



## **Assessment of Socio-demographic Factors and Self-esteem among Imo State University Medical Students, Nigeria**

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### **Authors' contributions**

*This work was carried out in collaboration between all authors. Author JNE designed the experiment, wrote the protocol for the study, and did the statistical analysis. Authors ENAE, EID and CRO did the literature search. Author BCC also did the statistical analysis. Authors JNE and MCO wrote the draft of the manuscript. Author JNE edited the final copy of the paper. All authors read and approved the final manuscript.*

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### **ABSTRACT**

This study was conducted to assess socio-demographic factors that influence self esteem among medical in Imo state University, Orlu Campus, Nigeria. A total number of 472 students, 232 males and 240 females, were randomly selected from among the 700 medical students in the University. Self esteem was assessed using 10- item Rosenberg's Self-Esteem Scale. Socio-demographic

data was obtained through a self-administered questionnaire. Data obtained from the research was analyzed using SPSS software version 21. Frequency tables, means and percentages were generated. Pearson's correlation was used to test for association between self esteem and the variables. The results showed that the mean age of the respondents was  $23.58 \pm 0.16$ . The mean score of self-esteem among the students was  $22.08 \pm 0.25$ . A total of 429(90.89%) of the participants had high self esteem while 43(9.11%) had low self esteem. The results also showed statistically significant positive relationships between self esteem and primary school attended ( $r=0.125$ ,  $p=0.001$ ), learning environment ( $r=0.137$ ,  $p=0.007$ ), monthly allowance from the sponsor ( $r=0.189$ ,  $p=0.001$ ), provision of essential materials by the sponsor ( $r=0.146$ ,  $p=0.001$ ) and educational level of the sponsor ( $r=0.096$ ,  $p=0.038$ ). The results revealed that majority of the respondents had high self-esteem, choose to read medicine on their own and were mainly sponsored by their parents. There is significant positive correlation between self-esteem and primary school attended, learning environment, and sponsor's educational level, monthly allowance and provision of essential items to the students ( $p < 0.05$ ). The high self-esteem among the students may be attributed to the strong family support, effective learning environment and good schools attended. Therefore it is recommended that government should provide conducive learning environment with adequate infrastructures while parents and/or sponsors should endeavor to provide all the essential needs of the students to ensure sustainable high level of self esteem.

*Keywords: Self esteem; medical students; socio-demographics; Rosenberg's self esteem.*

## 1. INTRODUCTION

A healthy and progressive nation requires the services of healthy, happy, confident, and competent health practitioners, especially doctors. Generally, medical students represent the future doctors and future health team leaders, therefore, it is imperative that the physical and mental health of these students are encouraged, preserved and promoted.

The study of medicine is very demanding and stressful, not only in terms of physical and mental health but also with rigorous training period which may contribute to the development of psychiatric morbidity [1,2,3]. Studies have shown that medical education and training can directly contribute to the development of mental health problems such as depression and behavioral problems and a decline in life satisfaction among students [1,4,5,6]. In addition, the susceptibility of university students to different challenges such as new learning environment, class activities, lack of leisure time, prolonged hours of studies and exams can lead to development of different kinds of psychological problems and threats [7].

Mental health influences academic performance, healthy habits and self-esteem [1]. Self-esteem is the evaluation and experience related to self value, the perception of self ability as well as the acceptance of the whole self, which an individual obtains during the process of socialization [8,9]. It has also been described as an individual's

feelings, thoughts and evaluations of his abilities in social, educational, familial and body image domains [10].

There are two components of self-esteem: global self-esteem and specific self-esteem [11]. Global self-esteem includes all the things an individual attributes to himself, such as physical appearance, abilities and material belongings. Specific self-esteem includes all the things which an individual achieve through social relations during his life and they are exclusively his experiences which he does not share with anyone else.

