



Sociocultural Practices and Achievement of the Girl-Child in Biology and Mathematics among Rural Secondary School Students in Katsina State, Nigeria

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ABSTRACT

It has been observed that sociocultural practices are related to students' achievement in core subjects. There is need for establishing this empirically. This study therefore investigated the relationship between sociocultural practices and achievement of the girl-child in Biology and Mathematics in senior secondary schools in rural areas of Katsina State, Nigeria. The exposure of the girl-child female in rural secondary schools to sociocultural practices was also studied. A sample of five hundred and thirty-four (534) rural secondary school female students was selected using stratified and purposive random sampling procedures from the three senatorial districts of Katsina State. Data were collected with the use of Biology Achievement Test. (BAT), Mathematics Achievement Test, (MAT) and Sociocultural Questionnaire Practice of Girl Child, (SSCQPGC). Findings indicated that sociocultural practices of the girl-child have significant positive relationship with girl-child achievement in Mathematics. Similarly, it was revealed that sociocultural practices of girl-child have positive relationship with girl-child achievement in Biology. Findings further showed that 410 (76.8%) of the rural secondary female students underwent genital mutilation. 378 (70.8%) preferred their parent arranging marriage for them, Also 379 (71%) of the rural secondary school female students agreed to the choice to marry early among others. It is therefore recommended among others that the government should sensitize the communities therefore recommended among others that government should sensitize the communities on the negative impact of some sociocultural practices girl-child education.

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INTRODUCTION

The Convention on the Right of the Child (CRC) (1989) in its article 28 states that the girl-child has a right to education, and the State's duty is to ensure that primary education is free and compulsory. Furthermore, article 32 states that the child has the right to be protected from work that threatens his or

her education among others. Girl-child's education is both a right and a critical springboard to reaching other developmental objectives.

Achieving gender parity in education is one of the main thrust of the Millennium Development Goals (MDGs) (2000) and it is also a primary objective of the 1990 World Declaration on Education



for All (EFA) as well as the Darkar framework of action 2000. Till date gender equality still remains elusive hence the resultant poor economic status of the women across the globe (Olasehinde & Olatoye, 2014).

Despite the advantages of education, girl-child continues to suffer severe disadvantage and exclusion in education systems throughout their lives (UNICEF, 2014). An estimated, 31 million girls of primary school age and 32 million girls of lower secondary school age were out of school in Sub-Saharan Africa, which has the similar sociocultural practices with Katsina State, Nigeria. This shows that there is very low gender parity in school enrolments.

Sociocultural practices regard girls and women as objects of male ownership, whose purity must be cautiously guarded. Rural girls and women are confined to family compounds and local villages. Segregation of genders is one of the tools used to reinforce male domination and the marginalisation of females. These explain reasons for girls and women's positions of conservativeness and low level of education in the society.

Barriers and bottlenecks around gender parity remain in place, especially at the secondary school level and the mostly marginalized is the girl-child. These barriers range from material supply to negative sociocultural practices. Some include finance, strong cultural norms favouring boys' education when a family has limited resources, inadequate sanitation facilities in schools such as lack of private and separate latrines for girl-child and boy-child, and negative classroom environments where girl-child may face violence, exploitation or corporal punishment. Additionally, schools often lack sufficient numbers of female teachers to serve as role model especially in rural schools.

Increasingly, the girls also face sociocultural practices and financial

demands that further disrupt their education, spanning from household obligations and child labour to child marriage, gender-based violence and female genital cutting/mutilation. Recent estimates show that one-third of girls in the developing world are married before age 18, and one-third of women in the developing world give birth before age 20. If all girls had secondary education, child marriage would decrease. These may be compounded by factors such as poverty, and or rural locations and make such barriers insurmountable for young girls.

A survey of the Nigerian educational scene reveals a series of disparities. There is disparity between urban and rural schools. Gaps are also observed between boys' and girls' admissions and enrolments in rural and urban. The characteristics of the rural areas are the basic characteristics that affect the rural schools. Despite the characteristics of the rural areas, Adeyemi (2009) observed that rural schools form 57% of all secondary schools while the urban schools account for the remaining 43%. The distribution of teachers in secondary schools in Nigeria has generated mixed feelings among educationists (Alonge, 2003).

Stephens (1998) noted that rural schools have lower students' achievement when compared with the urban schools. He asserted that common weaknesses in the rural schools are their ability to mount and maintain a school improvement programmes. For instance rural school have higher number of teachers teaching outside their specialty area they are paid less salaries and benefits to staff and they do not have enough equipment for teaching.

