

Social Element Hindering the Learning of Mathematics in Senior Secondary Schools in Waterloo

Ackmed Chebli
Freetown Polytechnic

Abstract:- This study investigate the relationship between social vises and how it's effective the teaching and learning of mathematics in senior secondary schools. A sample of ten mathematics teachers and sixty students were randomly selected from five senior secondary schools in Waterloo. The study aimed to answer major questions on how various social vises such as entertainment industry, mobile phones and social media networks, peer groups and friends, and family education and socio-economic status affect the teaching and learning of mathematics. The results indicated that many of the elements affecting the teaching and learning of mathematics occurred outside the classroom. The study recommended that schools establish an organized CTA body to regularly inform parents on their child's performance in mathematics and engage community stakeholders in addressing the situation.

Keywords:- *Included Social Factors, Effective Teaching and Learning, Entertainment Industry, Social Media Networks, Peer Groups, Family Education, and Socio-Economic Status.*

I. BACKGROUND OF THE STUDY

Generally, mathematics is classified as a critical subject that deals with numbers, quantities, and shapes. Kitta (2004) state that mathematics equips learners with knowledge and skills which are applicable in various fields. Mathematics is also a fundamental tool that are commonly use in scientific and technological fields to drive the socio-economic development of every nation.

However, the performance of students in mathematics in the West Africa Senior Secondary Schools Examination (WASSCE) in Sierra Leone has been consistently poor due to various social factors that impede effective teaching and learning. Some parameters like admission points, socio-economic status, and school background are the social factors that affect the effective teaching and learning of mathematics in senior secondary schools. Considine and Zappala (2002) argue that socio-economically advantaged families foster high levels of achievement in their children. Also sociocultural theorists advocate for sociocultural approaches to learning, arguing that individuals cannot be considered in isolation from their social context (Vygotsky, 1998; Mahn, 2003).

The family and the school are the two principal agencies that powerfully shape children's learning experiences. However, their influence is constrained by the wider social and cultural systems within which they operate (Acato, 2006). Diverse cultural backgrounds, social conditions, family arrangements, and school organization factors affect the learning outcomes of students. The relationship between family socio-economic status and students' learning outcomes is well-established in sociological research (Acato, 2006). Studies indicate that students from low social status families do not perform as well as they potentially could at school compared to students from higher socio-economic backgrounds (Graetz, 2005). However, most studies compare students across all social backgrounds to conclude how social status affects various aspects of teaching and learning mathematics outcomes.

In 2006, Portes and Macleod found that the type of school a student attends influences their educational outcomes. While some US researchers discovered that social variables continue to impact the teaching and learning of mathematics, even after controlling for different school types, the school context influences the strength of the relationship between social factors and effective teaching and learning. Spartes (2009) found that research in Britain indicates that schools have an independent effect on student attainment. In Australia, studies using the longitudinal surveys of Australian youths have shown that students attending private Non-Catholics Schools were significantly more likely to stay in school than those attending state schools, and students from independent private schools were more likely to achieve higher scores. The nature of the school a child attends depends largely on socially related causes.

Nightlife entertainment, such as pubs, nightclubs, and bars, has reduced the interest of senior secondary school students in this part of the country. More senior secondary students in this part engage in nightlife activities instead of focusing on improving their learning activities. The freedom of students' lives makes them easily susceptible to persuasion by others. Many people believe that nightlife entertainment is one social factor that affects senior secondary school students' learning quality.

Social media networking, such as the use of Facebook, WhatsApp, TikTok, and Twitter, is widely used by the youth, especially among teens in the second cycle

institutions. According to Boyd (2014), social media systems seem to be the most widely used among the youth. An increase in sophisticated technology has made social networking a popular means of communication. People of all ages, especially teenage students, are now caught up in this social media fever, spending a chunk of their time on Face booking, Tweeting, or What sapping.