It has been reported that a person with high self-esteem has a high level of mental health status and self-harmony [12]. Self-esteem could also positively affect the general well-being [13,14]. A number of researches have shown that an individual with high self-esteem feels more confident, is more competent, more active engagement in daily activities, more productive and tend to exhibit optimistic attitude and sound psychological health [15,16,17,18]. High self-esteem can also lead to higher success motivation [19], increased ability to achieve goals or cope with problems [20] and can affect decision making, which may have an impact on the individual's entire life [21]. Conversely, an individual with low self-esteem often feels inferior, hopeless, desperate, unhappy and tends to get neurosis [15,22]. Suicidal studies have shown that when the protective guard of self-

esteem is low, depression is more probable to set in [23]. Extreme cases of low self-esteem can be fatal because depressed adolescents are more vulnerable to suicidal ideation [23,24].

Mann and co-workers [25] have demonstrated that self-esteem affects not only present physical and mental health and associated health-related behaviors but also on future health and health-related behavior during adulthood. Self-esteem is a very useful tool for health care professionals during their interactions with patients, caregivers, other health care team members and even hospital management [26]. Positive self-esteem in healthcare professionals is usually seen as a hidden capability in which, when combined with professionalism and accountability, will greatly reinforce hospital customer satisfaction [27]. A high self esteem leads to healthier performances and remarkable interpersonal success, leading to improved happiness and a healthier way of life [28]. Chris et al. have shown that health care professionals with high self-esteem have a tendency to stimulate, influence and induce a positive well-being both in the health care team and in patients with chronic or terminal illnesses [29].

Self-esteem begins to form in early childhood and many factors can influence it such as thoughts and perceptions of oneself, reaction from other people, experiences at home, school, work, and in the community, illness, disability or injury, media, culture or religion, role and status in the society [30]. Furthermore, self-esteem can increase or decrease by the rate of feeling worthwhile, respectable, competent and internally satisfied [31]. Self-esteem and personality tend to share common developmental roots [32]. Like personality, self-esteem is moderately heritable, with about 30% of the variance due to genetic differences.[33] Other determinants of self-esteem include: income [34], social support [35], family [36,37], personality traits [38], school attended [36], having accomplishments recognized and mistakes or failures acknowledged and accepted, parenting style, social acceptance [39] and gender, age, and marital status [40-44]. There is paucity of data on studies of socio-demographic factors influencing self esteem among Nigerian medical students and this prompted this research.

## 2. MATERIALS AND METHODS

This cross-sectional study was conducted among undergraduate medical students of Imo State University, Orlu Campus using a non-probability

(grab) sampling technique. Students from all the levels 2-6 were invited to participate in the study. Those who agreed to participate, the aim and objectives of the study were explained to them and they filled a written informed consent. Participation was therefore purely voluntary, anonymous and confidentiality of information obtained was ensured. The research was approved by the Ethical Committee of the Imo State University Teaching Hospital, Orlu.

A total 472 out of about 550 medical students in the Faculty of Medicine accepted to participate in the study. Standardized questionnaire of the Rosenberg Self-esteem scale was the research instrument used as well as questions related to the socio-demographics of the respondents. Rosenberg self-esteem scale is one of the most widely used instrument for measuring self-esteem. It is a ten-item scale based on self-reporting and cognitive dimensions of self-esteem. Each statement on the scale is answered on a four point scale (Likert scoring 0-1-2-3) with the scoring ranging from 0 to 30. Rosenberg self-esteem scale has strong internal reliability: test-retest correlations are in the range of 0.76 to 0.88, and Cronbach's alpha in the range of 0.77 to 0.88 [1,38,45,46]. For the present study, the calculated internal consistency reliability was 0.80.

The socio-demographics of the respondents include: age, sex, marital status, religion, ethnicity, level of study, schools attended(primary and secondary), sponsor, monthly allowance from sponsor, provision of essential learning materials by the sponsor, learning environment, choice to study medicine, sponsor's educational level, occupation and estimated annual income.

### 2.1 Data Analysis

Data collected was cleaned, coded and analyzed using descriptive statistics (mean, standard error of mean, frequency, and percentage). Pearson's product moment correlation method was used to study the association between self-esteem and the socio-demographic variables. IBM SPSS 21 Software was used to analyze the results and the statistical level of significance set at  $p \leq 0.05$ .

## 3. RESULTS

Of about five hundred and fifty (550) undergraduate medical students invited for the study, four hundred and seventy two (472) participated (response rate 85.82%); 50.8% were females and 49.2% were males. The socio-

demographic characteristics of the medical students are shown in Table 1.

