RELIGIOUS COMMITMENT AS A PREDICTOR OF SECONDARY SCHOOL STUDENTS' ACHIEVEMENT AND ATTITUDE TO POPULATION EDUCATION CONCEPTS IN BIOLOGY IN KATSINA STATE, NIGERIA

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Abstract
The study investigated students' religious commitment as a predictor of secondary school students' achievement and attitude to population education concepts in Biology in Katsina State. A descriptive survey was used in the study. A sample of three hundred and fourteen students (314) from six randomly selected secondary schools was used for the study. Three instruments were used to collect data: (i) Students' Religious Commitment Questionnaire (SRCQ), (ii) Students' Attitude to population Education Questionnaire (SAPEQ) and (iii) Population Education Achievement Test (PEAT). The test retest reliability yielded 0.784, 0.713 and 0.816 coefficients for SRCQ, SAPEQ and PEAT respectively. Data were analyzed using Linear Regression, Pearson Product-Moment Correlation and t-test statistics. The findings show that students' religious commitment accounted for 0.2% of total variance in achievement to population education concepts in biology (R^2 =.002, p< 0.05). Students' religious commitment also, accounted for 4.0% of the total variance in students' attitude to population education (R^2 = 0.04, p< 0.05). There was a positive and significant relationship between students' religious commitment and attitude to population education (r = .200, p< 0.05). There was a negative and no significant relationship between students' religious commitment and achievement to population (r = .040, p< 0.05). However, there was a positive but no significant relationship between students' religious commitment and achievement in population education (r= .032, p< 0.05). There was no significant differences between male and female students' religious commitment and achievement in population education (t =0.437, 0.502. p>0.05). However, there was a significant difference between male and female students' attitude to population education. It was recommended among others that students' religious commitment should not be used to determine students' achievement in population education concepts in Biology.

Keywords: Achievement, Attitude, Religious commitment, population education, secondary school students

Introduction

There is a striking paradox in the world population growth. National Population Commission (NPC), (2006) said that the population of Nigeria is about 140 million. With this figure, Nigeria is tagged the most populous country in Africa as asserted by the World Bank (2003). Moreover, with about 3.2 percent growth increase in the population, in the next 23 years the 140 million estimated population for the year 2006 will be doubled (Obasanjo, 2007). The human population is forever growing (Kassuba, 2002). Initially, the world population growth was slow. It took millions of years to get the first billion of human beings on the earth by 1850. Then it took 80 years to add another billion by 1930, and only 30 years more to add a third billion by 1961. However, it took only 16 years to add the fourth billion by 1976. Also, within fourteen years 1976 to1990, another one billion people were added (Olasehinde, 2008).

The world's population is now odds-on to swell ever-higher for the rest of the century, posing grave challenges for food supplies, healthcare and social cohesion. A ground-breaking analysis released shows that there is a 70% chance that the number of people on the planet will rise continuously from 7bn to 11bn in 2100 (Carrington, 2014).
There is need to express concern due to the fact that those numbers that kept on multiplying were not just from birth alone, but from the decline in older people dying. People are living for a longer period of time because of better food, house and medical improvement. The death rate among children was once much higher than it is today. Sciences especially medicine have reduced the death rate by controlling disease and epidemics. Vaccination, antibodies, and insecticides are used throughout the world to prevent and cure diseases. There are more children living until they are old enough to reproduce. As more people reproduce, more children are born and population keeps on increasing.

Population Report (2007) projected a world population of 8.04 billion for the year 2025 and 9.37 billion for 2050. According to this medium variant, an increase of some 2.35 billion people is expected worldwide between 1996 and 2025. This projection was based on the assumption that almost all countries worldwide will have a Total Fertility Rate (TFR) of only 2.1 in 2050, that is, a little less between 1.84 and 2.1. This assumption would require a further steep fertility decline in many developing nations especially in Pakistan, Iran, Indian and Nigeria where the total fertility rate is above the reproductive level of 2.1 children per woman (The World Bank, 2003).