While older folks use means like radio, television, and newspapers to get information, the younger generation, especially students, prefer to utilize social media to assemble reading materials and for most of their daily activities. Statistics have revealed that there are presently over 3.4 billion global internet users with an internet penetration rate of 46% of the world population, a growing discrepancy of 3% from the past 6 years (Buhari, Ahmed, and Ashara, 2014). Reports from Facebook, which is the largest social media platform, in 2016 indicated that its active user's base per month was almost.

In Lavy and Schlosser (2007), Hamm et al. argued that peer groups are critical for adolescent psychological growth, social compassion, and self-evaluation. Peer groups have a significant impact on almost all aspects of adolescent growth, including their attitude towards education, and studies show that they influence academic performance. Peer groups, according to Castrogiovanni (2002), are small groups of similar-aged, close friends who share the same activities. They provide a healthy intermediary for youth to learn negotiating skills, solve social problems, and act as positive role models.

However, negative peer group influences can lead to poor academic performance. Steinberg (2005) defined academic performance as the multi-dimensional ability of students, intricately associated with human growth, cognitive, emotional, and social physical development. Positive peer influence can inspire students' academic vigor and motivation for achievement, while negative influence can harm academic performance. Stronger students can have a positive influence on their peers, thus improving overall academic performance.

During adolescence, peer relations are more prominent, and social stimuli can either positively or negatively impact decision-making scenarios. Adolescents are sensitive and highly responsive to social stimuli, and this can set the stage for a hyperbolic approach sensitization effect of peer context on decision making. According to Olalekan (2016), peer groups have a significant impact on students' learning, and students feel more comfortable among their peers. Katz (in Olalekan, 2016) noted that the nature of a peer group determines its impact on the motivation and achievement of its members.

In addition to peer influence, familial involvement is critical for maximizing students' potential in school. The European Commission considers familial participation a significant indicator of the quality of schooling. In Sierra Leone, education contributes to national development through the provision of an appropriate human capital that

helps spur productivity and eliminate poverty, disease, and ignorance (FDRE, 2001). Female education, in particular, has numerous benefits, including increased longevity, family health and nutrition, reduced fertility rates, and reduced related child mortality rates (Psacharopoulos & Patrinos, 2002).

Moreover, private returns to higher education have increased over time, raising issues of financing and equity, while social returns to schooling remain high, above 10 percent at the secondary and higher education levels (Psachopoulos & Patrinos, 2004, 2018).

➤ *Statement Problem*

Students face numerous challenges in their pursuit of academic success in mathematics, with many of these problems stemming from outside the classroom. Such problems include environmental, economic, political, and social factors, such as broken homes, illiterate parents, poverty, and the outbreak of entertainment, among others, affecting students in Waterloo. These factors threaten to distract students and hinder their performance in mathematics at the West Africa Senior Secondary Schools Examination (WASSCE). Meanwhile, many mathematics teachers struggle to motivate and sustain their students' interest and attention towards available learning outcomes in mathematics. This study aims to investigate the social factors affecting effective teaching and learning of mathematics in senior secondary schools in Waterloo.

➤ *Aim of the Study*

The study aims to investigate the social element affecting effective teaching and learning of mathematics in senior secondary schools.

➤ *Objectives of the Study*

The study seeks to determine the following;

- How the entertainment industry affects the teaching and learning of mathematics.
- How social media networks, such as Facebook, WhatsApp, Tiktok affect the learning of mathematics.
- How family education and socio-economic status affect the teaching and learning of mathematics.
- How peer groups and friends affect the teaching and learning of mathematics in senior secondary schools in Waterloo.

➤ *Justification*

The findings of this study will benefit various groups, including teachers, students, parents, the Parents Teachers Association (PTA), educational administrators, society at large, researchers, and school guidance counsellors, in several ways. For instance, teachers will better understand their students' backgrounds beyond the classroom, which may pose challenges in teaching and learning. Students will realize that their poor performance may not be their fault alone, particularly those from low-income families, which may reduce their frustration and dropouts. Parents will understand the importance of improving their educational

and socioeconomic status, which may influence their children's academic performance in mathematics.

