



**The Impact of Scholarships on Students' Academic Performance:  
A Case of Tertiary Institutions in Enugu State, Nigeria**

**Ambrose Nnaemeka Omeje**

Department of Economics, University of Nigeria, Nsukka

[Email-omejean@gmail.com](mailto:Email-omejean@gmail.com)

**Solomon Ogbonna Abugu**

Department of Human Resource Management, Michael Okpara University of Agriculture, Umudike.

[Email-solozo4real@yahoo.com](mailto:Email-solozo4real@yahoo.com)

**Abstract**

Scholarships are awarded based on various criteria, which usually reflect the values and purposes of the donor or funder of the award. Therefore, in a bid to verify the impact of scholarships on students' academic performance using tertiary institutions in Enugu State, Nigeria as a case study, the study utilised survey data generated from 540 questionnaires distributed among student in twelve (12) higher institutions in Enugu State, Nigeria. The propensity score matching model was adopted for the study and the results indicated that students' academic performances significantly increase with an increase in the award of scholarships. The results also suggested that with scholarships academic performance of students in higher institutions in Enugu state would decrease by 13% but will rise by about 87% if the scholarships are given to indigent students'. There is need for increased award of scholarships to students from poor background and not to students from high socio-economic status by the government, Non-governmental organizations, and other philanthropist to alleviate the challenge. Government should revitalize the giving of bursary awards to students from their respective states that are in higher institutions, be it private or public. Essentially, scholarships should be awarded to people who are poor and find it difficult to pay tuition fees, eat at least two times per day, and also who find it difficult to clothe themselves.

**Keywords:** Impact, Scholarships, Students, Academic Performance, Enugu State

**JEL CODE:** H52, I22

## **I. Introduction**

Scholarships are award of financial aid to enable students in their academic pursuit and/or further their education. Scholarships are awarded based on various criteria, which usually reflect the values and purposes of the donor or funder of the award. Scholarship money is not required to be repaid as it is not loan.

However, since 1980s, the use of financial need as the basis for awarding scholarships by the state has been eroding. But in the developed world, the award of scholarships by the state has been on the increase. In the developed world, between 1982 and 2000 spending on need-based scholarships for undergraduates by the states increased to 7.4 percent annually, while spending on merit programs increased at a 13.6 percent annual rate. The proportion of state grants awarded based on merit has risen from 9 percent to 22 percent during this period (Heller, 2002; National Association of State Student Grant & Aid Programs, 2001).

Irrespective of this, students both at the private and public tertiary institutions face varieties of hikes in their tuition and other fees in schools with little or no consideration of parental income, students' socio-economic status, and other factors that may limit students from continuing their education. Some education analysts and students interviewed believed that the government and/or the proprietors of tertiary schools and the school authorities never wanted the poor to go to school so that the socio-economic class-margin will continue to widen the more. No wonder the incessant hikes in both the tuition and other fees in tertiary institutions in Enugu State. For example, at the time of this research, the 2014/2015 postgraduate tuition fee of the University of Nigeria, Nsukka was almost doubled from what was paid in the 2013/2014 academic session. That of Enugu State University of Science and Technology (ESUT) was also raised in the past few years, to mention but a few.

Consequently, as the tuition fees of these tertiary institutions continue to rise without adequate consideration of the poor students that engages in menial jobs such as: "okada", "keke-na-pepe", bus conducting, and so on to pay up their tuition in order to gain formal education. The number of dropouts has continued to increase with most of the dropouts engaging in social evil such as; cultism, armed robbery, fraud stars, kidnapping, touts, and other illegal means livelihood, since the labour market is very competitive and there are no jobs for them. Some graduates go as far as taking up gatemen jobs, security jobs in residential homes, and also employed as car washers in garages.

As a result of this, an alternative to hikes in tuition fees which is the award of financial aid for students to further their education is looked at by this study. These financial aids for students (scholarships) are to be awarded based on various criteria, which includes; athletic scholarship, merit-based, need-based, student-specific, career-specific, and College-specific scholarships, among others.

However, in Enugu State, very few people study on scholarships both from the government, individuals, churches, and non-governmental organisations. Although, a remarkable scholarship awarding foundation known as "Ikeoha Foundation" has contributed immensely in alleviating the sufferings of the peoples of low-income status, it need to do more. Ikeoha (2013) posits that their 2011-2012 award scheme, granted bursary awards to 282 students in Enugu state. Rev. Fr. Mbaka is also a notable philanthropist whose scholarship awards are also intriguing in Enugu State. He has offered a great number of people scholarships to study both at home and abroad (Leadership, 2014). Other scholarship evidenced in Enugu is the federal scholarship board award. Although, this is highly politicised, it has gone a long way to alleviating the plight of the awardees. There are also evidences of scholarships awarded to students by Enugu State government as at the time of this research. The State scholarship board is also doing its best in terms of scholarship award in the State. Hence, this study examines the impact of these financial aids granted to students (scholarships) on the academic performance of students, using tertiary institutions in Enugu State, Nigeria as a case study. Note worthy here is that in this study, scholarships are seen from the aspect of part or full tuition fees, bursary award to students, and any form of financial grants to students in higher learning in Enugu state.

