

SCHOOL TYPE, GENDER AND DOMICILITY AS FACTORS AFFECTING ACADEMIC PERFORMANCE

MBAEZE I.C., PhD.

Department of Psychology Imo State University, Owerri
08035414696

E-mail: mbaeze.charles@yahoo.com.

ABSTRACT

This study examined school type (public/Private), Gender (male/female) and domicility (urban/rural) as factors that could affect students' academic performance. Three null hypotheses guided the study. Participants used for the study consist of 160 students from eight selected secondary schools from two different Local Government Areas (urban rural) in Anambra State. Participants were S.S. 2 students aged 15-19 years (mean age 17 years). Participants were selected through stratified random sampling technique. Based on the pilot study, participants that scored 60% and above were selected for the study. Test was both in English Language and Mathematics. Performance was based on their mean scores in both tests. The error scores were tested using a 2x2x2 factorial design and analyzed using a 3-way ANOVA. Result showed that public school students outperformed private school students ($P < 0.01$). There was no significant difference in the performance of males and females ($P > 0.05$) and also that urban school students performed better than their rural counterparts ($P < 0.01$). Result further showed that there was no interaction effect of school type and gender and school type and domicility. However, result showed an interaction effect of gender and domicility and also a joint interaction effect of the three variables. Result was discussed and recommendations were made based on the implications of the findings.

Introduction

Academic performance refers to how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. Academic performance is seen as the ability to study and remember facts and being able to communicate your knowledge verbally or down on a paper.

As career competitions grow even fiercer in the working world, the importance of students doing well in school has caught the attention of many. Although education is not the only road to success in the working world, much effort is made to identify, evaluate, track and encourage the progress of students in schools. Good academic results are known to provide more career choices and job securities.

In recent years, professionals in various fields have made thorough investigations to ascertain factors that could be responsible for poor academic performance of students. Obviously, there is a downward slide of students' level of hard work, hence making them to easily resort to other methods in order to succeed in their academic endeavour.

The academic achievements of students in private schools seem to be better than those of their counterparts in public schools. This is because certain conditions exist in private schools that are not likely to be found in public schools. Specifically, some of these conditions include, teachers receive their salary regularly, the administrative climate of private schools is more conducive for work, teaching materials and other equipments are available, supervision of work

in private schools is more regular and systematic, the private schools generally employ more qualified teachers than public schools. There have been demands by the public to hand over schools to private owners because of the general belief that the standard of education is falling (Akuoba. 1976). Fall in standard of education is blamed on the government takeover of schools. Today the private secondary schools have come into prominence in recent times. Their importance stems from the fact that they seem to provide better alternative to government owned schools and create more exciting environment for a healthy academic competition.

Variables such as gender have also been seen as a factor that influences students' academic performance. Researchers have shown that males tend to outperform their female counterparts especially in mathematics (Hyde, Fennema and Lamon, 1990). It is generally accepted that from the moment of birth boys and girls are treated differently. These differences, which are absent or negligible during childhood, begin to appear in early adolescence. For example, beginning at about 10 or 11 years of age girls on the average outscore boys on many measures of verbal ability - vocabulary size, comprehension of difficult written materials and verbal fluency. Although boys may lag behind in verbal skills, they tend on the average to be superior to girls on some tests of visual- spatial ability (Sanders, Soares and D'Anuila, 1982). The mathematical skills of boys increase faster than those of girls after age 13 but the differences are not consistent as are those for spatial ability. Because gender differences do not emerge until adolescence, it seems reasonable to conclude that they reflect differences in training and social expectations. After all, girls are usually encouraged to develop interest in poetry, literature, and drama; boys are expected to be more concerned with science, engineering and mechanics. This is undoubtedly part of the cause, but it is also possible that some sex differences in ability may be based on biological differences that do not appear until the nervous system reaches a certain level of maturation namely, puberty.

The timing of sexual maturity is related to specific abilities. A study of 6,000 adolescents (aged 12 to 18) found that girls who matured late matched or outscored their male age-mates on tests of mathematical ability and early maturing boys had better verbal skills than late maturers (Carl, Smith, Dornbusch and Gross, 1983). This early maturation appears to favour verbal skills and late maturation favours mathematical abilities. Since females, on the average mature earlier than males, rate of physical maturation may be one determinant of gender difference in ability.

Locality where children are exposed and brought up influences the children's academic performance. This is because children in the urban area are exposed at their early stage to learning the expanded and elaborated form of formal language which is important for communication efficacy and enhanced rich vocabulary and syntax. This enables them to manipulate their environment mentally and enhance cognitive ability hence enhance academic performance (Piel, 1988).

Statement of Problem

As career competition grows coupled with the need of employers to employ people that have things to offer, the importance of students doing well in school has caught the attention of many. Academic performance of Nigerian students have degraded in recent years. For instance, in the 1970's, 80's and even early 90's students were able to solve mathematical problems without the help of a calculator. However, these days the reverse is the case. Every

average student seeks for the help of a calculator when faced with the simplest mathematical problem. Nigeria was once known for her educational prowess which even made foreigners to come down to the country, but today it is no longer the same. Obviously, there is a downward slide of students level of hard work, hence, making them to easily resort to other methods to succeed in their academic endeavours. Academic performance is degrading hence, ways to improve it are being sought for. For this reason it is a burden to the researcher to know if factors like school type, gender and domicility contribute to this academic degradation.