Educational administrators will use the findings to formulate policies that promote equal educational opportunities for all children, while researchers will benefit from the contribution to the literature on the effect of social factors on student academic performance. School guidance counsellors will be better placed to guide and counsel students on personal and social interactions, academic performance, and career choice.

➤ *Limitations of the Study*

The researcher faced several constraints in completing this study, including time, financial, and resource constraints, such as lack of access to library and internet facilities.

II. LITERATURE REVIEW

➤ *Conceptual Framework*

The term "social" is used to refer to cultural, economic, and psychosocial factors that impact our lives also social factors include variables arising from culture, environment, community, family, organization, society, government, the state, media, technology, religion, ideology, discourse, language, communication, and influence an individual's perception and behavior. Sociology is concerned with researching, identifying, and critically examining social factors and their impact on individuals and communities, providing a clearer understanding of the issue in relation to teaching and learning (Braveman, 2011).

Social factors encompass circumstances, characteristics, and aspects of humanity that influence and affect the way we live and behave (Marmot, 2005), ranging from mild to extreme impacts on life. Examples may include socioeconomic status, religion, race, number of children, and political affiliation. For instance, a person's family income level can affect whether they receive quality education and the type of school they attend, which in turn determines the type of qualifications they earn and the jobs they get. Sociological factors are causes of human behavior, including both positive and negative outcomes. Therefore, sociological factors may well include any of the above but are explored using appropriate theories, concepts, models, methodologies, and methods.

➤ *Theoretical Framework*

The social learning theory by Albert Bandura and Walter, published in 1977, served as the guiding framework for this study. This theory proposes that new behaviors can be acquired through observation and imitation of others. Learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement. The process of vicarious reinforcement, where a particular behavior is rewarded regularly, leads to its persistence, while constant punishment leads to its desistance.

Bandura and Walters developed the social learning theory to account for the weaknesses of learning approaches that do not consider social variables, particularly in the acquisition of novel responses in interpersonal contexts. The key tenets of the social learning theory are that learning is a cognitive process that takes place in a social context, and it can occur by observing a behavior and its consequences. Learning involves the extraction of information from observations and decision-making about behavior, and it can occur without observable changes. Reinforcement plays a role in learning, but it is not entirely responsible, as cognition, environment, and behavior mutually influence each other.

The social learning theory draws heavily on the concept of modeling, which occurs through live models, verbal instructions, and symbolic means in the media. The information gleaned from observation is influenced by the type of model, attention, retention, reproduction, and motivation, all of which are impacted by observer and event characteristics. The theory of cultural intelligence, which posits that humans possess specific behaviors and skills that enable them to exchange cultural information, is aligned with social learning theory. Social learning theories emphasize that social factors, such as family education, socioeconomic status, and peer groups, play a significant role in the teaching-learning process. Maximizing learning, therefore, requires addressing these social issues.

➤ *Empirical Studies*

• *Empirical Studies of Social Factors Worldwide*

According to Smith (2004), a student's family background can influence their performance in mathematics. Students from different cultural backgrounds can have varying levels of interest and experience with mathematics, and cultural views and attitudes towards mathematics education can also affect their performance. Additionally, students studying higher-level mathematics are influenced differently than those studying lower-level mathematics or who choose not to study mathematics at all. One of the most consistently observed phenomena in education is the impact of a student's home background on their achievement. Students whose parents have higher levels of education, more prestigious occupations, or greater income tend to have higher achievement than those whose parents have lower socioeconomic status.

Limb & Fullarton (2011) found in their study of the United States and Australia, using data from the Trends in International Mathematics and Science Study (TIMSS), that students with more family cultural resources, such as books at home, and those from two-parent rather than single-parent families tend to have higher achievement levels in mathematics. Molina (2017) also found that negative peer pressure can have a negative impact on students' performance in mathematics, leading to cutting classes and absenteeism.