Therefore, this study assessed the sociocultural practices and achievement in Biology and Mathematics among rural secondary schools students in Katsina State, Nigeria,



Objectives of the Study

- (1) To promote girl-child right to education in rural areas.
- (2) To promote equity in education among boy and girl-child in rural areas.
- (3) To reduce the negative impacts of socio-cultural practices on girl-Childs' achievement in education in rural areas.

Research Questions

1. What is the relationship between sociocultural practices and students' achievement in Mathematics?
2. What is the relationship between sociocultural practices and students' achievement in Biology?
3. What are the experiences of the girl-child in sociocultural practices in their immediate environment?
4. What are the opinions of the girl-child to sociocultural practices in their immediate environment?

METHODOLOGY

This study adopted a descriptive survey research design. This design is suitable because this study is a non-experimental research that involved collection of data which allowed assessment of certain attributes or characteristics.

All the girl-child in Senior Secondary Schools in all the public secondary schools in Katsina State, Nigeria is the target population for this study. Multi-stage stratified random and purposive sampling techniques were used for this study. The first stage was stratification of Katsina State into 3 Senatorial Zones. The second stage was selection of two Local Government Areas (LGAs) randomly sampled from each Senatorial Zones. The third stage was the purposive selection of the rural senior secondary schools from each of the two Local Government Areas. The fourth stage was the random selection of twenty female students (20) from the six rural

Senior Secondary Schools. The total sample available for the study was five hundred and thirty four students.

Three instruments were designed and used for data collection in the study. They are:

- a. Biology Achievement Test. (BAT)
- b. Mathematics Achievement Test, (MAT) and
- c. Students' Sociocultural Questionnaire, (SSCQ).

Biology Achievement Test (BAT)

Biology Achievement Test (BAT) was one of the three instruments used in collecting data for the study. The BAT consists of 20 multiple-choice items with four options (A - D) adapted from past examinations of West African Examination Council (West African Examination Council, May/June, 2000-2016) and National Examination Council (NECO, June/July, 2000-2016). BAT was validated by experts in biology education and test and measurement, and its reliability coefficient determined as 0.79 using Kuder Richardson (KR20).

Mathematics Achievement Test (MAT)

The Mathematics Achievement tests (MAT) consists of 20 multiple choice items with four option (A-D) adapted from past examinations of West African Examination Council (West African Examination Council, May/June, 2000-2016) and National Examination Council (NECO, June/July, 2000-2016). MAT was validated by experts in Mathematics education and test and measurement, A test retest reliability of 0.78 was obtained.

Method of Data Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS). Research questions were answered using Pearson Correlation and Descriptive statistics.

RESULTS



Research Question 1: What is the relationship between sociocultural practices and students' achievement in Mathematics?

Table 1: Sociocultural practices and students' achievement in Mathematics

		Mathematics Achievement Test	Sociocultural Practice of Girls
Mathematics Achievement Test	Pearson Correlation	1	.113**
	Sig. (2-tailed)		.009
	N	534	534
Sociocultural Practice of Girls	Pearson Correlation	.113**	1
	Sig. (2-tailed)	.009	
	N	534	534

Table II: sociocultural practices and students' achievement in Biology

In table I, there is a significant positive relationship between the sociocultural practices of the girl-child and achievement Mathematics ($r = +0.113$, $p < 0.05$). This shows that the higher the sociocultural practices of the girl-child the higher the rural secondary school girl-child in achievement in Mathematics. Also, the sociocultural practices have no negative effect on achievement in Mathematics

Research Question 2: What is the relationship between sociocultural practices and students' achievement in Biology?

Table II: sociocultural practices and students' achievement in Biology

		Biology Achievements	Sociocultural Practice of Girl
Biology Achievement Test	Pearson Correlation	1	.048
	Sig. (2-tailed)		.273
	N	534	534
Sociocultural Practice of Girls	Pearson Correlation	.048	1
	Sig. (2-tailed)	.273	
	N	534	534

In table II, there is a positive relationship between the sociocultural practices of the girl-child and achievement in biology ($r = +0.048$, $p < 0.05$). This shows that the higher the sociocultural practices the higher the biology achievement in biology or vice versa. However the relationship between

the sociocultural practices of the girl-child and achievement in biology is not significant.

Research Question 3: What are the experiences of the girl-child in sociocultural practices in their immediate environment?