The mean age of participants was 23.58±0.16 (range between 16 to 40 years). The majority of the students are (76.27%) in the age range (21-30 years), followed by (21.61%) in the range (16-20 years old). The majority of the respondents were of Ibo extraction (98.5%) and were also Christians (98.9%). Some 9.5% of the students were married and the rest (90.5%) were single. Forty nine percent (230) of the students attended private primary schools, 27% (129) attended public primary schools, 23% (108) attended mission primary schools while 1% (5) did not attend primary school at all. Thirty five percent (167) attended public secondary school, 32% (153) private school, 31% mission school and 1% (5) did not attend any secondary school.

Sixty nine percent (325) of the students made personal choice to study medicine while father (16.5%), mother (11.2%), relations (2.1%) and friends (1%) had a significant effect in their choice of course of study.

On the assessment of their learning environment, 204 (43.2%) adjudged it as barely conducive, 202 (42.8%) conducive, 48 (10.2%) highly unconducive while 18 (3.8%) appreciate it as highly conducive. That is, 89.8% (424) of the respondents adjudge their learning environment as conducive while 10.2% (48) see it as unconducive.

Majority of the students were sponsored by their parents (87.5%) while others were sponsored by

relations (7.8%), husband (2.1%), church (1.9%) and friends (0.6%). Monthly income/allowance from the sponsors was assessed differently by the students: 59.3% adequate, 24.8% barely adequate, 12.9% highly adequate while 3.0% highly inadequate. On the provision of essential study materials by their sponsors, only 60.2% deemed them adequate while 19.9% barely adequate, 15.9% adequate and 4.0% highly inadequate. Educational levels of the sponsors varied: 60.2% had university degrees, 19.3% OND/NCE (Ordinary National Diploma/National Certificate Examination), 13.1% FSLC/SSCE (First School Leaving Certificate/Senior Secondary Certificate Examination), while others had none. Majority of the sponsors were self-employed (37.1%) while 35.8% were civil servants, 20.6% were public servants and 6.6% were retired civil servants/un-employed. On the sponsor's annual income, 39.6% earned less than N400, 000.00, 30.5% N 500-900,000.00, 19.1% 1-1.5 million while 10.8% more than 1.6 million Naira.

The mean of the students' self-esteem score was 22.08±0.25. Ninety one percent had high esteem (15-30) while 9 % had low esteem (0-14).

Tables 2; shows the results of the association studies between socio-demographic characteristics of the respondents and self-esteem using Pearson moment correlation. From Table 2, self-esteem is positively and significantly correlated with primary school attended, learning environment, monthly income/allowance from sponsor, provision of essential items by sponsor, and sponsor's level of education.

**Table 1. Socio-demographic features of the IMSU medical students**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Age(years)</b>		
16-20	102	21.61
21-30	360	76.27
31-40	10	2.12
<i>Mean age</i>	<i>23.58±0.16</i>	
<b>Sex</b>		
Male	232	49.2
Female	240	50.8
<b>Ethnicity</b>		
Igbo	465	98.5
Yoruba	1	0.2
Others	6	1.3
<b>Religion</b>		
Christianity	467	98.9
Muslim	2	0.4
African Traditional Religion	3	0.6

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Marital status</b>		
Married	45	9.5
Single	427	90.5
<b>Body mass index(BMI)</b>		
< 25	269	57.0
≥25	203	43.0
<b>Primary school attended</b>		
Public school	129	27.3
Mission school	108	22.9
Private school	230	48.7
None	5	1.1
<b>Secondary school attended</b>		
Public school	167	35.4
Mission school	147	31.1
Private school	153	32.4
None	5	1.1
<b>Choice to study medicine</b>		
Self	325	68.9
Father	78	16.5
Mother	53	11.2
Relation	10	2.1
Friend	5	1.1
<b>Level of study</b>		
Pre-clinical	236	50
Clinical	236	50
<b>Learning environment</b>		
Highly conducive	18	3.8
Conducive	202	42.8
Barely conducive	204	43.2
Highly unconducive	48	10.2
<b>Sponsor</b>		
Parents	413	87.5
Relation	37	7.8
Friend	3	0.6
Church	9	1.9
Others	10	2.1
<b>Monthly Income from sponsor</b>		
Highly adequate	61	12.9
Adequate	280	59.3
Barely adequate	117	24.8
Highly inadequate	14	3.0
<b>Provision of needed items from sponsor</b>		
Highly adequate	75	15.9
Adequate	284	60.2
Barely adequate	94	19.9
Highly inadequate	19	4.00
<b>Highest Educational level of sponsor</b>		
FSLC/SSCE	62	13.1
OND/NCE	91	19.3
Degree	284	60.2
None	35	7.4
<b>Occupation of the sponsor</b>		
Civil servant	169	35.8
Public servant	97	20.6
Self-employed	175	37.1
Others	0	0