Purpose of Study

Based on the ongoing arguments and conflicts that exist from prior studies and also the need to provide solutions to improving the standard of education, this research is focused on examining the necessary effect school type, gender and domicility will have on students' academic performance and also the interaction effect of the three variables. This research is conducted in order to offer solution to improving students' academic performance and also to provide a standpoint for future researchers.

Theoretical Review

Expectancy Theory (Vroom, 1964)

This theory holds that we often enter into interactions with preconceptions as to what another person will be like and these expectation may influence our behaviour towards that person. The result can be a self-fulfilling prophecy in which your behaviour towards the other person causes him to meet your expectations.

In early controversial study, teachers at an elementary school were told that certain students were expected on the basis of test score to show marked academic improvement over the course of the school year. At the end of the year, these students had improved significantly more than their classmates. In reality, the students "expected to improve" had been chosen at random. Apparently, the teachers expectations influenced their behaviour towards the students and helped bring about the predicted improvement (Rosenthal and Jacobson, 1968). In fact, expectations can be more influential than later observations of actual behaviour. (McAninch et al. 1993). In other words, the expectations we have, that some certain students will perform better than others makes the other group of student not expected to perform well) to lack the motivation to study hard, thus, making them to perform poorly.

Attribution Theory (Kelly, 1991)

This theory holds that there are causal factors when students fail to succeed in an academic achievement. These factors could be internal or external. Internal factors concern the persons affect. Simply put, it is the persons perception about the task involved and its relativity to the person's emotive state (affect) that could either encourage or discourage the person on his selfworth. This shows that there is a close relativity between a person's emotional state and level of motivation.

Academic performance has been seen to be affected by external factors, This can result to the students learning helplessly as long as they are not psychologically competent. This reflects the student's level of academic striving. Moreso, external factors could be an influential force on the student strives to achieve high or low in their academics. This includes school materials, locality with regards to the level of their exposure, conducive learning environment,

qualitative teachers, family support etc. These factors influence the student motivational strength that could reflect or be attributed to either their success or failure.

Motivational Systems Theory (Ford, 1992)

This framework focuses on the individual as the unit of analysis, but embeds the individual in the social and environmental context that are crucial to development.

This model attempts to provide a comprehensive theory of motivation and proposes that actual achievement and competence are the result of a motivated skillful and biologically capable person interacting within a responsive environment.

In motivational system theory, motivation is defined as the organized patterning of three psychological functions that serve to direct, energize and regulate goal-directed activity: personal goals, emotional arousal processes and personal agency beliefs (Ford, 1992). Symbolically this definition of motivation can be represented as a formula of three interacting components.

Motivation = Goals X Emotion X Personal Agency Beliefs.

Therefore motivation is an interactive construct representing the direction a person is going, the emotional energy and affective experience supporting or inhibiting movement in that direction and the expectancies that a person has about reaching their destination or achieving their goals. MST does not prefer any one of the three components; it views all three components as functioning in an interdependent triumvirate process. If any one of the components is absent in a particular episode, then the subject will not be motivated to initiate activity even though the other two components are firmly placed (Ford, 1992). Although the index choice of task may sound appealing, it is usually not a useful index in the academic setting as students typically have few choices in that environment. In the academic setting, students who are motivated to learn usually expend effort to succeed. Students motivated to learn usually expend greater mental effort during instruction, organizing and rehearsing information, monitoring level of understanding and relating new material to prior knowledge (Pintrich and De Groot, 1990).

In academic environment, students who are motivated to learn should persist at tasks when they encounter obstacles. Persistence is important as learning does not always result in instant gratification. Persistence relates to the sustained component of motivation and the greater the persistence, the greater the accomplishment and rewards (Achievement). Researchers frequently utilize persistence as a valid measurable component of motivation. Research has shown that students who chose to engage in a task, expended effort and persisted were more likely to achieve at a higher level (Pintrich and Schrauben, 1992, Schunk, 1991). Researchers have obtained positive relationships between achievement and motivational indices of choice of task, effort and persistence. In a simple but effective experiment. Dale schunk (1983) found that the more practice students obtained while in training (effort and persistence), the more successful they were in solving similar problems in examination measure of achievement.

Empirical Review

There are numerous investigations on the ongoing argument. Results have shown school type, gender and domicility as factors that can be used to predict academic performance of students.

Public school students are reported to obtain higher college grades than private school students (Lathrop & Kieffer, 1959; McArthur, 1954, Seltzer, 1948; Shuey, 1956, 1988). Various hypotheses have been advanced to account for this difference. One hypothesis is that public school students do better in college because they are more rigorously selected for admission. This hypothesis can be dealt in two parts, for selective factors may be based on either scholastic aptitude (intellectual factors) or on motivational (non-intellectual) factors. Equating groups for differences in aptitude has become a standard practice in educational research. Similar equating of groups for motivational differences has not yet become common because of lack of adequate test instrument.

It will be shown that when public and private school students are equated for academic aptitude and academic motivation, most, if not all of the differences between the two groups are accounted for. The data will be shown to be consistent with the affirmative hypothesis that differences in performance between public and private school students when found are due to selection procedure.

Recent debates have highlighted the issue of school academic achievement. In 2004, a report contending that private school scored lower than students in public school was fiercely contested; other studies were then released to demonstrate that private schools produce greater gains in student learning (Lubienski, and Lubienski. 2006).

