Checkmating Women Participation in Mathematics and Social Sciences in Higher Education, from 2016 -2023.

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ABSTRACT

Women have been relegated due to the socio- political crisis in the Anglophone regions of Cameroon. The main aim of this article was to investigate the participation of women in mathematics and social sciences in the University of Bamenda, from 2016- 2023. The objectives of the study were to checkmate the extent of women participation in mathematics and social sciences during the period following the Anglophone crisis; the gender differences in the participation of teachers and teacher- researchers in mathematics and social sciences: The design of the study was descriptive. The population of the study was all the teachers and researchers of the University of Bamenda of the 2022/2023 academic session, which numbered 710. The sample was all the teachers and researchers in mathematics and social sciences of the University of Bamenda of the 2022/ 2023 academic session, which numbered 230. The instrument for data collection was a questionnaire developed by the researchers. Two experts from mathematics and social sciences validated it and the reliability was established using Cronbach alpha with a reliability coefficient of 0.81. Four research questions and three hypotheses were formulated to guide the study. The data collected was analyzed using percentages. The findings of the study revealed that: the number of women involved in mathematics and social sciences was very insignificant; also, gender differences exist in mathematics education and social sciences in favour of men. The following recommendations were made: to close the gender gap during the recruitment of teachers for mathematics and social sciences, considerations should be given to the women folk given that more men apply. In addition, women researchers in mathematics education and social sciences can be motivated by offering them scholarships and funding so that the younger generations will be encouraged to participate in these fields.

Keywords: Women, mathematics, social sciences, University of Bamenda, Challenges and perspectives.

INTRODUCTION

Women constitute half the population of Cameroon, and although they are considered internationally as the backbone of the economic development, they have suffered from an unjust social heritage in addition to discriminatory practices both in terms of gender equality and in the society. This has been portrayed in their social, educational and cultural situation especially during the period following the anglophone crisis in Cameroon and COVID- 19 pandemic. Women are disadvantaged since they are weaker. Some have abandoned studies especially in areas like mathematics and social sciences which have been considered as male dominated.

Many women cannot cope with the stress posed by the crisis like the gunshots and lockdowns that characterise the crisis. Even the few women who strive to pursue education prefer to change to other universities in regions where there is no crisis. Some women have been constrained by their husbands to move to regions where there is no crisis. These circumstances have led to a reduction in the female population in the Anglophone regions in general and in the universities in particular thereby causing areas like mathematics and social sciences which have been known to be male dominated to have fewer women. Xie and Liu (2023) asserted that in the long Chinese history, women were disadvantaged with respect to the educational opportunities available and how to attain them. Women were able to gain equal rights in education only in the twentieth century. According to

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Manos (2022), available data have revealed that recent information have aided to portray an almost global picture of gender gaps in learning outcomes right before the COVID- 19 pandemic. Manos further reported that girls are performing better than boys in reading and in science and are catching up in mathematics. But they are still far less likely to be top performers in mathematics because of continuing biases and stereotypes. Gender equality is necessary in learning to ensure that every learner accomplishes their potential. Given that girls and women are more vulnerable with respect to the fact that they receive a lot of confrontations from the warring fractions the military and the rebels, they strive to survive by moving to other regions.

Although some interventions have been made in an attempt to resolve the crisis; a lot of uncertainty is still prevailing thus scaring many people away especially women who have challenges coping with the hardships emanating from the crisis. Therefore, this paper seeks to address the issue of women's underrepresentation in mathematics and social sciences considering the perspectives and challenges, by focusing on the following themes: 1. Concepts and concepts of: Women involvement in mathematics and social sciences in higher education. 2. The academic and socio-economic perspectives of women in mathematics and social sciences in higher education and the state of insecurity. 3. The social and economic challenges of women in mathematics and social sciences in higher education. 4. Ways to contribute to improving the socio-economic status of women in higher education and their economic empowerment in this age of digitalisation and globalisation.