Variable	Frequency	Percentage (%)
<b>Estimated Annual Income of Sponsor</b>		
< 400,000.00	187	39.6
500-900,000.00	144	30.5
1-1.5 million	90	19.1
>1.6 million	51	10.8
<b>Rosenberg Self-esteem Scale</b>		
0-14	43	9.11
15-30	429	90.89
Mean	22.08±0.25	

**Table 2A. Association between self-esteem and socio-demographic characteristics of the students**

Variable	Correlation coefficient(r)	P value
Age	0.047	0.309
Sex	0.049	0.289
Body mass index	0.069	0.132
Religion	0.018	0.692
Marital status	-0.058	0.211
Primary School	0.125	0.005**
Secondary school	-0.022	0.635
Choice to read medicine	-0.084	0.070
Level of study	0.083	0.073
Learning environment	0.137	0.007**
Sponsor	0.069	0.136
Monthly income from sponsor	0.189	0.001**
Provision of essential items by sponsor	0.144	0.001**
Sponsor educational level	0.096	0.038*
Sponsor's occupation	0.077	0.094
Sponsor annual income	0.09	0.853

\*Pearson's Correlation is significant at the 0.05 level

\*\* Pearson's Correlation is significant at the 0.01 level

**Table 2B. Association between some socio-demographic variables and self-esteem**

Variables	Self-esteem
Primary school attended	0.123*
Learning environment	0.137**
Educational level of sponsor	0.096*
Monthly income from sponsor	0.189**
Provision of essential items by sponsor	0.146**
Occupation of the sponsor	0.077
Marital status	-0.058
Gender	0.049
Level of study	0.083

\*Pearson's Correlation is significant at the 0.05 level

\*\* Pearson's Correlation is significant at the 0.01 level

#### 4. DISCUSSION

This study was done to assess the influence of socio-demographic characteristics of medical students at Imo state university, Orlu Campus on self-esteem. Self-esteem has effects not only on present physical and mental health and health-related behavior, but also on future health and health-related behavior during adulthood [25]. This study showed that majority of the medical students had high self-esteem. Self-esteem is an essential value and necessity for healthcare professionals during their interactions with patients, caregivers, other healthcare team members and even hospital management [26]. It has been demonstrated that high self-esteem causes healthier performances and remarkable interpersonal success, leading to improved happiness and a healthier way of life [28]. People with high in self-esteem tend to be more likable and attractive, to have better relationships, and

to make better impressions on others than people with low self-esteem [44]. Furthermore, healthcare professionals with high self-esteem have a greater tendency to stimulate, influence and induce a positive well-being not only in patients with chronic or terminal illness but also in the health care team [29]. Conversely, low self-esteem has been associated with unhappiness [22], suicidal ideation [23], isolation and avoidance of social settings [47], and psychological disorders [48].

This study revealed that majority of the respondents attended private primary schools. Primary school correlated positively and significantly with self-esteem in this study ( $p < 0.05$ ). This corroborates the study done by Eremie et al. [36], where they found that private school students had high self-esteem than public school students. They opined that public schools are managed by government, most of the students are from low income households and are not well organized in terms of infrastructural development, poor learning environment and congested classrooms. Furthermore, some of the students serve as house-keepers to relatives and others. Conversely, private schools are well organized, better funded and most of the students are from middle to high income households.