## **II. Statement of the Problem**

The Nigerian labour force and Enugu State in particular have continued to establish high qualification standards for employees, ranging from Ordinary National Diploma (OND) to National Certificate of Education (NCE), Higher National Diploma (HND), First Degree certificate (B.Sc, B.Ed, B.A), Masters Degree certificate (M.Sc, M.Ed, M.A), and now to Doctor of Philosophy (Ph.D) certificates. This has made jobs to be more competitive with applicants not meeting certain criteria, including those who possess Masters Degrees (M.Sc, M.Ed, M.A) are not hired for certain positions. This has led to the increased quest for higher educational qualification to meet up with the standard. However, lack of finance and poor economic climate has resulted in magnitude number of dropouts in schools thereby, limiting the application pool for many careers obtainable through education. However, as the pool of dropouts expands, a time will reach when employment will be limited because, the

labour force will tend to require increased literacy, technology skills, and the ability to be a lifelong learner (Woods, 1995).

Consequently, as the tuition fees of these tertiary institutions continue to rise without adequate consideration of the indigent students including those that engage in menial jobs and so on, to pay up their tuition in order to gain formal education. The number of dropouts has continued to increase with most of the dropouts becoming cultists, armed robbers, fraud stars, kidnappers, touts, and other illegal means of earning livelihood, since the labour market is very competitive and there are no jobs for them. Some, due to frustration, resort to drinking of "kaikai" (ethanol), smoking of Indian hemp, marijuana, and so on, some of them even go insane along the line. These are potential Nigerian and Enugu state futures leaders, who if they had the opportunity, would have contributed their quota in the national and State development. Some graduates go as far as taking up gatemen jobs, security jobs in residential homes, and some are also employed as car washers in garages while others go to apprentice and businesses, which collapse after some years as a result of their inability to manage the business due to lack of and/or half-education to broaden their horizon.

Therefore, in Nigeria and Enugu State in particular, policymakers have frequently focused attention on increasing school inputs or improving teacher attendance, on the assumption that students are motivated to take advantage of these improvements. But scholarships in Enugu State are not given serious attention. This is because, the impact which scholarships can offer both on students' academic performance and on the economy as a whole is being neglected. Thus, it is pertinent to note here that scholarships may offer an alternative to increased participation in education, thereby leading to more educated people who may in turn have healthier children, increased literacy, increased technological skills, and higher incomes. Moreover, the assumption that students are inherently motivated to pursue education through scholarships and the effect that educational opportunities can have on peoples' learning in Enugu State, are relatively unexplored. Hence, it is on this footing that this study examines the impact of scholarships on students' academic performance using tertiary institutions in Enugu State, Nigeria as a case study.

### **III. Overview of Scholarships in Enugu State**

#### **III. I. Ikeoha Foundation**

Ikeoha Foundation was established in 1997 by Ike Ekweremadu out of his passion for the underprivileged women and youths. It is a non-governmental, charitable and non-profit organisation founded on the belief that social and economic well-being and advancement of people especially the more vulnerable groups such as women and youths, is human right. Since its establishment, the Foundation has grown into a leading charity organisation, one of the most stable providers of financial assistance for disadvantaged populations and students in tertiary institution.

It gives Scholarship, Bursary awards, and empowers people such as organising training for people with basic and intermediate competences in ICT by focusing on: AutoCAD, Graphics, Web Design, Project Management with Microsoft Project, Networking (Oracle, Cisco), Microsoft Modules, etc (Stanley, 2015). Since its establishment, it has been working assiduously towards making sure that people, especially the rural communities, should have access to basic health care, education, amenities, micro-credits, capacity developments and other opportunities for improved living. They should also be able to exercise fully their rights as citizens, influence public policies and have equitable access to the use of public resources. To advance the visions and mission of Ikeoha Foundation, the foundation work to inspire, build and support inclusive partnerships with the communities it operates in (Ikeoha Foundation, 2014).

#### **III.II. Enugu state scholarship Board**

Enugu state scholarship Board which works together with the Federal Ministry of Education and Federal Scholarship Board (FSB) offers scholarship opportunities to all category of Nigerian students-whether in Nigeria or overseas. Students in Nigeria universities and polytechnics are advantaged because the scholarship placed here are restricted to Nigerians alone. Graduates who intend to study overseas for masters and PhD programmes can also benefit from the scheme.

The Federal Scholarship Board as a Division in the Department of Higher Education has four (4) Branches viz: (i) Nigerian Award, (ii) Commonwealth Award, (iii) Overseas Award, and (iv) Students Loans Scheme. Federal Scholarship Board has its Head Office in Abuja, Six (6) Zonal Offices at Enugu, Gusau, Minna, Akure, Bauchi and Port Harcourt, with an Administrative and Accounts Units at the Head Office and the Zonal Offices. Recently, it has offices at all the state capitals (36 States) of the federation. This scholarship board has done a lot in the award of scholarships nationwide and Enugu state in particular. This was confirmed by Okpara (2014) who found that over 200 indigent students have benefited from scholarships by the Enugu State Scholarship and

Education Loan Board. He further confirmed that the board has released the 2012/2013 Scholarship award to 35 students from various groups within Enugu State and beyond. The scholarship scheme was initiated by the Government to encourage youths to strive for excellence in their course of studies, professional career as well as embrace good character.

### **III.III. Other Scholarship Schemes/Bodies**

There exist other scholarship awarding organisations, private individuals, churches, and institutions in Enugu State although, due to lack of records, the study focused on the established or formal schemes in the state. Therefore, some of other scholarships awarding bodies known by the study as at the time of this research among others include that which was awarded by: Rev. Fr. Mbaka, Okechukwu Itanyi, Sullivan Chime, Enugu Association, USA scholarships programme, Nkanu-USA scholarship award programme, Nsukka professional association, USA, and so on.