The drive for digitalisation and globalisation in this age has made mathematics and social sciences an important requirement since they are needed in the study of digital processes and most jobs require experts in these areas. As such every nation is on the move to get its citizens abreast with the modern trends. To achieve this, the governments of many nations have made subjects like mathematics and social sciences which are essential for the application of this digital technology and global trends compulsory in the secondary schools. According to Almudena and Pilar (2022), the poor performance of girls and young women in mathematics as compared to their male counterparts is a loss of talent that may disable growth in productivity. Zembar & Blume in Timayi, Ibrahim & Sirajo (2016) the greatest differential in achievement between male and female students is exhibited in mathematical reasoning and geometry; this follows because male students were found to display greater confidence in their mathematics skills, which is a strong predictor of mathematics performance. The significance of this is the fact that gender differences in maths performance can be reflected in the gender disparity in educational choices and future labour market outcomes. Although in the past 70 years women have made great strides in college preparation and graduation rates, women are still under-represented in the higher-paying and maths-intensive STEM fields (science, technology, engineering and mathematics). There is also a trend for them to choose degrees with about 6% lower average earnings than men and 10% lower among the highest earners, those above the 90^{th} percentile of earnings (Bertrand, 2018).

According to Casad, Garasky, Jancetic, Brown, Franks & Bach (2022), national attention has been accorded to the underrepresentation of women in science, technology, engineering and mathematics (STEM); however, the same has not been with gender inequality in the social sciences. These authors observed that although the number of women obtaining postgraduate degrees in the social sciences is increasing, there still exist gender inequalities in women faculty. Regular practices that involve gender inequalities are slower career advancements, stagnant salaries, unequal workloads, work-life conflict, systemic gender biases, underrepresentation in positions of power, and harsh work environments (Gruber, Mendle, Lindquist, Schmader, Clark, Bliss-Moreau, et al. (2020). Cultural biases suggest that once women have achieved parity, gender biases would not be in existence again.

Despite the emphasis on the importance of mathematics and social sciences many students especially the females shun these subjects due to some regrettable circumstances. In the society girls and women are often assigned to perform household duties like cleaning the house, cooking for the family, washing clothes for the entire household and other domestic activities. Many females are easily distracted and derailed by other fellow females who make them have stereotypes that these subjects are not female friendly. These involvements make it difficult for girls and women to give enough time and concentration to courses which require enough practising and efforts like mathematics and social sciences. Mathematics which is a science of numbers demands a lot of application from the students for easy retention. Also, social sciences which involve the science of humanity and the society require the students to understand the functioning of the society and the study has a lot of logical appreciations. These areas of studies pose a lot of challenges to many students and it is even worst for people who may have other preoccupations as observed in the light of girls and women. There is a tendency for women

to drift to areas where they feel there is less stress. However, in a number of countries, women are still experiencing difficulties in terms of accessing the facilities for getting education (Guliyeva, 2024). This researcher opined that among the countries in which this problem is most prevalent, some countries stand out in particular such as Afghanistan, Pakistan, Congo, Cameron, India, Nepal are among the countries where this problem is more experienced. Antón, Malhi, and Fuentes (2018) reported that there is a lower representation of women in areas that are viewed as more authoritarian and prominent, such as cognitive neuroscience, experimental psychology, sports sociology, and biological anthropology. Cheryan, Ziegler, Montoya, and Jiang (2017) observed that since economics is focus on mathematics, many women may shy away from economics due to math related stereotype threats, gender role socialization, and low math self-efficacy. Women in higher education encounter challenges in the areas of research and conference participation. However, for females in particular this expectation of research output is challenging, as illustrated by the 2017 National Research Census NCRIS National Research Infrastructure for Australia ("National Research Infrastructure Census" Australian Government, 2017) which notes that only 25% of research completed in Australia is done by females. The other challenge is career promotion. According to Universities Australia (Universities Australia 2016), female staff members in the early stages of their career make up to 45% of overall academic staff in 2016. However, this decreases to 27.3% at the senior academic level (Level D and above). Lisa, B., Maria, N., Carolyn, R., Lynette, L., Lily, A. A., Kira-Leigh, J, Noelle, O. (2020) asserted that research findings have indicated that greater representation of women in workplaces offers tangible benefits such as increased performance of the organisation, and can create organic change and diversity of institutions.