Population education has been defined as an educational program which provides for a study of the population situation in the family, the community, the nation and the world with the purpose of developing in the students, rational and responsible attitude and behaviour toward that situation. Also, Monika (2013) defines population education as the educational process by which basic awareness about population problem and a favorable attitude towards a small family size is developed through school and colleges. So far we have adopted a limited approach to this population education in Nigeria a visit to the National Population Commission in Nigeria shows no evidence of educating the populace about population. It is not also, a subject on the of the secondary school curriculum in Nigeria where most teenagers need it to equip themselves for their futures. The concepts of population education are infused into subjects such as Biology, Chemistry, Economics, Agricultural Science and some others where the students can pick ideas of population education.

In some developing countries population education has been linked with educational reform. Reform means introducing a new subject matter relevant to modern life and encouraging new teaching methods that stimulate more students' participation. Population education takes various forms. The most comprehensive approach is through the government-operated primary and secondary school system.

Stevens (2007) notes that religion is an extremely powerful motivator of behaviours and it forms a strong basis for cultural identity, just as it is a common yardstick by which people compare themselves with others. Religion, among other things, provides explanation or comfort and unifies the different social groups. Religious instructions can therefore help to structure people's lives. Religion cannot be separated from culture since every culture has its own religion(s). Any belief embraced by any religion can therefore be passed into the cultural system even in multi-religious and multi-lingual societies like Nigeria.

Commitment is any type of deposition, behaviour or attribute. In another way, it is when an alternative is voluntarily available or mandated by others. Commitment can be described as the level of people's devotion to whatever they are doing. Wimberley (1978) defines commitment as a process. He explains that in the process one needs among the alternatives of which he or she is aware or has alternatives selected by others. He further remarks that commitment is pursued with commitment strength to realise the set goals.

Religion commitment is predictive of greater prosaical behaviour (Hardy & Carlo, 2005), less depression (Pearce, Little, & Perez, 2003), less substance use (Wills, Yaeger, & Sandy, 2003), and postponed sexual intercourse (Hardy & Raffaelli, 2003). There are a number of possible reasons for these associations. For example, religion teaches prosaical values (Hardy & Carlo, 2005), and provides social controls (Hardy & Raffaelli, 2003) and social capital (King & Roeser, 2009). In Nigeria, for example, many people have claimed that their religions have transformed their lives. Religion therefore, can probably be harnessed to transform some bad behaviour in human beings. Many studies have reported that religion reduces the tendency towards or incidence of deviant and immoral behaviors (Olatoye, 2007). However, Johnson (2001) reported no significant relationship between religious commitment and incidence of deviant behaviors. This implies that, religious commitment may have nothing to do with expression of good behaviors. Similarly, Gledhill (2005) reported that religious belief can cause damage to a society, contributing towards high abortion and sexual promiscuity. This further explains that higher rates of religious commitment and worship of a creator correlate with higher rates of sexually transmitted diseases (STD) infection rates, teenage pregnancy and abortion.

Christian and Islamic dogmas encouraged women to be taught more in areas that make them mothers and wives. The purdah system practiced by Islam is an extreme case of shielding women from population education. Some religious practices, Islam for example indirectly support a man having up to four wives with so many children, the result of which is a large family (Aderogba & Olatoye, 2012). It is also, understandable that all major religious groups in Nigeria, Moslems, Christians and ancestor worshippers tend to hold similar views and beliefs on population education especially fertility rate. They all tend to see large number of children as a divine favour or blessing.

Religious commitment and academic achievement has been the focus of researchers in the recent time. Some researchers were of the opinion that the higher the religious commitment the higher the academic achievement while others reported that the higher the religion commitment the lower the academic achievement of the students. Walker and Dixon (2002) reports that religiosity is positively correlated with grade point average of the students. Jeynes (2005) asserts that religious schooling and religious commitment each has a positive effect on academic achievement and school related behavior. Loury (2004) also found that religiously committed students perform better on most academic measure than did their less religious counterpart. Mooney (2005) stated that religiosity correlated with academic achievement. Jeynes (2005) states that religious affiliated schools promote academic achievement more than the public schools. Contrary to these positive opinions Richard (2011) asserts that neither Christian nor public school students have higher total score in examinations. He went further to state that there is no significant difference between the scores of the private Christian and public schools' students. Richard (2011) affirms that researches that indicated positive correlation between academic achievement and religiosity may not be universal.