The academic performance of students in private schools are likely to be better than that of their counterparts in public schools because certain conditions exist in private schools that are not likely to be found in public schools. Specially, some of these conditions include, teachers receive their salary regularly, the administrative climate of private schools is more conducive for work, teaching materials and other equipments are available, supervision of work in private schools is more regular and systematic, the private schools generally employ more qualified teachers than public schools.

Uche (1990), showed that unconducive environment for learning retard the academic performance of students. Opinion poll showed that people view private school environment as superior as and more conducive for learning than public schools.

Flynn (2001), argued that learning materials, government level of attention, general provision of social amenities etc influences child's academic performance Ceci (1996) and Gringorenko (2006), stated that modifications in environment can change students Intelligence Quotient (IQ) level.

Maduka (2007) in her study identified school type as a significant factor that affects students' performance. Using 363 participants selected from different private schools and public schools, result showed that private school students outperformed public school students.

A government report on mathematics result from the 2003 National Assessment of Education Progress (NAEP) highlighted this finding 'public-school students scored lower on average than non-public school students'. This finding is nothing new private school students in the United State have typically scored higher than public school students on standardized test, confirming the perception among the US public and policymakers that private schools are inherently more effective than public Schools.

However, on the contrary, a study released by the Centre on Education Policy indicates that when all factors are considered, there is virtually no difference in achievement test between students from private school and students from public' school.

Reviewers have consistently concluded that males perform better on mathematics test than females do (Hyde, Fennema and Lamon, 1990).

Maccoby and Jacking (1994) carried out a pioneering review of sex differences and concluded that girls out performed boys in verbal tests while boys performed better than girls in quantitative and spatial tests.

Chika (1981), findings of students achievement in English Language showed that in some instances males achieve better than females while others stated that both sexes achieve equally in English Language. Pillai (1971), Labour (1979) and Onibokun (1979) in their different studies showed significant gender differences in mathematics test between boys and girls as cited by Mbaeze (2009). Obodo (1992) also maintained significant gender differences in "Numerical Ability Test (NAT)" in mathematics as cited by Mbaeze (2009).

Fenneman (1980) and Foon (1968) have noted that males generally have greater self-esteem than female students, hence are likely to perform better than females.

Komarovsky (1946) investigated the average scores of high schools seniors on the scholastic Aptitude Test (SAT) of the College Entrance Examination and found that boys made a total of 527 in mathematics test while girls made a total of 467 in mathematics and 486 in verbal tests as cited by Mbaeze (2009). Kuchenberg (1963) posits that poor achievement of girls in mathematics is due to the fact that they are not encouraged to identify with the male roles as cited by Mbaeze (2009).

Mbaeze (2006, 2009) in a study of 120 participants, showed that males outperformed females in mathematics achievement. Also Ihejimmagha (2010), using 40 students of equal gender reported that males outperformed females in a test measuring academic performance. Hyde et al (1990) examined mathematics performance of males and females on 100 studies encompassing some four million contrary to traditional wisdom, females actually outperformed well in mathematics in elementary and middle schools, although by only a little average. By high schools, the findings were reversed. Males scored higher than females in mathematics problem solving.

Campbell et al (1998) found out that girls outperformed boys on tests on subjects such as reading and writing and performed nearly equal to boys in mathematics.

Willingham and Cole (1997) found out that in middle school, girls continue to demonstrate an academic advantage over boys outperforming them with respect in academic and non-academic subjects. However, there appear to be no significant differences in test performance between boys and girls.

Using 12-14 years old boys and girls drawn from single-sex-secondary schools and tested in quantitative aptitude test (QUAT) developed and validated by Obodo (1987), it was discovered that there was no significant difference in the achievement test between both genders as cited by Mbaeze (2009). This result shows that both gender have equal achievement potential. Similarly, the findings of (Sherman and Fenneman, 1974; Fennema and Sherman, 1977) maintained that boys and girls do not differ significantly in their mathematical potential or achievement.

Maduka (2007), also showed that there was no significant difference in the mean scores between the two genders.

There is a considerable literature showing gender differences in many variables such as achievement, mathematics and conceptual abilities. These differences typically favour girls in verbal areas and boys in computational tasks and physical sciences. Girls, compared with boys may earn relatively higher school grades and may be more conscientious in their school works, but boys score relatively higher on standardized tests (Warrick and Nagliers, 1993).

However, Belier and Gafri (1996) reported that over the past two decades, there has been a narrowing of the gender gap on some tests of scientific information. For instance, Linn and Hyde (1989) analyzed various studies on gender differences in verbal, spatial, quantitative and scientific reasoning skills and concluded that the majority of gender differences in cognitive skills are small and have become less pronounced in recent years. Further examination of studies on gender differences in mathematics achievement has been accompanied by increased participation in mathematics course by all students in general and by female students in particular (Beller and Gafni, 1996).

Nevertheless, some other findings (e.g low and Over, 1993) claim that in spite of the narrowing gender gap in achievement, the gender gap in participation and persistence in mathematics and science course remain large. Moreover, these gender differences have been found to follow a stereotypic trend. Boys were believed to be better in areas of mathematics, physical, general school work and honest self-concept.

Low and Over (1993) conducted two studies to show gender differences in solution of algebraic word problem containing irrelevant information. In the first experiment, 219 boys and 217 girls in 10th grade classified algebraic word problems in terms of whether the problem contained missing or irrelevant information for solution. Among students with similar levels of general mathematics ability, girls were less likely than boys to identify missing or irrelevant information within problems. More girls than boys perceived irrelevant information within the test of a problem as being necessary for solution. In the second experiment 11th grade girls ($n = 234$), who were as able as boys ($n = 287$) to solve algebraic word problems containing sufficient information, had lower solution rates than did boys on problems containing irrelevant information. On the later problems girls more often incorporated the irrelevant information into their attempted solution than did boys. These results suggest that gender differences is inconclusive and inconsistent.