The role played by women in taking care of the home like planning for the family meals, cleaning the house, preparing the children for various activities hampers their concentration and participation in writing articles and sourcing for funding for their research works. The American Psychological Association [APA], (2017) reported that women leading in faculty are less likely to receive research grants. Jayachandran (2015) observed that women are usually the most exploited and least privileged members of households and as the primary caregivers of their families; they are often overburdened with domestic work for their families. Van derLee and Ellemers (2015) indicated that there is prevalence in gender gap in success rates for research funding in the social sciences (i.e., psychology and anthropology;). The researches opined that according to research findings there exists gender equality at the application stage of funding, but disparities emerge at the award level. According to Gruber et al. (2020) overall, there is less tendency for women to apply for research grants but have an equal chance of funding as men when reviewers concentrate on the quality of the proposed research rather than the investigator's credentials. Women should be empowered to manifest their full potentials. Jauhar & Lau (2018) observed that globally women are usually not well represented in terms of equal access to higher education and employment opportunities. However, Blakemore & Cooksey (2017) in a report indicated that women are faced with circumstances that does not give them the opportunity to attain certain higher qualifications; thus, such attainment remains very low across the regions of Africa. According to Dosunmu and Adeyemo (2018), African women need to acquire higher educational credentials for them to successfully break through the invisible obstacles affecting them at the workplace in order for them to progress in their careers to the highest positions. In their study, Dosunmu & Dichaba (2024) posited that the gross enrolments ratio reports indicated that the number of women accessing higher education is quite low, being about 5, 1 per cent compared to 8.7 per cent for men. This ratio explains the reason(s) why the vast majority of women in the corporate workforce still find it difficult to attain higher positions (UNESCO UIS 2016). Almudena and Pillar (2022) posited that recent developments in our comprehension of the origin of gender stereotypes and their evolution can enable us to reduce gender differences in achievement. What then can be done to encourage women to be more involved in mathematics and social sciences?

Statement of the problem

In this era of digitalisation and globalisation it is expected that there will be an increase in the number of jobs requiring these areas. Thus, many nations have made subjects like mathematics and social sciences compulsory especially at the secondary schools which are required for the acquisition of the skills in these areas of study. Unfortunately, many citizens are not able to get these available jobs because of lack of the requirements needed especially the female folk. Women make up more than half the population of every nation. Unfortunately, they have been relegated to the background by their own stereotypes and society demands. Most women are not

properly orientated to such areas of studies like mathematics and social sciences because there is a tendency that these areas are very demanding. These plunge them in areas where they cannot easily get jobs either because their areas of concentration are over flooded. What can be done to get women more involved in mathematics and socials sciences is the question this study is posing as a problem.

Purpose of the study

The main purpose of the study was to examine the involvements and challenges faced by women in mathematics and social sciences in higher education in the university of Bamenda, from 2016- 2023. To achieve this specifically:

The study focused on the state of women involvement in mathematics and social sciences in higher education during the period following the Anglophone crisis. Given the vulnerable nature of women who tend to escape from challenging situations, there is need to check if the crisis situation could cause them to adopt a defeative tendency or would they be resilient.

The gender differences in the participation of female teachers and teacher- researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis. There is need to find out if the female teachers and teacher researchers are coping with their research expectations like teaching, publishing, attending conferences giving the challenges faced in the crisis region whereby there is a lot of uncertainties.

The academic and socio-economic perspectives of women in mathematics and social sciences in higher education and the state of insecurity. There is need to check if women are giving what they are due with respect to promotions, research grants and other benefits despite the challenges they faced inability to function effectively due to male domination, difficulties to carry out research effectively.

