

## The Influence of Gender on Secondary School Students' Academic Performance in South-West, Nigeria

B. O. Abdu-Raheem

*Department of Educational Foundations and Management, Faculty of Education,  
University of Ado-Ekiti, Ado-Ekiti, Nigeria  
E-mail: dr\_boabduraheem@yahoo.com*

**KEYWORDS** Gender Inequality. Gender Empowerment Measure. Gender Stereotyping. Gross Under-representation. Under-achievement. Gender Policies

**ABSTRACT** This study investigated the influence of gender on secondary schools students' academic performance in South-West, Nigeria. The results of 2003/2004 to 2007/2008 West African School Certificate Examinations (WASCE) were collected on English Language, Mathematics, Biology, Chemistry, Physics, Economics, Geography, Government, Yoruba, Christian Religious Studies and French from 10 Secondary Schools selected from 5 States in Nigeria. The samples consisted of 2,305 students. Stratified random sampling was used to select 2 schools from each state. Purposive sampling was used to collect the WASCE results of students sampled. Chi-Square was used to test the 5 hypotheses raised. The study revealed that male and female students performed equally in English language. Males performed better than females in Mathematics, Science and Social Science while females also did better than males in Arts except in Yoruba. It was, therefore, recommended that necessary materials/equipment should be provided to make Mathematics, Science and Social Science interesting to girls, French and Christian Religious Studies encouraging to boys.

### INTRODUCTION

Gender issues are currently the main focus of discussion and research all over the world, Nigeria inclusive. The question of gender is a matter of grave concern especially among scholars and policy formulators. Intellectuals are worried about the role of women in the political, social, economic, cultural, psychological, religious, scientific and technological development of nations. Ibraheem (2001) also confirmed that "women have physical and mental capabilities to contribute meaningfully to the stability, progress and prosperity of Nigeria.

The Human Development Report, in its gender related development index as reported in Azgaku (2007) placed Nigeria in the 100<sup>th</sup> position out of 130 countries in gender disparity and 108<sup>th</sup> position out of 116 countries in its gender empowerment measure. Despite the high population and great contributions of women to national development, they have always been considered inferior to men. Scottish local authorities did not introduce gender policies until the early 1990s (Ridwell 2000). Afonja (2002) defined gender as a socially constructed concept based on the assumed power and position that group of humans should possess. Jadesola (2002) also opined that gender is so-

cially constructed for the purpose of allocating powers, duties, responsibilities, status and roles in any social context. Jekayinoluwa (2005) confirmed that schools and the nation at large are making profound contributions to the creation of positive learning environment for boys than girls. Owuamanam and Babatunde (2007) observed that gender stereotyping seems to promote the belief that women should be traditionally feminine and men are to be traditionally masculine.

In the 1970s, attention was focused on girls who, as a group, were perceived to be disadvantaged in schools as evidenced by attainment level in general and by the low number of girls offering some subjects. In Africa, especially Nigeria, researches have shown that women's participation and achievement in Science and Technology are too low owing to some avoidable reasons. According to Okafor (2001), health problems such as high rate of maternal and infant mortality, malnutrition and stressful conditions which are associated with developing countries like Nigeria correlate positively with the low level of women's achievement in Science and Technology. Plummer (2000) and Arnot (2003) noted that ethnicity and social class are other factors that combined with and interact with gender to have a direct bearing on achieve-

ment of women. In support of the above idea, Archer and Yamashita (2003) confirmed that gender inequalities are interwoven with social class, ethnicity, sexuality and disability.

In their own view, Meltem and Serap (2007) noted that the proportion of male students enrolling in preparatory schools before they pass English language tests is 74.5% and 68.4% for females. They confirmed further that there is significant difference in the academic achievement of male and female students in favour of females in terms of CGPA. Females have higher scores than males on both comprehension of information and evaluation of arguments (Rodney et al. 2008).

Furthermore, Hyde et al. (2008) confirmed that girls surpassed boys in basic computation and understanding of mathematical concepts while boys exceeded girls in complex problem-solving in the high school years. Sainz and Eccles (2011) discovered that boys in Spanish Secondary Schools have high self-concept of Mathematics and computer abilities than girls.