The findings of these researchers are however inconclusive and further studies need to be carried out. Some researchers maintain that significant gender differences in personality traits can be found in interests, preferences, attitudes, ideas, performance, academic achievement and personal sense of values. Consolidating this assertion, Tresmer (1974) remarked that gender differences in achievement of males and females are both motivated by the need for success but have different goals in mind. However, Sorenson (1964) indicated that results of intelligence tests show that boys and girls of the same age are throughout the school years essentially equal in capacity.

Following this line of argument, Maccoby and Jacklin (1974) maintained that men and women generally do not differ on tests that measure problem-solving abilities as cited by Mbaeze (2009). Dawyer (1973) showed that gender differences in children's achievement in mathematics can be seen as a result of socialization. For instance, children virtually of all ages

tend to view mathematics and science as a masculine field. In the same vein, Keniston and Keniston (1964) in their earlier research in 1960 maintained that differential practice with mathematics accounts for some gender differences in the subject. In other words, they posited that boys are supposed to be good at mathematics because many adult male-dominated occupations deal with figures and budgets as cited by Mbaeze (2009).

On the numerical aptitude test, boys have been found to achieve better grades than girls, though such male superiority fails to appear until the children are well into the elementary school period (Gessel, 1940). Similarly, male dominance is confirmed only on arithmetic problems and a host of numerical reasoning tests but not in computation test where there are either no gender differences or more often a difference in favour of girls (Terman and Tyler, 1954).

In a study carried out by Lewis and Tyler (1954), it was found that girls typically excel in mathematical reasoning, history, geography and the science which is in consonance with Odeyemi's (1983) finding about the superiority of boys over girls in ingenuity, induction and number series completion as cited by Mbaeze (2009) however, Hogrebe, Nist and Newman (1985) investigating whether or not there is gender difference in reading achievement assert that gender accounts for less than 80% of the variables in reading achievement as cited by Mbaeze (2009).

Lending credence to this, Clark (1995), found no basic difference between the genders in reading achievement in mathematics, but in the basic skill areas of language (mechanics of English language), the performance of girls was superior to that of boys even after controlling difference that can be attributed to chronological age and mental age as cited by Mbaeze (2009).

Gates (1961) in a study involving 13,000 pupils found that, on the average, girls of ages between 8-11 years surpassed boys in reading ability. This agrees with the previous research findings especially those involving word fluency, spelling, writing and oral tests. Contemporary research findings have confirmed the claims of earlier research work, For example, Fennema (1974), Obioma and Ohuche (1981) and Ijeoma (1977) have in their various studies on the performance of male and female students in mathematics came out with the finding that males generally perform better than their female counterparts as cited by Mbaeze (2009). The above assertion was reaffirmed when in 1981; Obiorna and Ohuche again discovered gender differences in mathematical abilities in favour of boys.

Female supremacy over boys in verbal and linguistic functions has been confirmed with noticeable consistence by different researchers on verbal aptitude tests. (Martin and Hoover, 1987: Sabers, Cusling and Sabers, 1987). In other words, the claims that girls tend to outclass boys in almost all aspects of language learning are being supported by research findings. Girls also tend, to make more rapid progress in learning to read than boys (McCarthy, 1938). The above proposition was supported by La Brant (1933) when in his study of certain language development of grade 4 to 12, he gave the participants test of composition writing, his finding showed that elementary schools girls, on the average use 86% as many words as their male colleagues.

Recent educational research has demonstrated rural/urban difference in academic achievement. There is a considerable body of literature that concludes that rural students perform less well than urban students on standardized tests of educational achievement

(Broom hail and Johnson, 1994; Broom hall, 1993; De young, 1985). One hypothesis for the existence of this condition is that expenditures on education do matter and they are smaller in rural areas than in urban area (Mulkey, 1993; Mc Dowell, et al 1992; Jarisen 1991; Reeder, 1989; and De young. 1985). A second hypothesis for the existence in the difference in educational achievement between rural and urban areas involves the relationship between the values in use of particular inputs and the level of such achievement (Hanushek, 1991), and a third hypothesis is that difference by location in attitude of individuals, parents, and peers about education exist and the result in the observed difference in educational achievement by location (Broomhall and Johnson, 1994, and Hanson and Cainsbury,1988).

A number of studies have concluded that a conducive home environment, in terms of provision of facilities for learning have a positive impact on student achievement. Analysis in low literacy districts found that families which encouraged children's schooling by allocating time for study tend to encourage reading and then score significantly better on tests. (Worldbank 1997; Varghese 1995, Shulka et al 1994). Michelmore (1973) also found out that locality is a significant factor in children's mathematical achievement using a mathematics achievement test.

Olson (1970) in his study correlates environment with educational performance. He discovered that achievement such as reading requires a specific experience. He noted that education and welfare supply additional nurture to help realize the potential that exist. Hence deprived children have limited opportunities to perform well. He argued that there is inferior growth attested ability in the rural area as compared to urban area.

