gender or background. Only through a united, conscious effort can stereotypes be challenged and equal academic outcomes achieved.

5.4 Recommendations

5.4.1 To the Ministry of Education and Curriculum Developers

- Integrate gender- and culturally-responsive content into the national curriculum to challenge stereotypes.
- Promote mentorship programs that highlight female and minority achievers in STEM fields.
- Fund in-service teacher training focused on inclusive pedagogical practices.

5.4.2 To Teachers and School Administrators

- Engage students equally regardless of gender or background.
- Organize school-based sensitization sessions to raise awareness on the impact of stereotypes.

- Encourage peer mentoring programs to build confidence in learners who face stereotyping.

5.4.3 To Parents and Guardians

- Provide equal support to both boys and girls in academic subjects.
- Challenge household stereotypes that allocate more chores to girls than boys.
- Engage actively in their children's academic progress, especially in subjects like math.

5.4.4 To the Students

- Build peer support networks that encourage each other in academic pursuits.
- Speak out when encountering unfair treatment or stereotyping.
- Focus on personal effort and ignore limiting societal labels.

5.5 Areas for Further Research

Further studies could explore how these stereotypes affect long-term career choices in STEM, the role of media in reinforcing gender norms in education, and a longitudinal study comparing stereotype effects in urban versus rural school settings.

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APPENDIX I:QUESTIONNAIRE FOR TEACHERS

Title: *Teachers' Perceptions on the Influence of Stereotypes on Mathematics Achievement in Secondary Schools – Butaleja District*

Section A: Background Information

Gender: ☐ Male ☐ Female

Teaching Experience: _____ years

Level of Education: ☐ Diploma ☐ Bachelor's ☐ Postgraduate ☐ Other: _____

Subjects Taught: _____

Section B: Likert Scale Questions

Scale: 1 – Strongly Disagree | 2 – Disagree | 3 – Neutral | 4 – Agree | 5 – Strongly Agree

Obj.	No.	Statement	1	2	3	4	5
i	1	Boys are naturally more talented in mathematics than girls.	☐	☐	☐	☐	☐
i	2	Girls tend to avoid math-related subjects due to societal expectations.	☐	☐	☐	☐	☐
i	3	Teachers' expectations are influenced by gender stereotypes.	☐	☐	☐	☐	☐
i	4	Cultural beliefs shape students' attitudes toward mathematics.	☐	☐	☐	☐	☐
i	5	Some tribes are perceived to be better in math than others.	☐	☐	☐	☐	☐
ii	6	Stereotypes reduce students' confidence in mathematics.	☐	☐	☐	☐	☐
ii	7	Stereotypes affect students' math test performance.	☐	☐	☐	☐	☐
ii	8	Girls' negative attitudes in math are linked to cultural beliefs.	☐	☐	☐	☐	☐
ii	9	Classroom gender dynamics affect math performance.	☐	☐	☐	☐	☐

Obj.	No.	Statement	1	2	3	4	5
ii	10	Stereotyping leads to lower motivation in math.	☐	☐	☐	☐	☐
iii	11	Inclusive training reduces stereotyping in teaching math.	☐	☐	☐	☐	☐
iii	12	Equal class participation helps address math stereotypes.	☐	☐	☐	☐	☐
iii	13	Curriculum should address stereotypes in math.	☐	☐	☐	☐	☐
iii	14	Both male and female math role models are influential.	☐	☐	☐	☐	☐
iii	15	Parental support helps overcome stereotypes in math.	☐	☐	☐	☐	☐

Section C: Structured Questions

What observable stereotypes do you think exist among your students regarding math?

Have you received any training on how to handle stereotypes in the classroom?
☐ Yes ☐ No
If yes, briefly describe: _____

In your opinion, what can schools do to reduce stereotypes in math education?

APPENDIX II: QUESTIONNAIRE FOR PARENTS

Title: *Parental Perceptions on the Influence of Stereotypes on Mathematics Achievement in Secondary Schools – Butaleja District*

Section A: Background Information

Gender: ☐ Male ☐ Female

Relationship to the child: ☐ Mother ☐ Father ☐ Guardian

Level of Education: ☐ No formal ☐ Primary ☐ Secondary ☐ Tertiary ☐ University

Child's Gender: ☐ Male ☐ Female

Section B: Likert Scale Questions

Scale: 1 – Strongly Disagree | 2 – Disagree | 3 – Neutral | 4 – Agree | 5 – Strongly Agree

Obj.	No.	Statement	1	2	3	4	5
i	1	Boys are naturally more capable in mathematics than girls.	☐	☐	☐	☐	☐
i	2	Girls are discouraged from math careers in our community.	☐	☐	☐	☐	☐
i	3	Parents expect boys to do better in math.	☐	☐	☐	☐	☐
i	4	Certain tribes are seen as more mathematically gifted.	☐	☐	☐	☐	☐

Obj.	No.	Statement	1	2	3	4	5
i	5	Girls' home responsibilities affect their math performance.	☐	☐	☐	☐	☐
ii	6	Stereotypes affect my child's attitude toward mathematics.	☐	☐	☐	☐	☐
ii	7	My child fears math due to societal pressures.	☐	☐	☐	☐	☐
ii	8	My child has lost confidence in math due to expectations.	☐	☐	☐	☐	☐
ii	9	Gender roles influence time spent on math at home.	☐	☐	☐	☐	☐
ii	10	Girls doubt their math ability more than boys.	☐	☐	☐	☐	

Section C: Structured Questions

Have you ever discussed math performance with your child?