Attitude does not only include the negative attitude such a prejudices biases and dislikes. It also encompasses also positive attitudes which are sometimes called sentiment, which include our attachment and loyalties to person, objects and ideas (George, 2000). Attitude thus seems like a system of ideas with an emotional core or content. An individual possesses his or her life, he or she acquires not only skills and knowledge, but also definite attitudes, point of views and feelings about his or her experiences. These definite attitudes, point of views and feelings are developed not only due to what kind of experiences the individual passes though, but also how these experiences came about. Olasehinde and Olatoye (2014) assert that attitude to science alone also has a total variance of 0.1% on science achievement. It denotes that positive attitude to science does not imply that the students will have high science achievement. They note that the widely believed submission that attitude to science greatly predict achievement in science is unfounded. Amjad and Muhammad (2012) asserted that students have low level performance and less favourable attitude towards population related issues.

Less positive attitude of females toward science than males is reported in many studies. Also, Raimi and Adeoye (2002) reported that there is a significant difference between males and females in terms of their attitude towards integrated science in favour of male. Perhaps, this has been the reasons for males' better performance in integrated science cognitive achievement. Olasehinde and Olatoye (2014) reported no significant difference between the male and female students' attitude to science and science achievement. This implies that there no serious gender disparity among the male and female students. The results of male and female students also reveal very low performance of students in science. Olasehinde (2008) asserts that there is no significant difference between the attitude of boys and girls in population issues. Based on above literature this study therefore, investigated religious commitment and secondary school students' attitude to population education concepts in Biology.

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

(i) Religious commitment does not significantly influence students' achievement in population education concepts in Biology.

(ii) Religious commitment do not significantly influence students' attitude to population education concepts in Biology.

(iii) There is no significant relationship between religious commitment, achievement and attitude to population education concepts in Biology.

(iv) There is no significant difference between male and female students'
   (i) Religious Commitment;
   (ii) Attitude to Population Education Concepts in Biology and
   (iii) Achievement in population education concepts in biology.

Methodology

This study adopted a descriptive survey research design. The entire Senior Secondary School Students (girls and boys) taking Biology in all the public secondary schools in Katsina State, Nigeria is the target population for this study. A multi-stage stratified random sampling technique was used. The first stage involved stratification or division of the whole state into three Educational zones. The second stage is to randomly select two local governments from each selected zones of the state for the study. The third stage involved the selection two senior

secondary schools from each LGA. Thus, six secondary schools were selected from the state. The fourth stage involved selection of SSII class in each of the randomly selected schools. In each of the SSII class selected an intact class was used for the research.

Three instruments were used to collect data for this study. They are: (i) Students' Religious Commitment Questionnaire (SRCQ); (ii) Students' Attitude to Population Education Questionnaire (SAPEQ) and (iii) Population Education Achievement Test (PEAT).

SRCQ and SAPEQ were designed by the researcher. Each of these questionnaires has 12 items with a four-point Likert-type scale of 'Strongly Agree', 'Agree', 'Disagree' and 'Strongly Disagree'. The respondents were asked to indicate their feelings to each statement/item by ticking any of the four possible responses on the scale. The items on the instruments covered different aspects of the variables being considered. Respondents were asked to indicate their gender and type of school on the questionnaires.

The validity of the three questionnaires and the achievement tests were ensured through experts' suggestions and guidance. All the achievement items were selected from already standardized items produced by the West African Examination Council. The items selected were only on the items covered in all the schools selected for the study. The test retest reliability yielded 0.784, 0.713 and 0.816 coefficients for SRCQ, SAPEQ and PEAT respectively.

Data were analyzed using Statistical Package for Social Sciences (SPSS). Research hypotheses 1 and II were tested using Linear Regression. Research hypothesis III was tested using Pearson-Moment Coefficient. Research hypothesis IV was answered using t-test.

Results

Hypothesis 1: Religious commitment does not significantly influence students' achievement in population education concepts in Biology.