Differential environmental influences have been suggested to account for disparity in urban and rural children's performance. In urban schools, there also exist excellent facilities, equipped laboratories and other teaching aids. Rural environment is characterized by poverty associated with subsistent agriculture, ignorance and conservatism. There is also a likelihood of less equipment, like laboratory equipments and teaching aids. More importantly. children from this area seem to be of relatively low socio-economic parents (Ozioko, 1986).

The effects of these differences have been examined in a number of studies. For instance, Nwosu (1974) compared the performance of rural and urban schools in East Central states of Nigeria (Mid-eastern Nigeria) in the first school leaving certificate examination result of 1970-1972. The yearly distinction, credit pass and failure frequencies of both pupils in the rural and urban area were compared from 1970 to 1972, the distinction frequency rate for urban schools was significantly higher than the distinction frequency rate for rural schools. Urban schools also performed significantly higher than the rural schools at credit level. Although rural schools scored more pass frequencies than urban schools, the difference was not significant. Urban schools had less failure frequencies and the differences highly significant. The overall result demonstrated urban and rural differences in academic performance.

Similarly, Okoye (1976) compared the performance of rural and urban children in English language. Using six primary schools in Enugu and Nkalagu. Okoye demonstrated that there exist significant differences in the performance of the rural and urban children in written English. Further findings showed that vocabulary range of the urban school children was significantly wider than that of their rural counterparts.

Obe (1983), using the test of scholastic aptitude comprising test of verbal and numerical aptitude, demonstrated that children's scholastic performance is influenced by locality or their

different environmental experiences. Furthermore, Ozioko (1986), testing 72 Igbo (Nigerian) children in a concept learning study, under the condition of nature of stimulus material, locality and age, found that urban school children learned concepts faster than their rural counterparts. The author explained this finding from the point that the urban environment offers more opportunities for early acquaintance and practice in conceptual tasks than the rural environment. In a similar study, Ozioko (1983), using 72 children drawn from urban and rural areas in Nsuka Local Government Area of Enugu State of Nigeria, compared their performance in reversal and extra dimensional shifts under the conditions of locality and gender. Results showed that urban participants learned both shifts faster than their rural counterparts. In a contrasting study, Rundown and Hunt (1987) investigated rural-urban and gender differences in achievement in 4,384, 4th, 7th and 10th grade Canadian students. The participants were administered with the Otisleron test of mental abilities. Result revealed that rural participants were superior to urban participants on a majority of mental ability subject.

Michelmores (1973) also found that locality is a significant factor in children's mathematics achievement using a mathematics achievement test. Ahushara (2007), using 200 participants found out those students in urban area outperformed students in rural areas in mathematics achievement.

Uche (1980), indicated that children in rural area often do less in schools and perform less with intelligence test than urban school students.

Charles (2004), in his study, using 200 students showed a significant difference in the performance of urban and rural students with urban students outperforming their rural counterparts.

According to a Canadian report achievement is also lower in rural areas; in the 2003 programme for international students Assessment (PISA) urban students outperformed rural students in math, reading and science.

Douglas (2005), using 140 students aged 16-20 selected from different schools in urban and rural areas showed that students in urban areas performed better than students in rural areas.

Mbaeze (2009), using 120 participants reported that urban students scored significantly higher than their rural counterparts in the mathematics tests.

Obioma (1982) preliminarily and finally developed a diagnostic mathematics achievement test (DAMAT) and found that locality is a significant factor in children's performance as cited by Mbaeze (2009). Iwuji (1982) found that children from urban and rural schools performed differentially in some sub-tests of a differential aptitude test. The result of these studies points to one fact that the findings in this area of research are inconclusive (Mbaeze, 2009).

Also, Osuji (1974) had shown that family socio - economic status may not be a useful factor in predicting or explaining the school achievement behaviour of Nigerian students, the socio- economic status of a family is one of the major determinants of the type of locality a family will settle in.

Heyman (1976), showed a negative correlation between location of school and academic achievement. Result showed higher pass rate among schools located in rural areas with low population density and poor communication than schools in urban area. However, many other studies have contrasted this.

Foster (1970), maintains that there is a reasonable relationship between education and urbanization. The existence of rich educational facilities and experience in the urban areas creates room for healthy academic competition which invariably enhances intelligibility and academic performance. He argued that as a result of available amenities on urban areas, students from urban areas are better than students from rural areas.

On the contrary, Ved Prakash and Pandey, while exploring the impact of three demographic variables gender, area and social category on achievements of students found only social category to be a variable significantly affecting the performance of students (Prakash and Pandey, 1996). In other words area (environment) does not play a significant role.

Onyenecho (2007), using 120 participants aged 14-20 showed that there were no difference in the performance between rural students and urban students.

According to Weisser et al (1996), Sternberg (2001), learning with all the advantages does not necessarily guarantee success. Students in urban area may have easy access for excellent schools, books, tutoring etc. but may take such opportunities for granted and may not be motivated to learn and to achieve and alternatively poor or disadvantaged children may be highly motivated and successful.

According to Guilford (1982), many students performed poorly as a result of lack of educational materials. He further asserts that poor or good academic performance of students can be determined through provision of some essential school materials the child needs for effective and efficient learning process. Studies have gathered that one of the major causes of poor performance in rural school students is unavailability of educational materials in contrast to urban school students. The results of these studies point to one fact, that the findings in this area of research are inconclusive.

Several decades behind, interest on improving educational facilities has been on a steady increase. And, one of the areas around which much controversy have risen is the nature of the academic environment. However, studies conducted for this cause has been conflicting. These earlier studies mostly looked at one factor or, two factors without considering the power of their interaction effect. In this effect, this research work will not only manipulate three variables (School type, gender and domicility) independently but also their interaction effect will be considered.