## **IV. Literature Review**

The literature review is divided into two: the theoretical and the empirical literature. These are to be taken one-by-one.

## **V. Theoretical Literature**

### **V.I. Literary Theory**

This theory was influenced by the aesthetic theories of philosophers from ancient philosophy through the 18th and 19th centuries. Consequently, the 20th century marked the practice of literary theory as a profession but it has historical roots that run as far back as ancient Greece, ancient India, Rome, and medieval Iraq. Therefore, literary theory states that literary scholarship should often include considerations of intellectual history, moral philosophy, social prophecy, and other interdisciplinary themes which are of relevance to the way humans interpret meaning. The latter style of scholarship is an outgrowth of critical theory and is often called simply "theory." As a consequence, the word "theory" has become an umbrella term for a variety of scholarly approaches to reading texts and understanding them and their implied meanings.

### **V.II. The Scholarship of Engagement Theory**

This theory was first used by Davenport and Prusak (1997) and later extended by Thomas (2009) and Marcum (2013), (as in Marcum, 2013). This theory states that other forms of scholarship should be broadened and deepened to create the possibilities for civic engagement in higher education. It can as well be called the scholarship of engagement. Thus, by emphasizing "scholarship" rather than "learning," the scholarship of engagement suggests a set of practices that cuts across all aspects of the traditional functions of higher education. It assumed that participatory research tends to respond to problems of exclusion by reaching out to a marginalized or previously excluded group.

### **V.III. Education and Training Theory**

Becker (1993) and Schultz (1963) are the most prominent proponents of this theory on why individuals acquire education and training. The theory posits that individuals seek to increase their amount of human capital in order to earn higher returns in labour markets. Individuals do this primarily through investing in education, seeking to acquire skills or credentials that increase their productivity and lead to greater labour market rewards. The theory of human capital is akin to the theory of production among firms; just as firms invest in capital (financial and physical) in order to maximize output, individuals invest in human capital in order to maximize their output. Since the potential rate of return on an investment depends on its initial price, the decision to attend college is also constrained by price. Thus, price theory in microeconomics helps explain the role of financial aid in college access and choice. The aid acts to lower the net price paid by the student, increasing the likelihood the individual will be able and willing to invest in postsecondary education. Research on the college choice process shows that financial aid is particularly effective at increasing the probability that a student from a lower-income family will enrol in college, and much less effective for students from higher-income families.

### **V.IV. Empirical Literature**

On the global level, a lot of empirical literature exist but on the domestic economy (Nigeria and Enugu State in particular), little and/or very few empirical literature exist. Some of these global literatures include the work done by: Anand, Mizala, and Repetto (2006); Angrist et al. (2002); Angrist, Bettinger, and Kremer (2006); Bartik and Lachowska (2012); Sharma (2010); Oreopoulos (2009); Leuven, Oosterbeek, and Klaauw (2010); Heller and Rogers (2003), among others.

Anand, Mizala, and Repetto (2006) estimated the impact of private education on low-income students in Chile. The study attempted to reduce selection bias by using reduced-tuition paying, low-income students in private

schools as the treatment group, based on the study's finding that these students were, to some extent, randomly selected out of the public school control group. The study applied the propensity score matching model to calculate the difference in academic achievement of students in the treatment group versus their counterpart in the control group. The results revealed that students in private voucher schools with tuition score slightly higher than students in public schools. The difference in standardized test scores is approximately 8 points, a test score gain of almost 0.15 standard deviations.

Angrist et al. (2002), and Angrist, Bettinger, and Kremer (2006) studied the randomly distributed vouchers in Colombia that partially covered the cost of private secondary school for students who maintained satisfactory academic progress. The studies found that, three years after the lotteries, the winners of the vouchers were about 10 percent more likely to have finished 8th grade and scored about 0.2 standard deviations higher on achievement tests.

Bartik and Lachowska (2012) studied whether college scholarships can be an effective tool in raising students' performance in secondary school and applied one aspect of the Kalamazoo Promise that resembles a quasi-experiment. The surprise announcement of the scholarship created a large change in expected college tuition costs that varied across different groups of students based on past enrolment decisions. This variation is arguably exogenous to unobserved student characteristics. Thus, the study estimated the effects of this change by a set of "difference-in-differences" regressions where it compared the change in student outcomes in secondary school across time for different student "length of enrolment" groups. It was found by the study that positive effects of the Kalamazoo Promise on Promise-eligible students were large enough to be deemed important—about a 9 percent increase in the probability of earning any credits and one less suspension day per year. The study also found large increases in GPA among African American students.

Sharma (2010) studied the impact of a randomized cash rewards program among Nepalese 8th graders. Similar to Kremer, Miguel, and Thornton (2009), the randomization was conducted across schools. The cash rewards were based on total scores on exams. Sharma finds that the financial impact of these incentives equalled about a 0.09 standard deviation gain in aggregate scores.

Oreopoulos (2009) as found in Bartik & Lachowska (2012) looked at the effects of merit-based scholarships on students who are solid performers, but not top-ranked, among entering first-year undergraduates at a large Canadian university. It was found by the study that there exist strong effects for women, but none for men. More so, Leuven, Oosterbeek, and Klaauw (2010) conduct a similar study on a randomized experiment among first-year undergraduate students at the University of Amsterdam. The experiment under study provided a cash reward for those students who completed all of their first-year requirements by the start of the next academic year. Thus, it was found by the study that rewards matter only for high-ability groups.