In his study, Njoku (2001) confirmed that researches indicated that girls believe that Science is too difficult and not important for their future. He explained that the teaching methods used do not assist girls to understand Science. Njoku (2001) reported further that primary Science and Technology teachers agreed that they pay more attention to boys than girls. He also observed that there are more male Science teachers and professionals than female role models in Science and Technology. The under-representation of women in Science and technological manpower pool may likely be a reflection of low participation and under-achievement of girls in Science and Technology in schools. Alonge et al. in Popoola (2002) agreed that girls are very good in English spellings, writing and Arts, but Science, Technology and Mathematics are masculine. Alonge (1989) therefore, called for special privileges to encourage girls to venture into such fields of study. Adesoji and Fabusuyi (2001) also found out that 63% of the girls could not attempt solution to problems based on volumetric analyses. Based on this, they arrived at the conclusion that boys are better problem-solvers.

Gender inequality is also reflected in enrolment into Sciences and admission to higher institutions of learning. Obanya (2005) confirmed that the enrolment of boys out-numbered that

of the girls in Science, Technology and Education in Nigerian universities, polytechnics and Technical Colleges. Obanya (2005) explained further that "the disparity in enrolment between males and females is more pronounced in the technical courses which involve workshop practices like Plumbing, Fabrication/Welding and Engineering which have zero female enrolment from 1999/2000 to 20002/2003 sessions. Female enrolments out-numbered that of males in Music, Fine Art, Computer Studies, Commerce, Humanities, Business Studies, Typing and Shorthand. It is highly necessary to correct the gross under-representation of females in technical colleges, polytechnics and universities of Technology. In addition, this researcher also noted through the data collected from the Admission office, University Ado-Ekiti that there is gender disparity against girls in JAMB admissions to University of Ado-Ekiti for 2001/2002, 2002/2003 and 2005/2006 sessions. All the above mentioned factors contribute to the low level of achievement of women in education. The privileges given to males assist them to become better achievers in life.

Contrary to the opinions of Obanya (2005), Croxford (2000) confirmed that the average levels of attainment for boys are lower than those of girls at all stages and across almost all areas of the curriculum in London. A similar picture can be observed in England and Wales (Younger et al. 2005). Adeosun (2002) is also of the same view. He confirmed that there is no significant difference in the achievement score between males and females in a study conducted on the effects of multimedia packages and students' achievement in social studies. Abdu-Raheem (2010) also concluded that there is no significant difference between the performance of male and female students in Social Studies.

### **Statement of the Problem**

Despite the fact that women constitute almost half of the Nigerian population, the incidence of gender disparity against women is increasing and alarming. It has been observed that poor academic performance of girls in Science and Science related courses in Nigerian secondary schools has to do with gender. The researcher, therefore, deemed it necessary to investigate the influence of gender on students'

academic performance in secondary schools in South-West, Nigeria.

### Research Hypotheses

In an attempt to find solutions to the problem raised, the following research hypotheses were formulated:

1. There is no significant difference between the performance of male and female students in English language.
2. There is no significant difference between the performance of male and female students in Mathematics.
3. There is no significant difference between the performance of male and female students in Science subjects.
4. There is no significant difference between the performance of male and female students in Social Science subjects.
5. There is no significant difference between the performance of male and female students in Art subjects.

### Purpose of the Study

The purpose of this study is to investigate the problem of influence of gender on secondary school students' performance in South-West, Nigeria. The study aims at investigating the performance of male and female students in English language, Mathematics, Science, Social Science and Art subjects. The study is delimited to South-West, Nigeria. It was based on public secondary schools and the subjects covered include English language, Mathematics, Biology, Chemistry, Physics, Economics, Yoruba, Government, French, and Geography and Christian Religious Studies.

### METHODOLOGY

The study is an ex-post facto design. The researcher does not have direct control on variables. Also, there was no treatment and manipulation of subjects. Instead, it involved the collection of data from records. The population for this study was made up of all students in public secondary schools in South-West Nigeria. The sample consisted of 2,305 students that sat for West African School Certificate Examinations (WASCE) from 2003/2004 to 2007/2008 sessions in South-West, Nigeria. Two secondary schools were randomly selected from each

state making the total number of 10 schools from five states in South-West, Nigeria. Stratified random sampling was used to select 2 schools from each state and purposively sampling was used to collect the WASCE results of final year students of /2003-2004 to 2007/2008 in Oyo, Ogun, Osun, Ondo and Ekiti States. The instrument for collecting data was inventory which sought information on academic records in English Language, Mathematics, Biology, Economics, Yoruba, Physics, Chemistry, Government, French, Geography and Christian Religious Studies. Chi-Square Analysis was used to test the 5 hypotheses raised.