Hypotheses

1. There will be no statistically significant difference between the performance of private and public school students.
2. There will be no statistically significant difference in the academic performance of males and females.
3. There will be no statistically significant difference in the performance of urban and rural school students.

Method

Participants

The participants used for this study were a total of one hundred and sixty (160). This included boys and girls drawn from eight (8) selected schools. Since locality was of interest to the researcher the selected schools were from two different local government areas namely, Onitsha North Local Government Area, considered to be an urban area and Idemili North Local

Government Area, considered to be a rural area. The selected schools include: Dennis Memorial Grammar School, Onitsha, Queen of the Rosary College, Onitsha, St. Anthony of Padua High School, Onitsha, Learning Field International Secondary School, Onitsha, Urban Secondary School, Nkpor, Community Secondary School, Obosi, St. Joseph Comprehensive Academy, Ogidi and Model Innovative School of Today, Obosi. This is made up of four (4) Schools in the urban area with two (2) public and two (2) private schools and four (4) schools in the rural area with two (2) public and two (2) private schools. Twenty (20) students of equal gender (10 males and 10 females) were selected from each school through the use of stratified random technique based on their scores. Participants were aged between 15-19 years with mean age of 17. Highly intelligent participants were selected through the use of an intelligent test. Based on the pilot study participants that scored 60% and above were selected for the study.

Instruments

This study was carried out in the school premises. The academic performance test used for the study were constructed from the S.S 2 syllabus (especially what the teachers had taught them) with the help of the school teachers who specialized in the subjects. The test was both in English Language and mathematics. Each test was a ten item test. One mark was awarded to each correct answer and the scores were used as error scores. The test was validated using content validity. Teachers specialized in the subjects reviewed the test before it was administered.

Procedure

The researcher met with the principals and vice principals (Academics) of the selected schools. He started by introducing himself stating where he came from and why he came. After getting the consent of the authorities the researcher started with the pilot study. In order to select participants of equal intelligent range, students were administered with the academic performance test. Participants who scored 60% - 100% were selected for the study.

Design/Statistics

The design used for this study was a 2x2x2 factorial design. Here we have three independent variables with two levels each: school type (public and private) X Gender (male and female) X Domicility (Urban and Rural). This is a design that is most appropriate because it accommodates three independent variables for the simultaneous evaluation of the three independent variables as well as the interaction effect of the variables.

SCHOOL TYPE				
	a ₁ , public		a ₂ private	
C Domicility	b ₁ male	b ₂ female	b ₁ male	b ₂ female
Urban C ₁	a ₁ c ₁ b ₁	a ₁ c ₂ b ₁	a ₂ c ₁ b ₁	a ₂ c ₂ b ₁
Rural C ₂	a ₁ b ₁ c ₁	a ₁ b ₂ c ₁	a ₂ b ₁ c ₁	a ₂ b ₂ c ₁

Fig 1: A 2x2x2x2 factorial design

The statistics used for this study was F-test of 3-way Analysis of variance (ANOVA). This is because it is the most appropriate for a 2x2x2 factorial design.

Results

The academic performance scores of the participants were based on error scores. Participants were assessed both in English language and Mathematics and their mean scores

were used. The data from their performance was analyzed in a 2x2x2 factorial design, school type (public and private), Gender (male and female) and Domicility (urban and rural). The results were analyzed in a 2x2x2 Analysis of variance (ANOVA) and are shown in table 1 below.

Table 1: A 2x2x2 ANOVA (F- test) summary table

Source of variance	Sum of squares	Df	Mean of squares	F	Sig. level
Intercept	5907.330	1	5907.330	5335.264	.000
School type	26.244	1	26.244	27.703	.000
Gender	.289	1	.289	.261	.610
Domicility	43.264	1	43.264	39.074	.000
School type x gender .420	1	.420	.380	.380	.539
School type x domicile	1.640	1	1.640	1.481	.225
Gender x domicile	21.170	1	21.170	19.120	.000
School type x gender x domicility	29.584	1	29.584	26.710	.000
Error	168.298	152	1.107		
Total	6198.240	160			

From, table I above, the first hypothesis that assumes that there will be no statistically significant difference between the academic performance of public and private school students was not accepted $F(1,152) = 23.703$, $p < 0.01$. The second hypothesis which maintained that there will be no statistically significant difference between the academic performance of males and females was not rejected $F(1,152) = 261$, $p > 0.05$. Again, the third hypothesis which assumes that there will be no statistically significant difference in the academic performance of urban and rural school students was not accepted $F(1,152) = 39.07$, $p < 0.01$, the result further showed that there was no interaction effect of school type and gender; school type and domicile on academic performance. However, the result showed an interaction effect of gender and domicile and also a joint interaction effect of the three variables (school type, gender and domicile) on academic performance.

Discussions

Results indicated that hypothesis one which assumes that there would be no statistically significant difference in the performance of private schools and public schools was not accepted. Results indicated that public school students scored significantly higher than private school students. This goes in line with the findings of Lathrop and Kieffer (1959) McArthur (1954); Selfzer (1948) and Shuey (1956. 1958) and National Assessment of Education Progress (NAEP 2003) report. A possible account for this is that there are some conditions that exist in public schools but merely exist in private schools. For more instance, more qualified teachers are employed in public schools than in private schools. This is because teachers selection is done by the government, which requires some specific qualification and certification before a teacher can be employed. It was discovered that public school teachers are passionate about their job, hence teaching with passion. It was also, discovered that public school teachers rush their lectures, this makes it difficult for the students to comprehend hence, leads to poor

academic performance. It will be worthy to note that majority of the academic competitions in the secondary school level have been won by students from public schools.