Heller and Rogers (2003) tried to look at merit scholarships and incentives for academic performance by utilising data obtained from the Michigan Merit Award Office (2003) on the 2000, 2001, and 2002 graduating classes in Michigan. Bivariate analyses of the data were conducted to examine the trends among the three cohorts in scholarship qualification rates for different populations of students in each cohort, including racial/ethnic groups, and schools with varying levels of free/reduced lunch eligible students. It was found by the study that the pattern among the three cohorts was not the same when students in different racial groups were examined. Minority students who have been underrepresented in college participation in

Michigan - African Americans, Native Americans, and Hispanics – had the largest drop-off in qualification rates from the second to the third cohorts of students. Thus, the study concluded that policymakers should be careful in implementing merit scholarship programs as a mechanism for encouraging higher levels of academic performance among high school (or college) students.

Moscoso et al. (2000) expanded on previous research on school effectiveness by developing and testing hypotheses about the specific relationships between school characteristics including aggregated student and classroom characteristics and student academic performance. The study utilised data from the "Early Childhood Transitions Project," a study of intensive social and educational services in a suburban school system, to identify and test the effect of a limited set of school-level characteristics on test score gains made by individual students on the Metropolitan Achievement Test (MAT) between the second and third grade. The analyses found that there are differences in the size of schools, the percent of low performing students, and the percent of students who are non-English speaking across the schools in the sample. Test score gains are affected by concentrations of these types of students at the schools. Students at schools in this sample with high concentrations of non-English speaking students or high concentrations of Hispanic students achieve lower test score gains than

students in other schools. Another "concentration effect" emerged from the analysis of high performing students in the sample. In particular, female students with high scores on the second grade MAT who are in schools with large concentrations of students who perform poorly on the second grade exam have smaller third grade test score gains than similar students who are in schools without a concentration of low performing students. These results suggest that more attention be paid to the influence that the characteristics of the student population have on the school's ability to implement the curriculum. As a first step, researchers may want to simply document the differences in the educational characteristics of students entering schools. This would provide evidence of the segregation that occurs across schools. Researchers may then want to conceptualize students within schools in terms of their homogeneity on demographic measures and their homogeneity on educational characteristics. This "educational minority or majority" concept may bring researchers closer to understanding the school environment, as it is organized by schools and experienced by children.

Metcalf, West, Legan, Kelli, and Boone (2002) examined issues associated both with the Cleveland Scholarship and Tutoring Program in Cleveland and with the broader issue of school choice. Data collection and reporting activities emphasize descriptive factors and outcome factors. Descriptive factors include student and family characteristics, parent or guardian choices about and perceptions of their children's school(s), and characteristics of the schools children attend, and descriptive factors provide information allowing an understanding of how or why families make the educational choices they do, characteristics of the public and private schools and classrooms, whether or not families and children are satisfied with the choices they make, and what contributes to these perceptions. Outcome factors focus on examining the impact of the program on aspects like student achievement and commitment to education; they include examinations of the effects of the scholarship program on students, families, and schools.

Heller and Rasmussen (2001) noted that Publicly-funded scholarships in the United States historically, have been awarded based on the financial need of the student and his or her family, and with the goal of increasing access to college. Beginning with passage of the Higher Education Act of 1965, and in particular, establishment of Basic Educational

Opportunity Grants in the 1972 Amendments, federally-funded student aid has been used in order to help achieve equality of postsecondary educational opportunity (Mumper, 1996). The State Student Incentive Grant program, also part of Title IV student aid programs, encouraged the development of state-funded scholarships. These state programs historically also used financial need as the primary criterion for awarding grants, and have grown to the extent that they now award almost \$1 in aid for every \$2 awarded in the federal Pell Grant program.

Worley, Chair, Craig, Russo, and Tucker (2007) examined the relationship between academic achievement and at-risk students. They observed that many issues today affect the achievement gap and the ability for at-risk students to succeed. Most data, as revealed in the studies included in this review, concluded that the factors identifying at-risk students do have significant impact on the academic achievement of individual students and schools. Most often, these students were not successful and eventually drop out of school or pursue a GED. Data indicate that teacher-student relationships, parent or caregiver-student relationships, motivation, SES, and peer influence can affect success for at-risk students. Twelfth grade students from two high schools in an urban school district were given the opportunity to participate in a survey. The study investigated correlations between the dependent variable; grade point average (GPA), and the independent variables teacher-student relationships, parent or caregiver-student relationships, motivation, SES, and peer influence. Five regressions were run to determine if any of the independent variables predict GPA. Data from this study indicated that the variance between the dependent variable of GPA and each of the five independent variables was significant; however the practicality of these results' having a significant influence on the GPA of the study participants was minimal. The strongest variance found was between GPA and motivation and between GPA and peer influence. Other findings include a relationship between GPA and participation in sports or activities. As GPA increases, the percentage of students participating in sports and activities increased. The students in this study do have positive relationships with their teachers; have a parent or caregiver encouraging them to do well in school; and plan to attend college.

Barker (2004) defined the core aspects of the scholarship of engagement and created taxonomy of five forms of engaged scholarship. Using a problem-driven, pluralistic approach, the study concluded that the new forms of engaged scholarship each make important contributions to the civic renewal of American higher education and collectively constitute an exciting and growing movement.