Table I: Religious commitment as a predictor to students' achievement in population education concept in Biology

R= .040		Adjusted R= 0.002			
R^2 =.002		Standard Error = 2.82910			
Model	Sum of Square	df	Mean Square	F	Sig
Regression	3.989	1	3.989	.498	.481
Residual	2505.198	313	8.004		
Total	2509.187	314			

Table I show that religious commitment accounted for 0.20% of the total variance in the students' achievement in population education concepts in Biology. (R^2 = 0.002, P < 0.05). This shows that the influence of religious commitment is positive but low on the students' achievement in Biology. The 99.8 of variance in achievement accounted for by other variables.

Hypothesis 2: Religious commitment does not significantly influence students' attitude to population education concepts in Biology.

Table 2: Religious Commitment as a Predictor to Students' Attitude to Population Education Concept in Biology

R= .200	Adjusted R= 0.037
R^2 = 0 .040	Standard Error = 9.50243

Model	Sum of Square	df	Mean Square	F	Sig
Regression	1180.272	1	1180.272	.498	.481
Residual	28262.699	313	90.296	13.071	.000
Total	29442.971	314			

Table 2 shows that religious commitment accounted for 4.0% of the total variance in attitude to population education concept in Biology (R^2 = 0.040, P< 0.05). This shows that religion commitment have positive influence on attitude of students' to population education. The rest 96% of the variance belong to the variable that is not considered.

Hypothesis 3: There is no significant relationship between religious commitment, achievement and attitude to population education concepts in biology.

Table 3: Relationship between students' religious commitment, achievement and attitude to population education concepts in Biology

Variable	Students' Religious Commitment	Students' Attitude to Population Education	Students' Achievement in Population Education
Students' Religious Commitment			-.040
Pearson Correlation	1	200**	.481
Sig (2-tailed)		.000	315
N		315	
	315		
Students' Attitude to Population Education			
Pearson Correlation	200**	1	.032
Sig. (2-tailed)			.568
N	.000	315	315
	315		
Students' Achievement in Population Education			
Pearson Correlation	-.040	.032	1
Sig. (2-tailed)	.481	.568	
N	315	315	315

** Correlation is significant at the 0.01 level (2-tailed)

Table 3 shows that there is a positive relationship and significant relationship between students' religious commitment and attitude to population education (r=.200, p < 0.05). There is also a negative but no significant relationship between religious commitment and achievement in population education (r = -.040 p > 0.05). However, there is a positive but no significant relationship between students' attitude and achievement in population education (r = .032, p < 0.05).

Hypothesis 4: There is no significant difference between male and female students'
(i) Religious Commitment;
(ii) Attitude to Population Education Concepts in Biology, and
(i) Achievement in population education concepts in Biology.

Table 4: **Comparison of Male and Female Students' Religion Commitment, Attitude to Population Education and Achievement in Population Education**

Variable	Gender	N	Mean	Std Dev	Std Error	df	t	P-value
Students' Religious Commitment	Male	192	39.9323	7.06667	.50999	312	.437	.650
	Female	122	39.5328	8.38080	.75874			
Students' Attitude to Population Education	Male	192	30.7240	10. 72170	..77377	312	- 3.187	.002
	Female	122	34.2459	7.29464	.66043			
Students' Achievement in Population Education	Male	192	8.3281	2.62721	.18960	312	.502	.616
	Female	122	8.1639	3.11053	.28161			

Sig at P< 0.05

Table 4 shows that there is no significant difference between male and female students' commitment and achievement in population education (t- 0.437, 0.502, p> 0.05). It further shows that there is a significant difference between the male and female students attitude to population education (t= -3.187, p, 0.05).

Discussion

Religious commitment accounted for 0.20% of the total variance of students' achievement in population education concepts in Biology. The variance is low and not significant. This shows that the students have low level of religious commitment and that religious commitment has low effect on achievement on population education concepts in Biology. This implies that religion has no effect on population growth and supports Aderogba and Olatoye (2012) submission that all religions clamor for more children in the family. Also, this supports Gledhill (2005) that religious beliefs can cause damage to a society, contributing towards high abortion and sexual promiscuity. This further explains that the higher rate of religious commitment and worship of a creator correlates with high rate of STD inflection, teenage pregnancy and abortion.