The result, however, supports the second hypothesis which ascertains that there would be no significant difference in the academic performance between males and females. Results showed that there was no significant difference in their mean score to say that one gender performed better than the other. This agrees with the findings of Ohodo (1987); Sherman and Fenneman (1974); Fenneman and Sherman (1977); Maduka (2007); Willngharn and Cole (1997). It fails to uphold the findings of Mbaeze (2006, 2009); Ihemjimmgha (2010); Pillai (1971); Labour (1979); Onibokun (1979); Obodo (1992); Hyde, Fennema and Lamon (1990) Kamarovsky (1946) that males perform better than females in achievement task. A possible interpretation of this is because both gender possess equal achievement potentials, which when developed upon will produce same effect. Also, some women are occupying prominent positions. This serves as a motivating factor to female students. Hence, they are motivated to work hard and become the best in the future. Also, over the years the concept that males are better than the females have been narrowing down. While more males are leaving school for one reason or the other, the females stay in school.

The third hypothesis which predicted that there would be no statistically significant differences in the performance of urban and rural students was not supported. Results showed that urban students performed better than rural students. This result is consistent with the findings of Broomhall and Johnson (1994); Douglas (2005); Ozioko (1983, 1986); Uche (1980); Charles (2004); Douglas (2005); Ozioko (1983, 1986); Nwosu (1974); Okoye (1976) and Mbaeze (2009): It fails to uphold the findings of Heyman (1976) and Randhowa and Hunt (1987) that rural school students are superior to urban school students. It also further fails to uphold the findings of Prackash and Pandey (1996) and Onyenecho (2007) that locality does not have a significant effect on student's academic performance. One major reason for such difference may be because children in the urban areas are exposed at their early stage to learning, which is important for communication efficacy and enhanced rich syntax. This enables them to manipulate their environment mentally and enhance cognitive ability hence, enhance academic performance. Other reasons for higher performance by urban school study dents could be as a result of available learning materials such as; library, books, e-learning, conducive environment, quality teachers etc. Also, expenditures on education do matter and they are smaller in rural areas than in urban areas. One major reason for poor performance by rural school students is unavailability of educational learning materials such as no or poor equipped laboratories, lack of practicals etc. Also, teachers within the rural setting move to the urban area in search of greener pasture, thus leaving rural schools with no or less number of qualified teachers. Majority of the people residing in the rural areas are farmers and they make use of their children labour more than the urban parents. This does not give the children enough time to face their studies thus, reducing academic performance.

It was gathered too from the study that there was no interaction effect of school type and gender and school type and domicility on academic performance. This means that these variables when combined together do not affect academic performance. However, the result shows a significant interaction effect of gender and domicility. This means that these variables can jointly affect academic performance. Also, results showed a joint interaction effect of the

three variables (school type, gender and domicility). In other words, these variables can jointly influence academic performance.

Implications of the Study

1. This study was able to find out that school type has effect on students' academic performance. This is because different conditions exist across the schools. Teacher selection is done in public schools by the government hence selecting qualified and certified teachers, thus private schools should employ effective ways of selecting competent teachers in terms of qualification and certification.
2. The study also implied that academic performance will be same irrespective of gender. Both genders tend to have same achievement potential. In other words, both gender can achieve the same thing if they are taught the same thing.
3. Result also implied that where one is domiciled can as well affect ones' academic performance. Rural area is often characterized with little or no academic materials like good library, well equipped laboratories, conducive environment, quality teachers etc. Also, rural school students are less motivated to involve in school activities. This is because most of them come from low socioeconomic background and are usually preoccupied on how to raise family income. For instance, engaging in farming practices, hawking, and menial jobs.

Suggestions for Further Study

That an individual scores 0 and another 10 does not mean that the latter is better than the former. It appears that it is not only school type, gender and domicility that can affect academic performance. A host of other variables could also possibly influence students' academic performance some of these variables may include age, socioeconomic status, parental influence, teaching style, teacher's age, Locus of control, teachers gender. Future researchers wishing to undertake studies in any of these variables, using larger samples and trying them across other academic level and subject should try to look at:

1. Effect of teaching style and gender on students' academic performance.
2. Parental influence, locus of control and locality as factors that predict academic performance.
3. Influence of Teachers length of service and teachers' gender on academic performance.
4. School type and age as factors affecting academic performance.
5. Influence of school type and locus of control on academic performance.

Significance of the study

Motivating activities should be made available for students such as quiz, competitions (essay, mathematical, science). This will increase hard work on the student's parts as well as increasing improvement in academic performance. There should be a standardized method for selecting and employing teachers especially in private schools. This study shows that there is a lot of work to be done especially in the rural area. The government should invest on rural schools by providing them with better academic materials as this would help improve the student's academic performance. Rural settlers should be enlightened on the importance of education, the consequences of ignorance and also effects of child labour. The government should also look into teachers' remuneration and also provide motivational activities and provide incentives for teachers in rural schools.