However, as noted earlier, little and/or very few empirical literatures, with regard to scholarships and students' academic performances in higher institutions, exist on the domestic economy (Nigeria and Enugu State in particular). Some of these domestic literatures include the work done by: Okafor (2001).

Okafor (2001) investigated academic success among academically high achieving students who will be selected in the select group of Schools in Anambra South of Anambra State, Nigeria, who, despite the severe threat and challenging obstacles inherent in low socioeconomic status (low- SES), and/or low parental educational attainment, miniscule parental job opportunities, and other possible unforeseen obstacles, recorded remarkable success in their education. The major data analyzed was gathered via interview and questionnaire from 100 students, selected from 50 schools in the Anambra South school districts, the sample students' current English and Mathematics teachers and their parents. The result was discussed to highlight the findings and implications for all the stakeholders. The study challenged the already affirmed position among the educational experts that students from low-SES households are bound to academic underachievement. And more so, since, most similar studies focused more on students' academic failure and underachievement than their successful experience with school.

## **VI. The Study Area**

Enugu State, South-East of Nigeria, is one of the thirty-six States constituting the Nigerian Federation. It came into being on August 27, 1991 when the administration of President Ibrahim Babangida finally acquiesced to the long agitations of Waawa people for a State they could truly call their own. Enugu State derives its name from the capital city, ENUGU (top of the hill) which is regarded as the oldest urban area in the Igbo speaking area of Southeast Nigeria. The city owes its geopolitical significance to the discovery of coal in 1909 by a team of British geologists. The discovery of the solid mineral in the area brought about the emergence of a permanent cosmopolitan settlement which influenced the construction of a railway line to link the Enugu coal fields with the sea port in Port Harcourt for the export of the mineral.

The state shares borders with Abia State and Imo State to the south, Ebonyi State to the east, Benue State to the northeast, Kogi State to the northwest and Anambra State to the west.

Enugu, the capital city of Enugu State, is approximately 2½ driving hours away from Port-Harcourt, where coal shipments exited Nigeria. Enugu is also located within an hour's drive from Onitsha, one of the biggest commercial cities in Africa and 2 hours drive from Aba, another very large commercial city, both of which are trading centres in Nigeria. The average temperature in this city is cooler to mild (60 degrees Fahrenheit) in its cooler months and gets warmer to hot in its warmer months (upper 80 degrees Fahrenheit) and very good for outdoor activities with family and friends or just for personal leisure.

Enugu has good soil-land and climatic conditions all year round, sitting at about 223 metres (732 ft) above sea level, and the soil is well drained during its rainy seasons. The mean temperature in Enugu State in the hottest month of February is about 87.16 °F (30.64 °C), while the lowest temperatures occur in the month of November, reaching 60.54 °F (15.86 °C). The lowest rainfall of about 0.16 cubic centimetres (0.0098 cu in) is normal in February, while the highest is about 35.7 cubic centimetres (2.18 cu in) in July.

It has seventeen (17) local government areas (LGAs); Aninri, Awgu, Enugu East, Enugu North, Enugu South, Ezeagu, Igbo-Etiti, Igbo-Eze North, Igbo-Eze South, Isi-uzo, Nkanu East, Nkanu West, Nsukka, Oji-River, Udenu, Udi, and Uzo-uwani.

It hosts many higher institutions some of which include; Enugu State University of Science and Technology, Caritas University, Renaissance University, Godfery Okoye University, University of Nigeria (both at Nsukka and Enugu campuses), Institute of Management Technology, Our Saviour Institute of Science Agriculture and Technology (OSISATECH), Enugu; Enugu State Polytechnic, Iwolo, Federal collage of Education Eha-Amufu; Enugu State Collage of Education Technical; and The Collage of Education, Nsukka.

## **VII. Data and Methodology**

The data used in this study is a survey data generated from 540 questionnaires which were administered to students of higher learning in both rural and urban locations in Enugu State, Nigeria. Worthy of note here is that the study concentrated on higher institutions in Enugu State, Nigeria. For practical purposes, the entire higher institution in Enugu State was considered, from which the study drew a simple random sampling of students after applying the multi-stage random sampling technique. A total of twelve (12) higher institutions were visited with the consideration of two (2) public universities in three (3) locations (University of Nigeria, Enugu campus; University of Nigeria, Nsukka; and Enugu State University of Science and technology), three (3)

private universities (Caritas University, Godfrey Okoye University, and Renaissance University), two (2) public and one (1) private colleges of education (Federal collage of Education Eha-Amufu; Enugu State Collage of Education Technical; and The Collage of Education, Nsukka), and two (2) public and one (1) private polytechnics (Institute of Management and Technology, Enugu; Enugu; Enugu State Polytechnic, Iwolo; and Our Saviour Institute of Science Agriculture and Technology (OSISATECH)).

Five (5) locations in each of the twelve (12) higher institutions were visited out of which, nine (9) students were randomly selected from each of the selected location thereby, summing up to forty-five (45) students in each institution hence, making it a total of 540 students interviewed in all. Therefore, a total of 540 higher institution-based questionnaires which gave consistent reports were administered and collected from students of higher learning and were used for analyses. The choice of these data is due to the fact that, unlike other surveys carried out previously, the questionnaires designed by this study, provided more complete information about the variables used in the estimation.

### VIII. Model Specification

The coefficients that are produced in the probit model are used to calculate a propensity score for each student, which reflects each student's probability of academic performance due to possession of a scholarship. Therefore, the propensity score matching is thus used to estimate the average treatment on the treated.