Furthermore, findings in the study show that Religious commitment accounted for 4.0% of the total variance of students' attitude to population education concepts in Biology. The percentage of the variance is very low and not significant. Aderogba and Olatoye, (2012) affirms that positive attitude will lead to higher achievement. That is, those with positive attitude towards a course or subject will have higher achievement in the course or subject and vise visa. Students' positive attitude towards population education concepts will make them have intrinsic motivation which is an inherent quality to propel greater achievement in Biology.

The result of the study further shows a negative but no significant relationship between religious commitment and achievement in population education concept in biology. This shows that the higher the students' religious commitment the lower the students' achievement in

population education concepts in Biology and the lower the students' religious commitment the higher the students' achievement.

The result went further to show that there is a positive but significant relationship occurred between the students' religious commitment and achievement in population education concepts in Biology. This implies that the higher the students' religious commitment the higher the students' achievement in population education concepts in Biology the lower the students' religious commitment the lower the students' achievement in population education concept in Biology. However, there is a positive and no significant relationship between students' attitude to population education and achievement in population education concepts in Biology. This shows that the higher the students' attitude to population education the higher the students' achievement in population education concepts in Biology and the lower the students' attitude to population education the lower the students' achievement in population education concept in Biology.

The male and female students' religious commitment, attitude to population education, achievement in population education was compared. The findings show that there was no significant difference between male and female students' religious commitments and students' achievement in population education concept in Biology. However, the result shows that the male students have means score ($\ddot{X}$ = 39.9323) and female students with ($\ddot{X}$ = 39.5328) in religion commitment. This supports Olatoye and Afuwape (2012) that male students have higher religious commitments than the female students. Also, the male students have the mean score ($\ddot{X}$ = 8.3281) while the female students have the mean score of ($\ddot{X}$ = 8.1639) in achievements in population education concepts in Biology. This supports Olagunju and Olasehinde (2011) views that the male students have higher scores in population education concepts than the female students.

Furthermore, there is significant difference between male and female students' attitudes to population education concepts in Biology. The significant difference is as a result of the female students having higher mean score ($\ddot{X}$ =34.2459) as against the male students mean score (X = 30.7240). This supports Olasehinde and Olatoye (2014) positions that female students have more positive attitude to biology than the male students and against Kavita (2002) that, there is no significant difference between male and female attitude to population issues.

Conclusion

Population problem is a matter of great concern and is closely related to development of individual, family and the society. The findings in this study revealed that religious commitment accounted for very low variance in students' achievement and attitude to population education concepts in Biology. There is a negative and no significant relationship between students' religious commitment and students' achievement in population education concepts in Biology. A positive and significant relationship occurred between religious commitment and students' attitude to population education. Also, there is a positive but no significant relationship between students' attitude and achievement in population education concepts in Biology.

Furthermore, the findings revealed that there is no significant difference between male and female students' religious commitment and achievement in population education concepts in Biology. However, there is a significant difference between male and female students' attitude to population education concepts in Biology.

Recommendations

The following recommendations are made:

(i) Religious commitment should not be used to determine the students' achievement in population education concepts in Biology.

(ii) Religious commitment should not be used to determine the students' attitude to population education concepts in Biology.

(iii) Education stakeholders should encourage both genders to develop positive attitude to population education.

(iv) The negative and no significant relationship between students' religious commitment and achievement in population education should be used to promote population education among the religious in secondary schools.

(v) The significant relationship between students' religious commitment and attitude to population education should be used to help the students develop a positive attitude to population education concepts no matter the level of religious commitment.

(vi) Counseling of the students should be properly done to allow them see the need to bring up manageable family size which can stem out of population education.

References

Aderogba, A. A., & Olatoye, R. A. (2012). Do religiously committed students engage in less examination malpractice behaviours? *International Journal of Social Science and Education,* 3, 1 1 – 7.

Amjad, I. P., & Muhammad, F. (2012). Measurement of scientific attitude of secondary school students in pakistan. *Academic Research International,* 2(2), 379 - 392.

Carrington, C. (2014). World population to hit 11bn in 2100 with 70% chance of continuous rise. *The guardian Newspaper*.