- *Empirical Studies of Social Factors in Africa*

In sub-Saharan Africa, socioeconomic factors such as family education and socioeconomic status, place of residence, and teachers' qualifications strongly affect the effective teaching and learning of mathematics. In a study by Idoko, Anyebe, Ngwu and Iwebo (2017), unprofessional teaching practice was found to adversely affect students' learning, while the use of professional teachers as principals, administrators, form teachers, and counselors improved students' academic performance. Other factors that were found to affect learning included the provision of students' primary needs, students' self-concept, and the occasional giving of rewards.

In Sierra Leone, poverty is a major factor that affects the education of senior secondary school students. Children born into less privileged homes are likely to drop out of school due to a lack of necessary learning materials. Parental attitude and support are also identified as factors that negatively affect teaching and learning. The home has a great deal of influence on girls' participation and level of success attained in their educational careers. Family education attainments have been found to be more significant than economic factors in explaining children's educational outcomes.

- *Summary of Literature Review*

The reviewed studies show that social factors are any determinants that have the capacity to influence all aspects of our social life. They arise from culture, environment, community, family, organization, society, government, the state, the media, technology, and more. The impact of social factors on students' performance in mathematics is significant and requires careful consideration.

III. METHODOLOGY

- *Introduction*

This chapter presents the research methods and techniques that were used in conducting the study. It begins by introducing the area of study and describing the research design and data collection instruments. It also discusses the population and sample that were considered in the study, as well as the methods of data collection, data validity and reliability, and ethical considerations.

- *Area of Study*

The study focused on the social factors affecting the effective teaching and learning of Mathematics in senior secondary schools in Waterloo, a city in the Western Area of Sierra Leone. Waterloo was chosen as the area of study because no previous research had been done on this topic in the area, and because it had a diverse range of public, community, and private schools.

- *Research Design*

The study employed a survey research design, using a cross-sectional survey method that involved both quantitative and qualitative research approaches. The survey was conducted among mathematics teachers and students in five randomly selected senior secondary schools in

Waterloo, as well as educational administrators. The quantitative approach helped to generate numerical data that could be transformed into usable statistics, while the qualitative approach helped to study attitudes, opinions, behaviors, and other defined variables of the population.

- *Study Population*

The study population consisted of teachers, students, and educational administrators in senior secondary schools in Waterloo. The targeted population of the sample was a large group of people who shared one or more characteristics that were relevant to the research study.

- *Sample Size*

Ten mathematics teachers, 60 students, five academic masters, and five heads of schools were selected for the study. These individuals were chosen through a combination of purposive and simple random sampling methods, with the aim of ensuring that the sample was representative of the total population under study.

- *Sampling Procedure*

Purposive sampling was used to select education officials and heads of schools who were involved in monitoring educational services in schools, while random sampling was used to choose sample units from the entire population of teachers and students. To avoid bias in selecting students for focus group discussions, a random selection process was used, where pieces of paper labeled "Yes" or "No" were placed in a box, and a certain number of students were allowed to pick a piece of paper from the box. Those who picked papers labeled "Yes" were selected for the focus group discussions.

Overall, the study used a combination of quantitative and qualitative research approaches, as well as purposive and random sampling methods, to gather data on the social factors affecting the effective teaching and learning of Mathematics in senior secondary schools in Waterloo.

- *Methods of Data Collection*

For this study, the researcher utilized both primary and secondary data collection instruments. Primary data was collected through interviews, observations, focus group discussions, and questionnaires, while secondary data was obtained through documentary review. The use of multiple instruments ensured that no single source of information was relied upon, which could have led to biasness or distorted information (Kothari, 2000).