Propensity score matching is a technique used for non-experimental data to identify a control group that exhibits the same distribution of covariates as the treatment group. In this study, it is however, used to verify whether the possession of scholarships by students increases their chances of performing well in their academics. Propensity score matching is often used by statisticians and is becoming increasingly popular among economists as a method to measure the impact of training programs (Anand, Mizala, and Repetto; 2006). Consequently, this study utilizes this methodology to estimate the impact of scholarships students' academic performance using tertiary institutions in Enugu State, Nigeria as a case study.

Following Rosenbaum and Rubin (1983) an alternative to matching based on student's characteristics ( $X$ ) is to use the propensity score  $PS$ , which they define as "the conditional probability of assignment to a particular treatment given a vector of covariates." Rosenbaum and Rubin (1983) argued that if the matched observations have homogenous propensity scores, then they will also have the same distribution of  $X$ . Hence, let the propensity score be denoted as:

$$PS(X) = \Pr(D=1 | X) \dots \dots \dots (1)$$

where;  $PS(X)$  is the propensity score,  $Pr$  is the probability,  $D$  is the treatment variable, while  $X$  is a vector of covariates.

In situations in which  $PS(X)$  is not known (which is almost always the case for nonrandomized experiments), it can be estimated by models such as the probit or logit. Given the students' academic performances (that is whether they are performing well or not), the study thus calculated  $PS$  using the probit model.

For equation (1) to hold, there are some underlying assumptions of the propensity score matching model. These are;

(i) The "strong ignorability" assumption, as noted by Rosenbaum and Rubin (1983), emphasizes the existence of;  
 (a) the assumption of statistical independence of  $(A_0, A_1)$  and  $D$  conditional on  $X$ . This can be given statistically as follows:

$$(A_0, A_1) \perp D | X \dots \dots \dots (2)$$

where;  $A_0$  is the score of students' academic performance being low and  $A_1$  is the score of students' academic performance being high.  $D$  denotes group with scholarships (the outcome variable), while  $X$  is a vector of covariates which included: religion, household size, sector, sex, age of respondents, marital status, occupation of household head, average expenditure of respondents, type of secondary school attended by the respondent, parents level of education, choice of course, post university mandatory tertiary examination (PUMTE) score, average number of hours the respondent study's per day.

(b) the assumption that  $PS(X)$  lies between 0 and 1. Here, it is assumed that if  $PS$  equals 1, it implies that students with scholarships always perform very high in their academics hence; there is no match with those

whose academics performances are low. The same logic applies if  $PS(X)$  equals 0. This can be given statistically as:

$$0 < P(x) < 1 \dots\dots\dots(3)$$

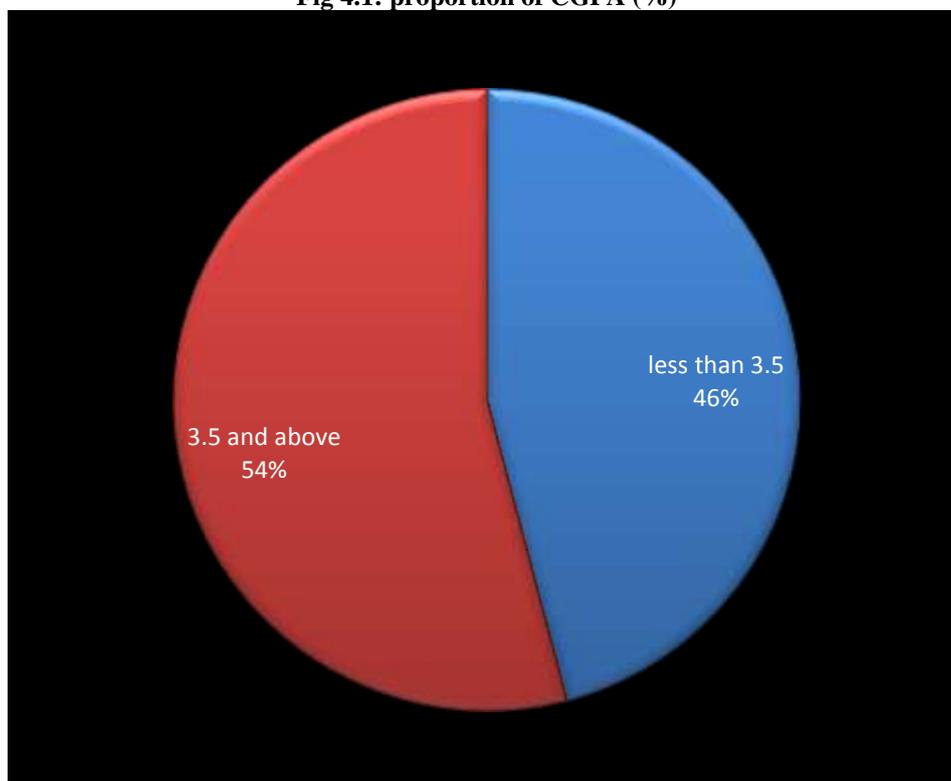
(ii) The assumption states that the unobserved characteristics that are captured by the error term,  $\mu_0$ , have the same distribution regardless of whether the student is in the treatment or control group. This can be stated in equation (4) below:

$$E(\mu_0 | D = 1, PS(X)) = E(\mu_0 | D=0, PS(X)) \dots\dots\dots(4)$$

However, this assumption does not mean that  $E(\mu_0 | PS(X)) = 0$ ; rather, it assumes that the distribution of the unobservable is the same for the treatment and control groups (Heckman et al.; 1997a).