The academic and socio - economic challenges of women in mathematics and social sciences in higher education and the state of insecurity. It is pertinent to check how well women are taken care of and given equal opportunities as men so that they don't always feel relegated or under represented despite the challenges they face at work like not able to do some tasks like the men.

Research Questions

What is the state of women involvement in mathematics and social sciences in higher education during the period following the Anglophone crisis?

What are the gender differences in the participation of teachers and teacher- researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis?

What are the academic and socio-economic perspectives of women in mathematics and social sciences in higher education and the state of insecurity?

What are the social and economic challenges of women in mathematics and social sciences in higher education and the state of insecurity?

Research Hypotheses

Ho_1: There is no significant gender difference in the participation of teachers and teacher- researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis.

Ha_1There is a significant gender difference in the participation of teachers and teacher- researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis

Ho_2:There is no significant gender difference in the academic and socio-economic perspectives of teachers and teacher- researchers in mathematics and social sciences in higher education and the state of insecurity.

Ha_2: There is a significant gender difference in the academic and socio-economic perspectives of teachers and teacher- researchers in mathematics and social sciences in higher education and the state of insecurity.

Ho_3: There is no significant gender difference in the social and economic challenges of teachers and teacher-researchers in mathematics and social sciences in higher education and the state of insecurity.

Ha_3: There is a significant gender difference in the social and economic challenges of teachers and teacher-researchers in mathematics and social sciences in higher education and the state of insecurity

METHODOLOGY

The study adopted the descriptive survey research design. The population of the study was all the teachers and researchers of the University of Bamenda, numbering 710. Purposive sampling was used to sample all the teachers and researchers in mathematics and social sciences of the University of Bamenda, which numbered 230. The instrument for data collection was a questionnaire developed by the researchers. Two experts from mathematics and social sciences validated it and the reliability was established using Cronbach alpha with a reliability coefficient of 0.81. The data were analyzed using simple descriptive statistics of mean and standard deviation to answer the research questions and the hypotheses were tested using t - test. The mean response was categorized on the weighting of the instrument which was agreed at an average point of 2.5 and above while any point below 2.5 was disagreed.

RESULTS

Research Question 1

What is the state of women involvement in mathematics and social sciences in higher education during the period following the Anglophone crisis?

Table 1: Gender representation among social science among social science and mathematics faculties positions by ranks

Discipline	Gender	Instructor or Lecturer (%)	Associate Professor %)	Full Professor (%)
Social Sciences	Men	65%	70%	75%
Social Sciences	Women	35%	30%	25%
Mathematics	Men	87%	100%	100%
Mathematics	Women	23%	0%	0%

Table 1 shows the representation of male and females in the faculties of social sciences and mathematics. It can be observed that women are less represented in both fields from the data on the table.

Research Question 2: What are the gender differences in the participation of teachers and teacher- researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis?

Table 2: Mean analysis of the gender differences in the participation of teachers and teacher- researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis

S/N	Gender Differences	Mean	SD	Decision
1	The female child does all the house chores so has little time to study	3.35	0.91	Agreed
2	Females prefer subjects that do not involve much practice since they have little study time	3.32	1.08	Agreed

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3	The socio-economic background of males affects the mathematics of the females	3.19	0.87	Agreed
4	Teachers create the impression that mathematics and social sciences are meant for boys	2.53	0.85	Agreed
5	Most women prefer literature, sociology, journalism, psychology because they don't involve much concentration	2.54	0.81	Agreed
6	In society, women who study mathematics and social sciences are seen as dogged and may not be submissive to their husbands	2.6	0.78	Agreed
7	Women have low mathematics self-efficacy	2.53	0.8	Agreed
8	Females receive fewer resources from parents and teachers when they pursue male-dominated subjects such as mathematics	2.51	0.72	Agreed
	Cluster Mean	**2.87**	**0.87**	

Results on table two above show that items 1 – 8 on the gender differences have mean ratings between 2.51-3.35 which is above the acceptance region with its cluster mean (M = 2.87, SD = 0.87). This indicates that all the items show gender differences in the participation of teachers and teacher- researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis

Research Question 3: What are the academic and socio-economic perspectives of women in mathematics and social sciences in higher education and the state of insecurity?