### RESULTS

**Hypothesis 1:** There is no significant difference between the performance of male and female students in English language

**Table 1: Chi-square analysis of students' performance in English language by gender**

Sex	Pass		Fail		Total	df	Chi-square cal	Chi-square table
	Freq	%	Freq	%				
Male	894	37.1	1508	62.9	2402	1	0.0026	3.84
Female	898	37.3	1510	62.7	2408			
Total	1792		3018		4810			

p>0.05

Table 1 shows that Chi-square cal (0.0026) is less than Chi-square table (3.84) at 0.05 level of significance. Therefore, the null hypothesis which states that there is no significant difference between the performance of male and female students in English language is not rejected. Hence, there is no significant difference between the performance of male and female students in English language.

**Hypothesis 2:** There is no significant difference between the performance of male and female students in Mathematics.

**Table 2: Chi-square analysis of students' performance in Mathematics by gender**

Gender	Pass		Fail		Total	df	Chi-square cal	Chi-square table
	Freq	%	Freq	%				
Male	1490	71.7	588	28.3	2078	1	83.000	3.84
Female	2398	60.0	1602	40.0	4000			
Total	3888		2190		6078			

P<0.05

Table 2 reveals that Chi-square cal (83.000) is greater than Chi-square table (3.84) at 0.05 level of significance. Therefore, the null hypothesis which states that “there is no significant difference between the performance of male and female students in Mathematics” is rejected. There is therefore a significant difference in the performance of males and females in Mathematics. Male students performed better than females in Mathematics.

**Hypothesis 3:** There is no significant difference between the performance of male and female students in Science subjects.

Table 3 reveals that (Chi-square Biology =16.00, Chi-square Chemistry=38.00, Chi-square Physics=21.00,  $p < 0.05$ ). Therefore, the null hypothesis which states that there is no significant difference between the performance of male and female students in Science subjects is rejected. Hence, there is a significant difference between the performance of male and female students in Science subjects in favour of males.

**Hypothesis 4:** There is no significant difference between the performance of male and female students in Social Science subjects.

Table 4 reveals that (Chi-square Economics = 42.07,  $p < 0.05$ ), (Chi-square Government = 2.48,  $p < 0.05$ ), (Chi-square Geography = 0.14,  $p < 0.05$ ). Therefore, the null hypothesis which states that there is no significant difference between the performance of male and female students in Social Science is not rejected. Hence, there is no significant difference between the performance of male and female students in Social Science subjects except in Economics.

**Hypothesis 5:** There is no significant difference between the performance of male and female students in Art subjects.

Table 5 reveals that (Chi-square Yoruba = 7.68, Chi-square Christian Religious Studies = 7.78, Chi-square French = 19.50,  $p < 0.05$ ). Hence, the null hypothesis which states that there is no significant difference between the performance of male and female students in Arts subjects is

**Table 3: Chi-square analysis of students' performance in Science subjects by gender**

Science subjects	Gender	Pass		Fail		Total	df	Chi-square cal	Chi-square table
		Freq	%	Freq	%				
Biology	Male	1038	43.0	1378	57.06	2416	1	16.000	3.84
	Female	896	37.1	1520	62.9	2416			
	Total	1934		2829		4832			
Chemistry	Male	494	48.4	559	51.6	1020	1	38.00	3.84
	Female	254	40.1	380	59.9	634			
	Total	748		939					
Physics	Male	516	50.6	504	49.0	1020	1	21.00	3.84
	Female	248	39.0	388	61.0	636			
	Total	764		973					

$P < 0.05$

**Table 4: Chi-square analysis of students' performance in Social Science subjects by gender**

Social Science subjects	Gender	Pass		Fail		Total	df	Chi-square cal	Chi-square table
		Freq	%	Freq	%				
Economics	Male	1078	52.8	964	47.2	2042	1	42.00	3.84
	Female	842	42.4	1142	57.6	1984			
	Total	1920		2106		4026			
Government	Male	237	59.5	161	40.5	398	1	2.48	3.84
	Female	191	53.7	165	46.2	356			
	Total	428		326		754			
Geography	Male	412	69.5	181	30.5	593	1	0.14	3.84
	Female	398	70.5	163	29.5	552			
	Total	801		344		1145			