- *Validity and Reliability of Data Collection Instruments*

To establish the validity of the instruments used, a pilot study was conducted before the actual data collection. The instruments were tested by providing them to classroom teachers in Waterloo and presenting them to the supervisor for comments and improvement. Any unsuitable items were removed, and necessary adjustments were made. To ensure the reliability of the collected information, some items in the questionnaire, focus group discussions, and interviews were asked more than once to check for consistency in responses from the participants.

➤ *Data Analysis Procedures*

Data analysis is the process of editing, coding, classifying, and tabulating collected data (Kothari, 2004). In this study, both quantitative and qualitative data were collected and analyzed using different methods.

Firstly, quantitative data collected through the questionnaire was analyzed using Statistical Package for the Social Sciences (SPSS) software, which is used to analyze quantitative information. The data was coded, sorted, and conclusions were drawn.

Secondly, the qualitative data obtained through interviews, observations, and focus group discussions were analyzed.

IV. FINDINGS AND DISCUSSION

➤ *Introduction*

This chapter presents the findings of the study which were gathered through questionnaires, interviews, observations, and focus group discussions. The questionnaire was distributed to mathematics teachers, academic masters, and head of schools. Mathematics teachers were also interviewed and a focus group discussion was conducted with a group of 12 students from each school. The researcher also made observations during the data collection process. The findings are presented using tables, bar charts, and narrations in response to the research questions, interviews, focus group discussions, and observations. Subsequently, the findings are discussed in relation to the existing literature.

➤ *Demographic Profile of Teachers*

This section presents the demographic profile of the teacher participants, which includes gender, educational attainment, number of years at work, and length of teaching experience.

• *Educational Attainment*

Table 1 shows that almost half (50%) of the teacher participants held a bachelor's degree, while 30% held a master's degree in education or other professions. Twenty percent (20%) of the participants held a Higher Teachers' Certificate (Secondary).

• *Length of Teaching Experience*

The results presented in Table 2 indicate that the majority of the teacher participants had extensive teaching experience. Fifty percent (50%) had been teaching for 6 to 10 years, 40% for more than 11 years, and 10% had teaching experience of 1 to 5 years.

• *Gender*

Table 3 indicates that out of the 10 teacher participants, approximately 70% were male and 30% were female teachers. The findings suggest that male teachers outnumbered female teachers in this study.

Table 1 Demography Profile of Teachers

Education level	Frequency	Percent (%)	Cumulative Percent(%)
Master's in education	3	30	30
Degree in education	5	50	50
Higher Teachers' certificate(s)	2	20	20
Sub total	10	100	

Table 2 Length of Teaching Experience

Working Experience	Frequency	Percent	Cumulative Percent
Below 5years	1	10	10
6-10 years	5	50	50
11 years and above	4	40	40
Sub total	10	100	

Table 3 Gender

Gender	Frequency	Percent	Cumulative Percent
Male	7	70	70
Female	3	30	30
Sub total	10	100	

• *School Leadership*

The researcher collected data from five schools and observed a slight bias in maintaining gender balance in leadership, as three schools were led by headmasters and two by headmistresses. However, in all five schools, the mathematics departments were equally divided between male and female teachers, with a 1:1 ratio.

• *Students*

The researcher gathered information from students using a focus group discussion method. Each school had 12 randomly selected students from sss1 to sss3. The study utilized various instruments for data collection, including interviews, questionnaires; focus group discussions, and observation. Findings were presented thematically based on the research objectives, which were:

How the entertainment industry (nightclubs, cinemas, bars, disco, and pubs) affects the teaching and learning of mathematics in senior secondary schools in Waterloo?

How the use of mobile phones, especially social media networks such as Facebook, What Sapp, and TikTok, affects the teaching and learning of mathematics in senior secondary schools in Waterloo?

How peer groups and friends affect the teaching and learning of mathematics in senior secondary schools in Waterloo?

How family education and socio-economic status affect the teaching and learning of mathematics in senior secondary schools in Waterloo?