Table 3: Mean analysis of the Academic and socio-economic perspectives of women in mathematics and social sciences in higher education and the state of insecurity.

S/N	Academic and Socio-Economic Perspectives	Mean	SD	Decision
9	Women are increasingly obtaining degrees in mathematics and social sciences	2.11	0.59	Disagreed
10	Women are given opportunities by their husbands and parents to go for postgraduate studies in mathematics and social sciences	2.04	0.44	Disagreed
11	Women are given less tasks in their place of work because of their domestic engagements	2.37	0.47	Disagreed
12	Men give women the chance to take up positions where men are more qualified to give women equal opportunities as men	2.17	0.51	Disagreed
13	In the working environment women are given a pride of place because they are more vulnerable	2.35	0.56	Disagreed
14	Females do not choose subjects of study that are believed appropriate for their gender and/or do better in male-dominated subjects such as mathematics	2.21	0.41	Disagreed
	Cluster Mean	**2.31**	**0.46**	

Results on table three above show that items 9 – 14 on Academic and socio-economic perspectives of women in

mathematics and social sciences in higher education and the state of insecurity have mean ratings between 2.04-2.37 which is below the acceptance region with its cluster mean (M = 2.31, SD = 0.46). This indicates that all the items show non respect of the Academic and socio-economic perspectives of women in mathematics and social sciences in higher education and the state of insecurity.

Research Question 4: What are the academic and socio-economic challenges of women in mathematics and social sciences in higher education and the state of insecurity?

Table 4: Mean analysis of the Academic and socio-economic challenges of women in mathematics and social sciences in higher education and the state of insecurity.

S/N	Academic and Socio-economic Challenges	Mean	SD	Decision
15	Women spend less time on research due to their domestic engagements	2.78	0.82	Agreed
16	Men do not allow their wives to further studies because they want to dominate	2.9	0.74	Agreed
17	Mathematics and social sciences are not female friendly	3.14	0.76	Agreed
18	Women avoid careers that are authoritarian because of men's chauvinism	3.03	0.87	Agreed
19	Women perceive men perform better in mathematics and social sciences and so shy away	2.81	0.79	Agreed
20	Jobs requiring mathematics and social sciences cannot be taken up by women because they lack the necessary skills	3.21	0.95	Agreed
21	Men are often favoured over women in most jobs requiring mathematics and social science skills because women are seen as more risk-averse	2.61	0.85	Agreed
	Cluster Mean	2.87	0.89	Agreed

Results on table four above show that items 15 – 21 on Academic and socio-economic challenges of women in mathematics and social sciences in higher education and the state of insecurity have mean ratings between 2.61-3.21 which is above the acceptance region with its cluster mean (M = 2.87, SD = 0.89). This indicates that all the items show the existence of Academic and socio-economic challenges of women in mathematics and social sciences in higher education and the state of insecurity.

Ho_1: There is no significant gender differences in the participation of teachers and teacher- researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis

Table 5: t-test of the mean score of the gender differences in the participation of teachers and teacher-researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis

SN	Items Statement on Gender Differences	Female Teachers (N=62)	Male Teachers (N=168)	Df	t-cal	Sig.	Dec.
1	The female child does all the house chores so has little time to study	0.81 (0.36)	0.55 (0.29)	230	-7.01	0	S