Table III: Sociocultural Practices the Girl-Child are exposed to (Experiences)

N	Items	Yes	No	No Response
1	Did your parents make you to undergo genital mutilation?	410 (76.8%)	84 (15.7%)	40 (7.5%)
2	Do you any tattoo on your body?	434 (81.3%)	81 (15.2%)	19 (3.6%)
3	Do you have any tribal mark on you body?	342 (64.0%)	173 (32.4%)	19 (3.6%)
4	Are your parents arranging somebody for you to marry	378 (70.8%)	134 (32.4%)	22 (4.1%)

Table III shows the sociocultural experience of the female rural students that those who underwent genital mutilation were 410 (76.8%), 84 (15%) did not undergo genital mutilation while 40 (7.5%) did not respond to the item. 434 (81%) have tattoo mark on them, 81 (15.2%) did not have tattoo while 19(3.6%) did not respond to the item. 342 (64.0%) have tribe mark on them, 173(32.4%) did not have tribal mark while 19(3.6%) did not respond to the

item. 378 (70.8%) have their parent arranging marriage for them, 134 (32.4%) did not have their parent arrange marriage for them, while 22(4.1%) did not respond to the item on parent arranging marriage for them

Research Question 4: What are the opinions of the girl-child to sociocultural practices in their immediate environment?

Table IV: Sociocultural Practices the Girl-Child are exposed to (Opinions)

N	Items	Yes	No	No Response
1	Will you like to be a full house wife?	258 (44.3%)	258 (44.3%)	18 (3.4%)
2	Does your culture allow you as lady to take public job?	96 (8.0%)	422 (79.0%)	16 (3.0%)
3	Do you want to have an early marriage?	379 (71.0%)	147 (27.5%)	8 (1.5%)
4	Do you want a law to ban early marriage?	218 (40.8%)	304 (56.9%)	12 (2.2%)
5	Which of these will you prefer: monogamy or polygamy?	Monogamy 108 (19.9%)	Polygamy 421 (78.8%)	7 (1.3%)
6	Do you want to marry for political connection?	458 (85.8%)	69 (12.9%)	7 (1.3%)

Table IV shows the opinion of the rural secondary school female students as follows, that, 258 (48.3%) of the rural secondary school female students preferred to be full house wives, 258 (48.3%) did not want to be full house wives while 18 (34%) of the students did not respond to the item on questionnaire. 96 (18%) disagreed that rural secondary school female students should be allowed

to go for public jobs. 422, 79% of the rural secondary female students agree with the sociocultural practice that women should not take up public jobs and 16 (3.0) of the students did not respond to the item.

Furthermore 379 (71%) of the rural secondary school female students agreed to the choice to marry early as against 147 (27.5%) that prefer for no

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prefer marriage much later and 8 (1.5%) of the students did not respond to the item. 304 (56.9%) of the rural secondary school students chose that no law should ban early marriage, while 218 (40.8%) of the students chose for "Yes" to law banning early marriage while 12 (2.2%) of the students did not respond to the item.

Also, 421 (78.8 %) rural secondary school female students preferred polygamy while 106 (19.9%) of the students preferred monogamy, 7 (1.3%) however did not respond to the question. Also, 458 (85.8%) of the rural secondary school female students like for marriage for political connection. 69 (12.9%) of the students went against marriage for political connection and 7 (1.3%) of the students did not respond to the item.

DISCUSSION

The result shows that there is a significant and positive relationship between the sociocultural practices of the girl-child and achievement in Mathematics. This reveals that the higher the sociocultural practices of the girl-child the higher the Mathematic achievement of the girl-child. This is not in agreement with the public notion that the sociocultural of the girl-child negates the girl-child achievement. Also, in the submission of Ayodo Simatwa and Jumai, (2012) and Erinosun, (2008) established the girl-child losses concentration in academic work because of the socio-cultural practices of the society. Saya, (2015) position that socio-cultural practices resulted to laxity and negative attitude toward education was disproved.

Furthermore, the result shows that sociocultural practices of the girl-child have positive relationship with the girl-child achievement in biology. Also, it indicates that the higher the sociocultural practices of the girl-child the higher the girl-child achievement in biology. It however, contradicts the public opinion that sociocultural practices of the girl-

child negate positive achievement in biology. Ayodo Simatwa and Jumai, (2012) established that the girl-child losses concentration in academic work because of the socio-cultural practices of the society. Saya, (2015) Saya, (2015) concluded that socio-cultural practices resulted to laxity and negative attitude toward education but was proved wrong in this paper.

The findings of the study further show that the sociocultural practices experiences of the rural secondary school female students are as follows: 410 (76.8%) of the rural secondary female students underwent genital mutilation. While 84 (15%) of the rural secondary female students did not undergo genital mutilation and 40 (7.5%) did not respond to the item. This is contrary to the public notion that the Hausa girl-child does not undergo genital mutilation. 434 (81%) of the rural secondary school students had tattoo on their body as against 81 (15.2%) of them without tattoo on their body. 19 (3.6%) of the rural female students did not respond to the item. The reason for embracing tattoo among the rural secondary female students may not be unconnected with the peer influence and lack of education of the implication of tattoo causing cancer because of the metallic ink on the opened skin.