George, R. (2000). Measuring change in students' attitude towards science overtime. *Journal of Science Education & Technology,* 9, 3, 213 - 225.

Gledhill, R. (2005). Societies worse off when they have God on their side, *The Times,* September 27, p10.

Hardy, S. A., & Carlo, G. (2005). Religiosity and prosocial behaviours in adolescence: The mediating role of prosocial values. *Journal of Moral Education, 34*, 231 - 249.

Hardy, S. A., & Raffaelli, M. (2003). Adolescent religiosity and sexuality: An investigation of reciprocal influences. *Journal of Adolescence, 26*, 731 - 739.

Jeynes, W. H. (2005). The relationship between urban students attending religious revival services and academic and social outcomes. *Education and Urban Society*, 3 - 20.

Johnson, B. R. (2001). Religiosity and institutional deviance: The impact of religious variables on inmate adjustment, *Criminal justice review*, 47(2), 70 - 81.

Kassuba, S. L. (2002). *Human Ecology: How it relates to Population.* Yal0New. New York: John Wiley and Sons.

King, P. E., & Roeser, R. W. (2009). Religion and spirituality in adolescent development. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology: Individual bases of adolescent development.* Hoboken, NJ: John Wiley. (3rd ed., 435 - 478).

Loury, L. (2004). Does church attendance really increase schooling? *Journal for the Scientific Study of Religion*, 43. 119-127. Retrieved from Research Library. (Document ID: 579327981).

Monika, M. (2013). Attitude of school teachers towards the population education. *Educationia Confab*, 2(5), 37 – 42.

Mooney, M. (2005). Does religion influence college satisfaction or grades earned? Evidence from the national longitudinal survey of freshmen (NLSF). *Journal for Scientific Study of Religion*.

NPC, (2006). Nigerians Now 140 Million. *The Guardian* December 30th, 2006.

Obasanjo, O. A. (2007). Call for Moderation of Population Growth. *The Punch* 10th January 2007, 1- 2.

Olasehinde, K. J. (2008). Effect of school of location on student cognitive achievement in population education concepts in biology. *Sahel analyst, Journal of the Faculty of Social and Management Sciences Scienc*e, 10(1), 43 - 48.

Olasehinde, K. J., & Olatoye, R. A. (2014). Scientific attitude, attitude to science and science achievement of senior secondary school students in katsina state, Nigeria. *Journal of Education and Social Research, 4*(1), 445 - 452.

Olatoye, R. A., & Afuwape, M. O. (2012). Test anxiety as a determinant of examination misdemeanour among some Nigerian secondary school students. *Ibadan Journal of Educational Studie*s, 3(182), 32 – 39.

Olatoye, R. A. (2007). Religious commitment and superstitious beliefs about examinations as determinants of secondary school students' involvement in examination malpractices. *The Nigerian Journal of Guidance & Counseling: An International Journal,* 12(1), 47 - 56.

Pearce, M. J., Little, T. D., & Perez, J. E. (2003). Religiousness and depressive symptoms among adolescents. *Journal of Clinical Child & Adolescent Psychology, 32*, 267 - 276.

Population Report (2007) Population education in the School. *Population information program*. The Johns Hopkins University, USA

Richard, D. J. (2011). Individual religious commitment and interdisciplinary academic achievement: *student religiosity as a factor in a national academic competition. Christian Perspectives in Education,* 4, 2.

Stevens, P. (2007). Religion. *In:* D. Levinson & M. Enber (Eds) *Encyclopedia of cultural anthropology,* 3. New York: Henry Holt and Company.

The World Bank. (2003). Nigeria and the world bank: *Learning from the Past and looking to the future.* The World Bank Abuja and Washington D.C. 56.

Walker, K., & Dixon, V. (2002). Spirituality and academic performance among African American college students. *Journal of Black Psychology*, 28, 107 – 121.

Wills, T. A., Yaeger, A. M. & Sandy, J. M. (2003). Buffering effect of religiosity for adolescent substance use. *Psychology of Addictive Behaviours, 17*, 24 – 31.

Wimberley, R C. (1978). Dimensions of commitments. *Journal of the Scientific Study of Religion,* 17, 225 - 215.