2	Females prefer subjects that do not involve much practice since they have little study time	0.44 (0.55)	0.46 (0.26)	230	-5.24	0	S
3	The socio-economic background of men affects the mathematics of the females	0.65 (0.37)	0.55 (0.25)	230	-2.82	0	S
4	Teachers create the impression that mathematics and social sciences are meant for boys	0.44 (0.54)	0.55 (0.35)	230	-3.84	0	S
5	Most women prefer literature, sociology, journalism, psychology because they don't involve much concentration	0.84 (0.54)	0.37 (0.26)	230	-1.71	0.1	NS
6	In the society, women who study mathematics and social sciences are seen as dogged and may not be submissive to their husbands	0.57 (0.54)	0.54 (0.35)	230	-2.01	0.03	S
7	Women have low mathematics self-efficacy	0.65 (0.47)	0.47 (0.26)	230	-3.1	0	S
8	Females receive less resources from parents and teachers when they pursue male-dominated subjects such as mathematics	0.60 (0.54)	0.54 (0.43)	230	-1.43	0.17	NS
9	Women are increasingly obtaining degrees in mathematics and social sciences	0.64 (0.45)	0.55 (0.26)	230	-3.14	0	S
10	Women are given opportunities by their husbands and parents to go for postgraduate studies in mathematics and social sciences	0.70 (0.53)	0.54 (0.41)	230	-8.33	0	S
11	Women are given less tasks in their place of work because of their domestic engagements	0.59 (0.54)	0.54 (0.32)	230	-4.15	0	S
12	Men give women the chance to take up positions where men are more qualified to	0.57 (0.43)	0.54 (0.41)	230	-3.89	0	S

	give women equal opportunities as men						
13	In the working environment, women are given a pride because they are more vulnerable	0.85 (0.42)	0.54 (0.42)	230	0.12	0.87	NS
14	Females choose subjects of study that are believed appropriate for their gender and/or do worse in male-dominated subjects such as mathematics	0.40 (0.52)	0.54 (0.14)	230	-7.04	0	S
15	Women spend less time on research due to their domestic engagements	0.56 (0.52)	0.54 (0.41)	230	-1.61	0.11	NS
16	Men do not allow their wives to further studies because they want to dominate	0.77 (0.42)	0.54 (0.42)	230	-9.11	0	S
17	Mathematics and social sciences are not female-friendly	0.59 (0.52)	0.54 (0.14)	230	-1.64	0.13	NS
18	Women avoid careers that are authoritarian because of men's chauvinism	0.74 (0.42)	0.54 (0.41)	230	-9.08	0	S
19	Women perceive men perform better in mathematics and social sciences and so shy away	0.74 (0.52)	0.54 (0.41)	230	-1.32	0.25	NS
20	Jobs requiring mathematics and social sciences cannot be taken up by women because they lack the necessary skills	0.84 (0.42)	0.54 (0.68)	230	-0.36	0.68	NS
21	Men are often favored than women in most jobs requiring mathematics and social science skills because women are seen as more risk-averse **Cluster t**	0.68 (0.52)	0.54 (0.14)	230	-7.68	0	S

Result in table 5 showed the t-test analysis of the significant difference between the mean score of teachers and teacher- researchers in mathematics and social sciences in higher education. Result showed that the cluster t-value of -7.68 with a degree of freedom of 230 and a significant value of 0.05 was obtained. Since the significant value of 0.05 is equal to 0.05 set as level of significance, this means that the null hypothesis which stated that there is no significant difference between the mean score of male and female teachers and teacher- researchers

participation in mathematics and social sciences in higher education is rejected. Inference drawn therefore is that the mean score of male and female teachers and teacher- researchers participation in mathematics and social sciences in higher education differ significantly. This significant difference in their mean score may be due to the high mean score responses in favour of men.

Ho_2: There is no significant gender difference in the academic and socio-economic perspectives of teachers and teacher- researchers in mathematics and social sciences in higher education and the state of insecurity.

Result in table 5 also showed significant gender difference in the academic and socio-economic perspectives of teachers and teacher- researchers in mathematics and social sciences in higher education and the state of insecurity. This significant difference in their mean score may be due to high mean score of the responses which do not respect women's perspectives.

Ho_3: There is no significant gender difference in the social and economic challenges of teachers and teacher-researchers in mathematics and social sciences in higher education and the state of insecurity.