This study showed that 89.8% (424) of the medical students see their learning environment as conducive while 10.2% (48) appreciate their environment as unconducive. Learning environment is positively correlated with self-esteem and the relationship is significant ( $p < 0.05$ ). It is good to build the kind of school environment that would encourage learner self-realization and skill development, to create situations leading to experiencing success stories, with the aim of motivating learners for higher academic achievement and enhancement of self-esteem [49]. Self-esteem is influenced by the parents, family, school, teachers, and inherent mental abilities [49,50,51]. Students self-esteem depends on school environment and the more the school environment lets the student be responsible, independent and proactive, the higher their self-esteem will be [52,53]. Research indicates that more and more schools are realizing that an emphasis on self-esteem complements the learning environment, decreases peer conflict and develops a more desirable teaching situation [54]. Furthermore, the teacher's ability to create partnership-directed, interactive and emotionally favourable

atmosphere of mutual respect, encouraging the student's self-realization and leading to cooperation, will greatly enhance students' self-esteem and revealing their inborn abilities on the way to realizing personality needs [49].

Majority of the students (87.5%) in this study were sponsored by their parents. It also showed that monthly allowance from the sponsor, provision of essential items by sponsor and educational level of the sponsor positively and significantly correlated with self-esteem ( $p < 0.05$ ). Seventy-two percent and 76% of the respondents found their monthly allowances and provision of essential items adequate respectively while 28% and 24% found them inadequate respectively. The family is the single most influential factor for the development of self-esteem. Until the child commences formal school, the family remains the most important learning ground for the child and this later extends to peers, teachers and other non-family members of significance. Despite the influence of the significant others, the child will return to the reflection in the mirror that his/her parents holds for his/her sense of goodness, importance, and basic worth [54,55,56]. The formation, development and sustenance of one's self-esteem is a result of the socialization process, the product of the interaction with one's socio-cultural and familial environment and school education [57], reported that children's self-concepts are related to parent-child relationships, and family characteristics. Various researches have consistently found that there is a close relationship between self-esteem and family function [57,58,59,60]. Parents that give their children more warmth, help, and understanding, their children tend to have higher self-esteem, healthy bodies and minds [61,62,63].

Erturgut and Erturgut in Turkey [64] found out that academic self-esteem levels of students differ according to level of education of their parents, economic condition of their families and the number of years in which they received education. Other investigators have also found positive correlation between self-esteem and socio-economic status [34,65,66]. It has also been shown that adolescents with a low self-esteem were at increased risk of poor mental and physical health in adulthood and they had worse economic prospects than adolescents with a high self-esteem [67]. The possible reason for the positive relationship between self-esteem and level of income may be due to the fact that socio-economic status is one of the major

socializing factors in schools [68]. Students from higher socio-economic status families can have greater exposure to different issues and situations. Such exposure may have broadened their horizons and consequently, caused them to become more analytical in thinking and to focus on the overall picture. Adequate financial support and high perceived family support have been associated with high self-esteem and low academic stress and vice versa [69-72].

This study found no significant relationship between self-esteem and gender. This result corroborates earlier studies which found no gender differences in self-esteem [73-76]. However, other studies have found significant gender relationship with self-esteem [32,42,77-78].

This study also showed no significant relationship between self-esteem and marital status ( $p > 0.05$ ). This indicates that marital status does not determine nor influence self-esteem in the respondents. The pressure and many challenges associated with medical education may be more paramount to the students than marriage. Our finding agreed with the work done by Koleoso et al. in Nigeria [38] but contrasts with that done by Challenger [43] who found a positive relationship between self-esteem and marital status. Single participants had higher self-esteem than their married, divorced or separated counterparts.

This study also showed that ethnicity, religion, level of study, body mass index, and occupation of the sponsor and his/her annual income did not reveal statistically significant effect on self-esteem ( $p > 0.05$ ).

## 5. CONCLUSION

This study assessed some socio-demographic characteristics of medical students and their influence on self-esteem. Results revealed that majority of the respondents had high self-esteem, choose to study medicine on their own and were mainly sponsored by their parents. There is significant positive correlation between self-esteem and primary school attended, learning environment, and sponsor's educational level, monthly allowance and provision of essential items to the students ( $p < 0.05$ ). The high self-esteem among the students may be attributed to the strong family support, effective learning environment and good schools attended.

## CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

## ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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