➤ *Questionnaire Return Rate*

The questionnaire return rate is the proportion of returned questionnaires after they were issued to respondents. The researcher aimed to collect data from a sample of 80 participants, including 10 teachers, 60 students, 5 academic masters, and 5 heads of schools from five schools. The researcher issued 80 questionnaires, and 8 teachers, 55 students, 4 academic masters, and 4 heads of schools returned their questionnaires. The return rate exceeded 90%, which was considered adequate for data analysis, as suggested by Mugenda (2003). The details are presented in

Table 4 Questionnaire Return Rate

Respondents	Sampled	Returned	Percentage %
Teachers	10	8	80
Students	60	55	95
Academic Masters	5	4	80
Heads of Schools	5	4	80
Total	80	71	100%

This shows that 90% of the questionnaire was returned which was computer to be used for the study

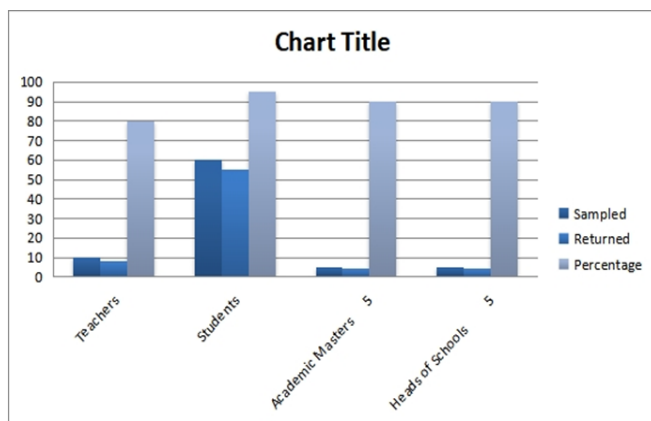


Fig 1 Questionnaire Return Rate

➤ *Gender of Participation*

Out of the teachers who participated in the study 7 were males and 3 were females. 3 Academic masters were males and 2 were females while 4 heads of schools were males and 1 was a female as shown on the

Table 5 Gender of Participation

Participants	Male	Female
Teachers	7	3
Academic Masters	3	2
Heads of Schools	4	1
Percentage %	70%	30%

This shows that there were more males in the field of Mathematics than Females and it could be attributed to the societal believe that mathematics is a male subject which can only be done by the males which inflicts fear on the female to take mathematics related subjects and this leads to poor performance in mathematics especially by the females.

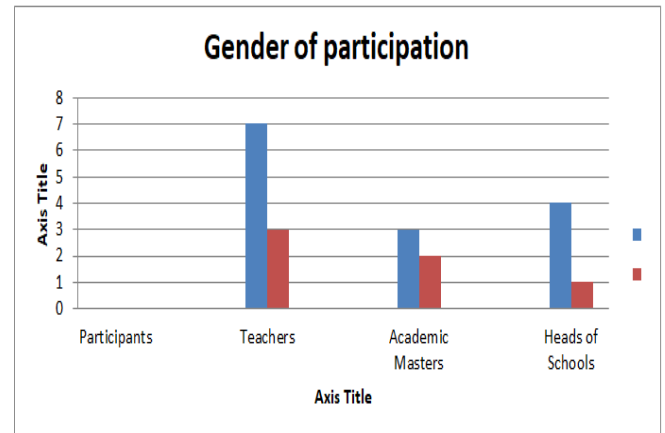


Fig 2 Gender of Participation

➤ *Students Involvement into Nightlife Entertainment Activities*

From the five sample schools, 60 students were interviewed, 80% show strong evidence that their involvement into nightlife entertainment is one of the main social factor that has affected their learning of mathematics. Among the 20 educational personnel (Teachers, Academic Masters and Heads of Schools) involved into this research, 100% agreed that Nightlife entertainment activities has greatly affected the teaching and learning of mathematics in senior secondary schools as shown in the table 6