$P < 0.05$

**Table 5: Chi-square analysis of students' performance in Arts subjects according to gender**

Subjects	Gender	Pass		Fail		Total	df	Chi-square cal	Chi-square table
		Freq	%	Freq	%				
Yoruba	Male	1446	65.0	780	35.0	2226	1	7.68	3.84
	Female	1392	61.0	890	40.0	2282			
	Total	2838		1670		4508			
C.R.S	Male	210	68.2	98	31.8	308	1	7.78	3.84
	Female	285	77.4	83	22.6	368			
	Total	495		181		676			
French	Male	104	60.1	69	39.9	173	1	19.50	3.84
	Female	121	82.3	26	17.7	147			
	Total	225		95		320			

$P < 0.05$

thereby rejected. Therefore, there is a significant difference between the performance of male and female students in favour of females in Art subjects except in Yoruba.

### DISCUSSION

The study found out that there is no significant difference between the performance of male and female students in English language. The finding is contrary to that of Adediran (1993) who noted that male students perform better than female students when the teaching-learning process involves reading and verbal instructions. The study is also not in agreement with that of Ofodu (2010) who concluded that being a male or a female influences significantly the reading interest of students.

In addition, the study also revealed that there is a significant difference between the performance of male and female students in Mathematics, Science and Social Science subjects in favour of males. The study is in agreement with that of Meltem and Serap (2007) who discovered that there are significant differences to the disadvantage of women in the schools of Arts and Sciences, Education and Engineering except school of Architecture and the school of Economics and Administrative Science. But the study is contrary to that of Croxford (2002) and Younger et al. (2005) who believed that the intellectual potential of girls is an untapped labour resource for Science and Technology in England and Wales. The poor performance of girls in Mathematics, Science and Social Science subjects in South-West, Nigeria may be due to unfavourable home and school environment, lack of encouragement by the parents, teachers and the government.

Furthermore, the study shows that there is a significant difference between the performance of male and female students in Arts especially Christian Religious Studies and French in favour of females except in Yoruba. The study is in line with Meltem and Serap (2007) who stated that women are often found to outperform men irrespective of the measure used. The performance of female students in Christian Religious Studies and French may be taken to indicate the better language abilities and better work habits of female compared with that of their male counterparts.

### CONCLUSION

This study found out that male and female students performed equally in English language. The study discovered that male students performed better than females in Mathematics, Science and Social Science subjects. It was also noted in the study that females outperformed males in Arts except in Yoruba.

### RECOMMENDATIONS

Based on the findings of the study, it was therefore recommended that:

1. Both male and female students should be encouraged to read both academic and literary books extensively to widen their horizon in English language.
2. Special incentives should be given to females to encourage them to develop interest in Mathematics, Science and Social Science subjects.
3. Necessary materials and equipment should be provided in schools to make Art

subjects especially French and Christian Religious Studies more interesting to male students.