The percentage of rural secondary school female students with tribal marks was 342 (64%). While those rural secondary school female students without tribal marks 173 (32.4%) while 19 (3.6%) of the students did not respond to the item. The idea of tribal mark is similar to that of tattoo. Anyone who has tribal mark is as well prone to cancer of the skin. . The sociocultural practice of arranged marriage by parent among rural secondary school female students showed 378 (70.8%) in favour and 134 (25.1%) not in favour of arranged managed by parent and 22 (4.1%) students did not respond to the item on the questionnaire. These showed why



rate of early dropout in school and divorce is among the rural secondary school female students is relatively high.

Quite a fairly good number 258 (48.3%) of the rural secondary school female students preferred to be full house wives, 258 (48.3%) did not want to be full house wives while 18 (3.4%) of the students did not respond to the item on questionnaire. Among the culture of Katsina State is that women should not go out to work whatever they do should be in the house of the husband. However with the western tradition and need for self fulfilment there is contention between the husbands and wives on full house wife ship as many wives have refused to remain in door. Also this rejection of this sociocultural practice of full house wife may not be unconnected with the new environment the rural secondary school female find themselves such as Facebook, Whatsapp, and Instagram which have exposed them to the advantages and disadvantages of being full house wives.

96 (18%) disagreed that rural secondary school female students should be allowed to go for public jobs. 422, 79% of the rural secondary female students agree with the sociocultural practice that women should not take up public jobs and 16 (3.0) of the students did not respond to the item. Katsina State is Muslim-dominated and there is need for the Muslims to obey religion injunction of which cannot in some cases be separated from culture.

Furthermore 379 (71%) of the rural secondary school female students agreed to the choice to marry early as against 147 (27.5%) that prefer for no prefer marriage much later and 8 (1.5%) of the students did not respond to the item Obviously, this shows the attachment of the rural secondary school female students to the sociocultural practices of the society.

Also, 304 (56.9%) of the rural secondary school students chose that no

law should ban early marriage, while 218 (40.8%) of the students chose for "Yes" to law banning early marriage while 12 (2.2%) of the students did not respond to the item. The relative high percentage of those that chose that no law should ban early marriage may be as a result of their deep attachment to the sociocultural practices of the society. This percentage (40.8%) may not be unconnected with the fact that the world is almost a global single room because of the information on internet.

Also, 421 (78.8 %) rural secondary school female students preferred polygamy while 106 (19.9%) of the students preferred monogamy, 7 (1.3%) however did not respond to the question. This sociocultural practice of the society was accepted by high percentage of the rural secondary school female students because of the religion inclinations. The less percent of the student's rejection of the sociocultural might not be unconnected with the fact that they have been victims of crowd, completion and victimisation resulted from polygamy.

Conversely, 458 (85.8%) of the rural secondary school female students like for marriage for political connection. 69 (12.9%) of the students went against marriage for political connection and 7 (1.3%) of the students did not respond to the item. Politics has been a major profession in the Katsina State. Many citizen of the state when asked what job they want to do after leaving school we say they want to be politicians. Marriage for political connections enables them to influence the masses to give political appointments to politically influenced individuals. However few students believed that they do not need to marry for political connection before they can survive.

CONCLUSION

The findings show that the students are deeply attached to the



sociocultural practices of their society. This retards the progress of the girls because they do not consider education as a best option to get out of poverty, slavery, ignorance and diseases. The sociocultural practices accounted for low academic achievement in education.

RECOMMENDATIONS

The following recommendations are made:

1. The government should sensitize the communities on the negative impact of some sociocultural practices girl-child education;
2. The education stakeholders should sensitize the communities on the importance of girl-child education;
3. Education stakeholders should launch mass media programme on television and radio to educate and discourage bad sociocultural practices the society that negatively affect the education of females.
4. The government should promulgate laws to avoid the contradiction and that the laws are based the best interest of the girl-child.
5. The government should formulate and strengthen child protection team within the community from the family ward level to state level;
6. The government should take serious action against those who are involved in retarding girl-child education;
7. Government should build more girl boarding schools to further promote the girl-child education.
8. Government and other stakeholders should put machinery in place for scholarship and bursary awards to encourage rural female students to further their studies.
9. Parents should reduce the domestic labour of the female students to allow them concentrate on their studies.

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