☐ Yes ☐ No

If yes, what was the nature of the discussion?

_____

What kind of support do you give your child to improve in mathematics?

What can parents do to help children overcome negative stereotypes in math?

APPENDIX III: INTERVIEW GUIDE FOR PUPILS

Title:

Exploring the Influence of Stereotypes on Mathematics Achievement among Secondary School Pupils in Butaleja District

Purpose:

This interview aims to collect information from students about their experiences, perceptions, and opinions on stereotypes and how they influence their confidence, attitude, and performance in mathematics, as well as to gather ideas on how these effects can be reduced.

Instructions to the Interviewer:

Introduce yourself and the purpose of the study.

Assure the respondent that the information will be kept confidential and is only for academic purposes.

Use a friendly, non-judgmental tone.

Ask follow-up or probing questions where necessary.

Ensure responses are recorded accurately (audio or notes).

Section A: Background Information

Gender: _____

Age: _____

Class/Form: _____

School Name (optional): _____

Section B: Interview Questions

Objective 1: To examine the types of stereotypes that influence mathematics achievement

Do you think boys and girls are treated the same way in math classes? Why or why not?

Have you ever heard people say that boys are better than girls in math? What do you think about that?

Are there certain tribes or communities in your school that are believed to be better at math?

Have your teachers or classmates ever made you feel that you are not good at math because of your gender or background?

How do such beliefs affect how you view math as a subject?

Objective 2: To assess the impact of stereotyping on students' confidence, attitudes, and performance

How do you feel when it's time for a math lesson? (Prompt: Excited, scared, bored, etc.)

Do you feel confident answering math questions in class? Why or why not?

Have you ever performed poorly in math and felt it was because of what people expect from you based on your gender or tribe?

Do you think your classmates' opinions influence your performance or attitude in math?

How do you think these beliefs and comments from others affect your math performance?

Objective 3: To identify strategies for mitigating the negative effects of stereotypes

What can teachers do to help make math more enjoyable and fair for both boys and girls?

What kind of support do you wish to receive at home to help you perform better in math?

Do you think having both male and female role models in math would help you feel more confident? Why?

How should schools and communities address the issue of stereotypes in subjects like mathematics?

If you were to advise a friend who feels discouraged in math because of a stereotype, what would you say?

Section C: Closing

Is there anything else you would like to share about how you feel about mathematics and how others see your ability?

Do you have any suggestion that might help improve mathematics achievement for all students?

APPENDIX IV: INTRODUCTORY LETTER

UGANDA CHRISTIAN
UNIVERSITY
A Centre of Excellence in the Heart of Africa
MBALE UNIVERSITY COLLEGE

Office of the Academic Registrar

Permitted by DEO Butaleja DHG
9TH/8/2025.

To THE OFFICE OF
THE D.E.O BUTALEJA
DISTRICT.

Dear Sir/Madam,

Re: Academic Research

Christian greetings!

We are honored to introduce to you Mr. Mrs./Miss. OKELLO ROBERT.

Of Registration Number; J23/MUC/BED/075 pursuing a Masters' Degree/Postgraduate Diploma / Bachelor's Degree Bachelors Degree

He/ she is required to carry out an academic research on the topic

EFFECT OF STEREO-TYPING ON MATHEMATICS ACHIEVEMENTS IN SECONDARY SCHOOLS IN BUTALEJA DISTRICT.

and thereafter produce a well bound hard cover research report (**MAROON**) in color for undergraduate and three (**BLACK**) copies for Postgraduate students as a University requirement for the award of a degree/diploma in the academic discipline that he / she is pursuing.

We shall be grateful for the help you may offer to him or her accordingly.

Thank you.

Allowed to carry out research.
11/8/2025
Deputy Head Received

Yours faithfully,

UGANDA CHRISTIAN UNIVERSITY
14 MAR 2025
ACADEMIC REGISTRAR
MBALE UNIVERSITY COLLEGE

ST. MARY'S SEC. KAPIKA
P.O.BOX
"With God Education is Light"

Mr. Akampurira Timothy

Academic Registrar

Permission granted
15/8/2025

HASAHYA SECONDARY SCHOOL - KACHONGA
P.O. Box 575,
Mbale - Uganda

APPENDIX V: MAP OF BUTALEJA DISTRICT SHOWING THE RESEARCH AREA