## REFERENCES

- Abdu-Raheem BO 2010. *Relative Effects of Problem-solving and Discussion Methods on Secondary Schools Students' Achievement in Social Studies*. Ph.D. Thesis, Unpublished. Ado-Ekiti, Nigeria: University of Ado-Ekiti.
- Adediran JA 1993. *The Relative Effectiveness of Lecture and Guided Discovery Methods on Students' Achievement in Chemistry*. M.Ed. Thesis, Unpublished. Ado-Ekiti, Nigeria: Ondo State University.
- Adeosun OV 2002. *Relative Effects of Three Multi-Media Packages on Students' Achievement and Retention in Social Studies*. Ph.D. Thesis, Unpublished. University of Ado-Ekiti, Ado-Ekiti, Nigeria
- Adesoji FA, Fabusuyi MO 2001. Analysis of problem-solving difficulties of students in volumetric analysis according to gender. *Journal of Educational Studies*, 1: 106-117.
- Afonja S 2002. Mainstreaming Gender into the University Curriculum and Administration. *Paper presented in Seminar at the Centre for Gender Studies, Olabisi Onabanjo University*. Ago-Iwoye, Ogun State, Nigeria at the Annual Seminar of Social Science Academy, November 13, 2001
- Alonge MF 1989. *Measures and Elevation in Education and Psychology*. 2<sup>nd</sup> Edition. Ado-Ekiti: Adebayo Printers.
- Archer L, Yamashita H 2003. Theorising inner-city masculinities. Race, class, gender and education. *Gender and Education*, 2: 115-132.
- Arnot M 2003. Male working class identities and social justice: A reconsideration of Paul Willis's 'learning to labour' in light of contemporary research. In: Carol Vincent (Ed.): *Social Justice, Education and Identity*. London: Routledge, Falmer, pp. 97-119.
- Azgaku BC 2007. Disparities in gender relations and the family. A historical perspective. *Nigerian Journal of Social Research*, 2: 33-44.
- Croxford L 2000. *Gender and National Curricular: Shifting Agendas in the UK and Europe*. London: Routledge. From<<http://www.ero.govt.nz/publications/pubs2000/promoting%20boys%20achmt.htm>> (Retrieved on September 14, 2010).
- Hyde JS, Lindberg SM, Ellis AB, Williams CC 2008. Gender Similarities Characterize Math Performance. *Education Forum Diversity*. 321:494-495. From<[www.lsciencemag.org](http://www.lsciencemag.org)> (Retrieved July 31, 2008).
- Ibraheem I 2001. Winning More Girls and Women for Science and Technology. A Challenge for Women. In: O Busari (Ed.): *Women in Science, Technology and Mathematics Education in Nigeria*. 43<sup>rd</sup> Annual Conference Proceedings, STAN. Rivers State, Nigeria, University of Technology, August, 2002: 18-23.
- Jadesola A 2002. *Engendering University Curriculum and Administration in the University at the Centre for Gender Studies*. Ago-Iwoye, Olabisi Onabanjo University.
- Jekayinoluwa RJ 2005. *Sex-role Stereotypes and Career Choice of Secondary School Students*. M.Ed Thesis, Unpublished. University of Ife, Ile-Ife, Nigeria.
- Meltem D, Serap T 2007. Gender differences in academic performance in a large public university in Turkey. *Higher Education*, 53: 255-277. Springer L Science + Business Media B.V DOI 10.1007/s10734-005-2464-6.
- Njoku ZC 2001. Primary School Teachers' Perception of the Problems of Girls in Learning L Science. In: O. Busari (Ed.): *Women in Science, Technology and Mathematics Education in Nigeria*. 43<sup>rd</sup> Annual Conference Proceedings, STAN. Rivers State, Nigeria, University of Technology, August, 2002: 18-23.
- Obanya PAI 2005. *Nigeria Education Sector Diagnosis*. Education Sector Analysis Unit, Federal Ministry of Education.
- Ofodu GO 2010. Gender, school location and class level as correlates of reading interest of secondary school students. *Journal of Contemporary Studies*, 2: 119-124.
- Okafor P N 2001. Participation of women in L Science and cultural issues. Which way forward? In: O Busari (Ed.): *Women in Science, Technology and Mathematics Education in Nigeria*. 43<sup>rd</sup> Annual Conference Proceedings. STAN Rivers State, Nigeria, University of Technology, August, 2002: 18-23.
- Owuamanam TO, Babatunde JO 2007. Gender-role stereotypes and career choice of secondary school students in Ekiti State. *Journal of Educational Focus*, 1: 103-110.
- Plummer G 2000. *Failing Working Class Girls*. Stoke-on Trent: Trentham Books.
- Popoola AA 2002. *Effects of Heuristic Problem Solving and Programmed Instructional Strategies on Senior Secondary Schools Students' Learning Outcomes in Mathematics in Ekiti State, Nigeria*. Ph. D. Thesis, Unpublished. Ibadan: University of Ibadan.
- Ridwell S 2000. Equal Opportunities in Scotland. In: J Salisbury, Sheila Riddell (Eds.): *Gender, Policy and Educational Change. Shifting Genders in UK and Europe*. London: Routledge. From<<http://www.ero.govt.nz/publications/pubs2000/promoting%20boys%20achmt.htm>> (Retrieved September 14, 2010).
- Rodney AC, Raymond PP, Lance WR, Tracey P 2008. Gender, psychosocial dispositions and the academic achievement of college students. *Res High Education*, 49: 684-703.
- Sainz M, Eccles J 2011. Self-Concept of Computer and Math Ability. Gender Implications Across Time and Within ICT Studies. *Journal of Vocational Behaviour*. YJVBE-02575: 1-14 From< [www.elsevier.com/locate/jvb](http://www.elsevier.com/locate/jvb)> (Retrieved October 02, 2011).
- Younger M, Warrington M, Gray J, Rudduck J, McLellan R, Bearne E, Kershner R, Bricheno P 2005. *Raising Boys' Achievement*. DfES Research Report 636. London: From<<http://www.ero.govt.nz/publications/pubs2000/promoting%20boys%20achmt.htm>> (Retrieved January 10, 2010).