Table 6 Student’s involvement into Nightlife Entertainment Activities

Participants	Agreed	Disagreed	Total
Students	50	10	60
Educational Personnel	20	0	20
Percentage	87.5%	12.5%	100%

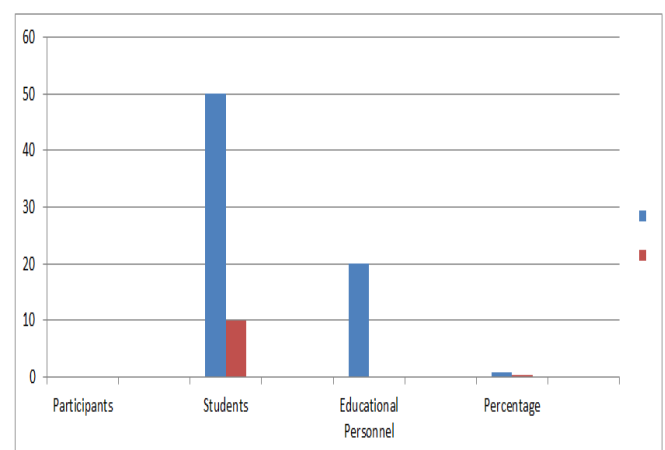


Fig 3 Students involvement into Nightlife Entertainment Activities

➤ *The Rate of Students Mobile Phones users*

In this research, the researcher found out that over 90% of the students in the sample schools have access to mobile phones. In an interview and group discussion forum conducted by the researcher, he was able to know the rate of mobile phones users among the students as shown in the table below. Table 7

Table 7 Percentage of Students Using Mobile Phones

Schools	Mobile Phones Users	Non mobile Phones Users	Total
Peninsular Sen. Sec. School	12	0	12
Lorenzo Gorvie Sen. Sec. School	10	2	12
St Raphael Sen. Sec. School	11	1	12
The school of Excellent Sen. Sch.	10	2	12
Liverpool Islamic Sen. Sec. Sch.	12	0	12
Total	55	5	60
Percentage	92%	8%	100%

The data in Table 7 indicates that more than 90% of students from the sampled schools have access to mobile phones, while only 8% do not use them. The study also found that a majority of students use social media networks such as Facebook, WhatsApp, and TikTok. Analysis of the data revealed that participants spent an average of 30 minutes per day on social media, mostly during the evening hours between 9 pm and 12 am. On average, students spent 47 minutes per day on Facebook, WhatsApp, and TikTok. The study also found that students who engage in social media networks like Facebook are more likely to perform poorly in mathematics due to distractions from irrelevant content.

➤ *Influence of Peer Groups and Friends on Student Learning in Mathematics*

During the study, 87.5% of respondents agreed that peer groups and friends have a significant influence on the teaching and learning of mathematics in senior secondary schools. The researcher found that students are mostly influenced by their peers and friends when it comes to learning mathematics, as shown in the table below.

Table 9 Family Education and Socio- economic Status

Participants	Illiterate	Literate	Total	Poor	Wealthy	Total
Students	55	5	60	50	10	60
Percentage	92%	8%	100%	83%	17%	100%

• *Table 9 Influence of Family Background on Student Learning Mathematics*

The table illustrates that a majority of students in senior secondary schools in this region come from poor and illiterate families. The study found that family background is a major social factor affecting the effective teaching and learning of mathematics in senior secondary schools. The research revealed that most parents are unable to monitor or supervise their children's schoolwork due to their educational level and cannot afford to buy learning materials for their children.