#### 4. Results and Findings

**Fig 4.1: proportion of CGPA (%)**



*Source: Author's computation from the existing data*

From Figure 4.1 above, shows the proportion of academic performance (CGPA) of students in higher institution in Enugu state, Nigeria. The figure suggests that the proportion of students who score less than 3.5 as their cumulative gross point average (CGPA) is 46 percent while those who score 3.5 and above is 54 percent.

**Table 4.1: ATT Estimation with the Radius Matching Method Analytical Standard Errors**

n. treat.	n. contr.	ATT	Std. Err.	T
284	241	-0.130	0.041	-3.192

*Note: the numbers of treated and controls refer to actual matches within radius*

In a bid to examining the impact of scholarships on students' academic performance using tertiary institutions in Enugu State - Nigeria, the study adopted the propensity score matching model. The model indicated that the overall significance of F-probability is 0.0010. It is expected that accessing scholarships increases the academic performance of students in higher institutions in Enugu State, Nigeria but surprisingly, the reverse is the case in this study. This is because; the average treatment effect (ATT) has a negative sign. The results therefore suggest that students' academic performances significantly reduce with an increase in the award of scholarships in Enugu State. However, the impact of scholarships depends mainly on the recipients and/or on the socioeconomic status of the recipients. For instance, if scholarships are awarded to those who belong to the high socio-economic status, the impact will not be felt but, if it is channelled to those with low socio-economic status, the impact will be high. Therefore, for the case of Enugu state, the results of this study show that students who possess scholarships come from wealthy families and/or people with high socio-economic status due mainly to corruption, political influences and so on.

In fact, students who have no scholarships perform very well in their academics. This is because, they work harder in order to pass their exams and have no time for luxury lives. This may be because; they are not armed with more financial resources to live luxury lives when compared with their counterparts who have scholarships. More so, those who are from high socio-economic status and who access scholarships have more financial base to go to beer parlours to wine away their time, attend night clubs, and get involved in other form of social gatherings that will make them spend more money thereby, making them to live luxury lives and pay less attention to their academics. They become more buoyant in terms of feeding, and can even go on recreational activities compared to their counterparts who possess no scholarship. Therefore, the results of the model confirm that scholarship has a negative significant impact on students' academic performance of those in tertiary institutions in Enugu State, Nigeria.

More so, the average treatment effect (ATT) is shown to be -0.130. This by implication suggests that with scholarship, academic performance of students in higher institutions in Enugu state would decrease by 13% but will rise by about 87% if the scholarships are given to students' who are poor. This is because, poor students constitute about more than 65% (using poverty line as \$2 – USD2) in these higher institutions according to the survey data generated for this study.

## **X. Conclusions and Recommendation**

Scholarships are awarded based upon various criteria, which usually reflect the values and purposes of the donor or founder of the award. Majorly, scholarships are to be awarded to people who are poor and find it difficult to pay tuition fees, eat at least two times per day, and to clothe themselves. Therefore, in a bid to verifying the impact of scholarships on students' academic performance using tertiary institutions in Enugu State, Nigeria as a case study, the study utilised survey data generated from 540 questionnaires distributed among student in twelve (12) higher institutions in Enugu State, Nigeria. The propensity score matching model was adopted for the study and the results indicated that students' academic performances significantly increase with an increase in the award of scholarships. Moreover, the results of the model confirm that scholarship is a positive significant determinant of students' academic performance of those in tertiary institutions in Enugu State, Nigeria. In addition to the above, the results also suggested that with scholarship, academic performance of students in higher institutions in Enugu state would decrease by 13% but will rise by about 87% if the scholarships are given to students' who are poor.

There is need for increased award of scholarships to students from poor background and not to students from high socio-economic status by the government, Non-governmental organizations, and other philanthropist to alleviate this problem. The State government should revitalize the giving of bursary awards to students from the state that are in higher institutions, be it private or public. Government and other private higher institutions should also make a tuition fee that are payable by the poor. In fact government can make a ceiling on tuition fee of students to reduce the capitalist nature of private institutions. When these are done, it will make higher education affordable by the poor and hence reduce the number of touts on the streets, criminals, armed robbers, drug use, kidnapping, and other social vices thereby, speeding up economic growth and development, not just in Enugu State but, Nigeria as a whole.

## **References**

Anand, P., Mizala, A., & Repetto, A. (2006). Using School Scholarships to Estimate the Effect of Government Subsidized Private Education on Academic Achievement in Chile, paper presented at Econometric Society World Congress, the Conference on Educational Choice in Comparative Perspective at Princeton University, the Center for Applied Economics, and the Economics Department of the University of Chile.