Recommendations

Academic performance amongst students can be enhanced through the creation of motivating academic activities. This moves the students to working hard, hence improving academically. The government should look into the teachers selection process of private schools to ensure that qualified teachers are selected .Also private school management should give their teachers a little sense of autonomy as this would make them feel free and teach with passion. Gender equality should be encouraged among male and females students, this will motivate especially the females and change their belief of male dominance. Provision of academic materials like better classroom structures, chairs, libraries, provision of books and other materials to secondary schools especially schools in the rural areas that lack these basic amenities. Government should make better means of improving teacher's remuneration; they should also come up with ways of motivating teachers for effective delivery. Enlightenment programmes on the importance of education should be made to parents and guardians especially in the rural settings. This will reduce child labour in rural settings. Conflict still exists among researchers on these variables (School type, gender and domicility) as factors affecting academic performance. Hence, further research is recommended. Further research should strive as much as possible to include larger samples drawn from different schools and levels (primary, secondary, tertiary) in order to make more effective generalization. Studies should also not be limited to mathematics but should include other academic and non- academic subjects.

Conclusion

Education is a necessary tool for the development of any society. Literacy brings a society to the limelight of civilization. Academic performance is a widely contested issue. Researchers have been conducting studies in order to provide solutions on how to improve academic performance and this study is not an exception. This study considered three variables (school type, gender and domiciliary) as factors that can affect academic performance and found school type and domicility to be significant, while gender was not. This shows that more work should be done on improving the private schools system and also improving, education in rural settings. Although, this research seeks at providing solutions for improving academic performance, yet this research alone is not enough to maintain a standpoint. There are many researches on factors affecting academic performance, yet, conflicts still exist in their findings, hence, further research is encouraged to be conducted so as to make an effective generalization and maintain a standpoint. Implications and limitations of the study were stated, suggestions and recommendations were made.

References

- Amazue, O.L. (2006). Influence of Socioeconomic Status, Gender and Locality on - Skills. *Journal of psychological Research*, 5(1), pp. 84-96.
- Arreaga-Mayer. C. (2009). Increasing Active Student Responding and Improving Academic P through Classwide peer Tutoring. *Journal of Intervention in school and clinic*, 46 (4), pp. 259-267.

- Blair, F.B. (July 22, 2010). Student Academic Performance and Compensation: the impact of cooperative education. College student Journal. Retrieved from findarticles.com/ai - n 8589850.
- Borland, M.V.. & Howsen R.M (July 22, 2010). A Note on Student Academic Performance: in Rural versus Urban Areas. American Journal of Economics and sociology. Retrieved from <http://www.findarticles.com/p/articles/mi>.
- Ebenebe, R.C, & Unachukwu, G.C. (2006). Psychology of Learning. Owerri: Amazing Grace publishers. Feldman, R.S. (1993). Understanding Psychology. U.S.A: McGraw Hill.
- Fennema, F., & Sherman, J. (1977) Sex-Related Difference in Mathematics Achievement. Spatial Visualization and Affective factors. American Educational Research Journal, 14 (1), pp.51-71.
- Finger, J.A. & Schlessner, G.E. (1963). Journal of Educational psychology, 54(2), pp. 118-12.
- Gleitman, H. (1992). Basic psychology. New York: W.W. Norton and company.
- Gleitman, H. L., Fridlund, A.J.. & Rosisberg, D. (2004). Psychology (6th ed). New York. W.W. Norton and Company.
- Honey, M. (2001). Issues to support Local School change Retrieved from <http://WWW.Pts.Org/VQ/html/honey/html>.
- Jules, V., & Kutnick P. (2006). Determinants of Academic success withing Classrooms in Trinidad and Tobago. Journal of Educational studies, 16 (3), pp 217 -235.
- Kimura, D. (1985). Male Brain; Female Brain. The Hidden Difference. Psychology Today pp. 50-58.
- Litch, B.G., & Dweck, C.S. (1984). Determinants of Academic Achievement: The interaction of children's Achievement Orientation with skill area. Developmental Psychology. 20:628-636.
- Lubienski C., & Lubienski S.T. (2006). Charter, Private, Public Schools and Academic Achievement. Retrieved from http://www.Ncsps.org/publication_files/opill.pdf
- Mbaeze, I.C. (2006). Influence of Locus of Control and Gender on the Development of Mathematical Skills in Children. African Journal of Communication and Development, 1 (1), PP. 2-14.
- Mbaeze, I.C. (2007) influence of locus of control and gender differences on children's achievement task. Nigerian Journal of Contemporary Psychology, 1 (1) pp. 65 -72.

- Mbaeze, I.C. (2009). Impact of Maternal Employment, Gender and Locality on the Development of Mathematical Skills in Children. *MGBAKO African Journal of social science*, 1 (1), pp. 130-146.
- Nnodum, B.I. (2001). *Developmental Psychology*. Owerri: Crown publishers.
- Obodo, G.C. (1992). A Comparative Study of the Mathematical Potentials of Male and Female Students in Single-Sex Secondary Schools. *Journal of Nigerian Research in education*, 8:79 — 89.
- Rhodrigues, H. (2010). Factors Influencing Students Academic Performance. Retrieved from <http://ponce.inter.edu/cai/tesis/hrodugues/index>. Pdf.
- Sherman, J.A., & Fennema, E. (1974). The Study of Mathematics by High School Girls and Boys. Related variables. *America educational research journal*, 14 (2): 159— 168.
- Sorenson, H. (1964). *Psychology in Education*. New York: McGraw Hill.
- Ugwu, A.B. (1997). *Developmental Psychology and Education*. Enugu: Fred-Oga publishers.