Result in table 5 also showed significant gender difference in the academic and socio-economic challenges of teachers and teacher- researchers in mathematics and social sciences in higher education and the state of insecurity. This significant difference in their mean score may be due to high mean score of the responses which acknowledged women's challenges.

DISCUSSIONS

The results from Ho_1 showed that there is a significant difference between the mean score of male and female teachers and teacher- researchers in mathematics and social sciences on the participation of women in higher education in favour of males. This corroborates with the findings of Antón, Malhi, and Fuentes (2018) who reported that there is a lower representation of women in areas that are viewed as more authoritarian and prominent, such as cognitive neuroscience, experimental psychology, sports sociology, and biological anthropology. Also, the findings agree with the assertion of Almudena and Pilar (2022) that the poor performance of girls and young women in mathematics as compared to their male counterparts is a loss of talent that may disable growth in productivity. This results also supports the findings of Dosunmu & Dichaba (2024) that the gross enrolments ratio reports indicated that the number of women accessing higher education is quite low, being about 5, 1 per cent compared to 8.7 per cent for men.

The second null hypothesis revealed significant gender difference in the academic and socio-economic perspectives of teachers and teacher- researchers in mathematics and social sciences in higher education and the state of insecurity. This agrees with the observations of Gruber et al (2020) that regular practices that involve gender inequalities are slower career advancement. Stagnant salaries, unequal workloads, work-life conflict, systemic gender biases, underrepresentation in positions of power, and hostile work environments. This findings also collaborates with that of Jauhar & Lau (2018) who observed that globally women are usually not well represented in terms of equal access to higher education and employment opportunities.

The third null hypothesis revealed significant gender difference in the academic and socio-economic challenges of teachers and teacher- researchers in mathematics and social sciences in higher education and the state of insecurity. This finding is in accordance with Xie and Liu (2023) who asserted that in the long Chinese history, women were disadvantaged with respect to the educational opportunities available and how to attain them. Also, it confirms the results of Malo (2023) that available data have revealed that recent information have aided to portray an almost global picture of gender gaps in learning outcomes right before the COVID- 19 pandemic. The results also agrees with that of Blakemore & Cooksey (2017) in a report indicated that women are faced with circumstances that does not give them the opportunity to attain certain higher qualifications; thus, such attainment remains very low across the regions of Africa.

CONCLUSION

The involvements of women in fields that have job prospects have attracted attention in the society because many women are being relegated to the background. This is due to their preoccupation which the society has

labelled on them as housewives thereby giving them less opportunity to meet up with the demands of studies which can fetch them the available jobs. The gender differences in the participation of female teachers and teacher-researchers in mathematics and social sciences in higher education during the period following the Anglophone crisis was in favour of men. There is need for the authorities that are in place to give the female teachers and teacher researchers opportunities to cope with their research expectations like teaching, publishing, attending conferences by awarding scholarships and grants to them.

The academic and socio-economic perspectives of women in mathematics and social sciences in higher education and the state of insecurity have been negatively affected during the crisis period. Women should be given what they are due with respect to promotions, research grants and other benefits to enable them function effectively due to male domination.

The academic and socio - economic challenges of women in mathematics and social sciences in higher education and the state of insecurity was very clear during the crisis period. There is need to consider how well women are taken care of and given equal opportunities as men so that they don't always feel relegated or under represented despite the challenges they face at work like not being able to do some tasks like the men.There is need for women to gain their emancipation so that they can be fulfilled in life and not always feel cheated. This can be achieved by letting women have equal academic, social and economic opportunities like men.

RECOMMENDATIONS

Based on the findings of the study the following recommendations were made:

During the recruitment of teachers for mathematics and social sciences, considerations should be given to the women folk given that more men apply to close the gender gap.

In addition, women researchers in mathematics education and social sciences can be motivated by offering them scholarships and funding so that the younger generations will be encouraged to participate in these fields.

Men and parents should give girls and women a chance to have more time and pursue courses that can offer them better employment opportunities.

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