According to Smith (2004), students' cultural backgrounds differ and can affect their motivation to study mathematics. Students from different cultural backgrounds are influenced differently based on parental experiences,

Table 8 Influence of Peer group and friends of student learning mathematics

Respondents	Agreed	Disagreed	Total
Students	50	10	60
Educational Personnel	20	0	20
Total	70	10	80
Percentage	87.5%	12.5%	100%

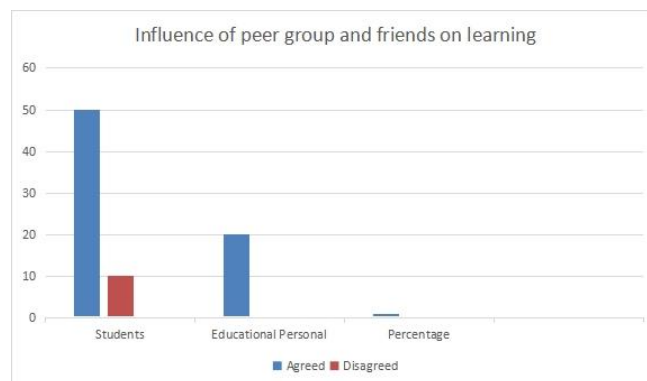


Fig 4 Influence of peer group and friends of students learning Mathematics

From Figure 4, the chart shows that respondents through interviews and group discussion forums conducted by the researcher. It was evidence that senior secondary school student interests of learning are mostly influence by their peers. Many of them lose interest in the study of mathematics because their peers are with the notion that mathematics is a difficult subject.

➤ *Family Education and Socio-Economic Status*

Out of the sample schools, the researcher was able to found out that over 90% of students in this study families were illiterate and over 80% were poor as shown in the table below.

interests in mathematics, and cultural views and attitudes towards mathematics education.

One of the most consistently observed factors in the field is the impact of students' home background on their performance in mathematics. Students whose parents have a higher level of education, a more prestigious occupation, or greater income tend to perform better than students whose parents have a lower socio-economic status.

Summary of Chapter 4 Based on the findings of this study, it was observed that mathematics teachers are facing challenges in improving the performance of their students in public examinations due to various social factors. During focus group discussions held with students in the sample schools, it was discovered that students have a negative

perception towards mathematics, with many finding it difficult to understand. The study also revealed that students' lack of interest in the subject is a major factor contributing to their poor performance. Furthermore, students have a fear of mathematics, which leads to a lack of practice. The mathematics departments of the schools have not put effective mechanisms in place to address this situation, and the society has not provided any support to the schools.

V. SUMMARY

Chapter five provides a summary, conclusions and recommendations of a study on the social factors affecting effective teaching and learning of mathematics in Waterloo, Western Area Rural District, Sierra Leone. The study was carried out in five senior secondary schools in Waterloo and involved mathematics teachers, heads of schools as administrators, and students from sss1 to sss3. The summary includes the research objectives and the sampling techniques used, while the conclusions highlight the influence of social factors on the development of learners and the need for society's support to eradicate the social factors affecting effective teaching and learning of mathematics.

VI. CONCLUSIONS

The study concludes that most teachers prefer student-centered methods of teaching but are hindered by factors such as the background of students, school environments, students' self-effort, and family economic status. Students' engagement in nightlife entertainment activities and the use of social media networks affect their learning, while peer group and friends influence students' decision not to study mathematics.

RECOMMENDATIONS

The study recommends that parents and other stakeholders form stronger CTA's meetings to regularly report students' performance and monitor and supervise their learning activities. Mathematics teachers are encouraged to align their teaching methods with the assessed learning needs and capabilities of students, while students are encouraged to make their study a priority rather than engaging in distractions.

In order to address the issue of students losing interest in mathematics while developing an interest in other science-related subjects such as Physics and Chemistry, the researcher suggests conducting future research to identify individual social factors that contribute to this phenomenon. Additionally, it is recommended that research be conducted to examine the teaching methods used by mathematics teachers that are successful in engaging students and sparking their interest.

Furthermore, the researcher recommends exploring the potential benefits of social media networks such as Facebook, Twitter, Instagram, and WhatsApp for the teaching and learning of mathematics. This would involve

assessing the effectiveness of these platforms in facilitating the acquisition of mathematical knowledge and skills.

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