- Omeje, A. N. and Abugu, S. O. (2015). The Impact of Scholarships on Students' Academic Performance: A Case of Tertiary Institutions in Enugu State, Nigeria. *Bulletin of Business and Economics*, 4(2), 93-104.
- Angrist, J., Bettinger, E., Bloom, E., King, E., & Kremer, M.R., (2002). Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment. *American Economic Review*, 92(5), 1535–1558.
- Angrist, J., Bettinger, E., & Kremer, M.R. (2006). Long-Term Educational Consequences of Secondary School Vouchers: Evidence from Administrative Records in Colombia. *American Economic Review*, 96(3), 847–862.
- Barker, D. (2004). The Scholarship of Engagement: A Taxonomy of Five Emerging Practices. *Journal of Higher Education Outreach and Engagement*, 9(2), 123.
- Bartik, T.J. & Lachowska, M. (2012). The Short-Term Effects of the Kalamazoo Promise Scholarship on Student Outcomes, W.E. Upjohn Institute and Stockholm University, Upjohn Institute working paper; 12-186
- Becker, G. S. (1993). Human capital: A Theoretical and Empirical Analysis with Special Reference to Education (3rd ed.), Chicago: University of Chicago Press.
- Heckman, J.J., Ichimura, H., and Todd, P. (1997a) Matching as an Econometric Evaluation Estimator. *Review of Economic Studies* 65, 261-294.
- Heller, D.E. & Rasmussen, C.J. (2001). Do Merit Scholarships Promote College Access? Evidence from Two States, Paper Presented at the Annual Conference of the Association for the Study of Higher Education Richmond, Virginia, 1-28
- Heller, D.E. & Rogers K.R. (2003). Merit Scholarships and Incentives for Academic Performance, Paper presented at the annual conference of the Association for the Study of Higher Education, Center for the Study of Higher Education, The Pennsylvania State University, 400 Rackley Building, University Park, PA 16802, 814-865-9756
- Ikeoha Foundation (2014). What We Do, History, Retrieved from: <http://www.ikeoha.org/history.php>
- Leadership (2014). Many Indigent Members of His Parish Currently Enjoy Full Scholarships Courtesy of the Social Crusader Priest, Retrieved online from: [leadership.ng/columns/399941/jonathan-must-listen-father-mbaka](http://leadership.ng/columns/399941/jonathan-must-listen-father-mbaka)
- Leuven, E., Oosterbeek, H., & Klaauw, B.V. (2010). The Effect of Financial Rewards on Students' Achievement: Evidence from a Randomized Experiment. *Journal of the European Economic Association*, 8(6), 1243–1265.
- Marcum (2013). Engaging the Future through Inquiry and Learning, Motivating/Engage, 973-402-3951, Retrieved online from: <http://jameswmarcum.com/engagement-theory/>
- Metcalf, K.K, West, S.D., Legan, N.A., Kelli, M. P., & Boone,W.J. (2002). Evaluation of the Cleveland Scholarship and Tutoring Program: Student Characteristics and Academic Achievement, Technical Report 1998 – 2002, Indiana University School of Education, 1-286.
- Moscoso, R.Y., Chair, M.G.C., Fortune, J., Hutson, B., Kronenberg, P., & Wiswell, A. (2000). The Effects of School Characteristics on Student Academic Performance, Dissertation submitted to the Faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Educational Research and Evaluation, School Effects, 1-54.
- Mumper, M. (1996). Removing College Price Barriers: What Government has done and why it hasn't Worked, Albany: State University of New York Press.
- National Association of State Student Grant & Aid Programs (2001). Grants and Scholarships, Federal Student Aid, Federal Grant Programs, Retrieved from: [studentaid.ed.gov/types/grants-scholarships](http://studentaid.ed.gov/types/grants-scholarships)
- Okafor, P.C. (2007). A Case Study: Factors Contributing to the Academic Achievement of Low-Socio Economic Status Students in Anambra South County, Anambra State Nigeria, Proposal Submitted in Partial Fulfilment of the Requirement for The Degree of Doctor of Education, THE School of Education, St. John's University, Jamaica, New York, Retrieved from: [patrickokafor.com/files/LeadingtoThesisProposal1.pdf](http://patrickokafor.com/files/LeadingtoThesisProposal1.pdf)
- Okpara, I. (2014). Enugu Gives Scholarship To 200 Indigent Students, African Examiner, September 4<sup>th</sup>, Retrieved online from: <http://www.africanexaminer.com/enugu-gives-scholarship-to-200-indigent-students>
- Rosenbaum, P.R., & Rubin, D.B. (1983). The Central Role of the Propensity Score in Observational Studies for Causal Effects. *Biometrika*, 70, 41-55.
- Schultz, T. W. (1963). The Economic Value of Education. New York: Columbia University Press.
- Sharma, D. (2010). The Impact of Financial Incentives on Academic Achievement and Household Behavior: Evidence from a Randomized Trial in Nepal. Ohio State University, Columbus, OH. Retrived online from: <http://dx.doi.org/10.2139/ssrn>.

Omeje, A. N. and Abugu, S. O. (2015). The Impact of Scholarships on Students' Academic Performance: A Case of Tertiary Institutions in Enugu State, Nigeria. *Bulletin of Business and Economics*, 4(2), 93-104.

South East Nigeria (2015). 38 Primary School Pupils in Enugu Receive Government Scholarship to University Level, South East Nigeria website, posted by Admin on Feb 15, 2015, Retrieved online on 25<sup>th</sup> March, 2015 from: <http://www.southeastnigeria.com/38-primary-school-pupils-in-enugu-receive-govt-scholarship-to-university-level/>

Stanley (2015). Advanced Skills Training on Information and Communication Technology Commences, Ikeoha Foundation website, Retrieved from; <http://www.ikeoha foundation.org/>

Worley, C.L., Chair, T.T., Craig, J., Russo, P., & Tucker, J. (2007). At-Risk Students and Academic Achievement: The Relationship between Certain Selected Factors and Academic Success, Virginia Polytechnic and State University, Virginia Beach, Virginia