An assessment of the level of motivation towards the study of Anatomy among students in south-western Nigerian universities

***Owolabi JO[1], Tijani AA[2], Shallie PD[1]**

Original Article

Abstract

Background: Motivation has always been a key factor in career development and so can be derived by professionals from many sources or a collection of factors. Anatomy is offered as a course of study leading to the award of a bachelor's degree in several Nigerian universities. There has been observable concern about the level of motivation among students studying Anatomy.
Objective: The objective of this study was to assess the level of motivation among students studying anatomy in Nigeria; the causative factors and how these would influence their career.
Methodology: Random sampling technique was used to recruit 254 participants across the universities that offer bachelor's degree programme in Anatomy in South-western Nigeria. Students were distributed across levels of study as follows: 18.2% in 100 level, 9.5% in 200 level, 32% 300 level, 18.6% in 400 level and 21.7% 500 level. Structured questionnaire was used to obtain desired information. Suitable statistical methods were employed to collate data; results were presented as percentages for analyses, comparisons and inferences.
Major findings: The students' levels of motivation towards their career were being affected negatively majorly by their initial lack of interest in Anatomy as a course of study; lack of clear cut policies about the professional roles in the health and other relevant sectors as well as poor career recognition. Students' attitude towards study was fairly positive.
Conclusion: Anatomy students' motivation is being limited by identified factors and urgent steps should be taken to address them to increase the level of motivation among the students.

Keywords: Anatomy, Motivation, Students, Universities, Nigeria

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Une évaluation du niveau de motivation vers l'étude de l'anatomie parmi les étudiants dans le sud-ouest les universités Nigérianes

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L'article d'origine

Résumé

Antécédents: Motivation a toujours été un facteur clé dans l'évolution de carrière et peut donc être dérivées par des professionnels provenant de nombreuses sources ou une collection de facteurs. Anatomie est offert comme un cours d'étude conduisant à l'attribution d'un baccalauréat dans plusieurs universités nigérianes. Il y a été observable préoccupés par le niveau de motivation parmi les étudiants Anatomie.
Objectif: L'objectif de l'étude était d'évaluer le niveau de motivation parmi les étudiants anatomie au Nigéria; les facteurs étiologiques et comment ces influence leur carrière.
Méthodologie: technique d'échantillonnage aléatoire a été utilisée pour recruter 254 participants partout les universités qui offrent programme de baccalauréat en anatomie dans le sud-ouest du Nigeria. Les étudiants étaient répartis entre les niveaux d'étude comme suit : 18,2 % en 100 niveau, 9,5 % de niveau 200, 32% niveau 300, 18,6 % de niveau 400 et 21,7 % 500 niveau. questionnaire structuré a été utilisé pour obtenir informations souhaitées. Des méthodes statistiques ont été utilisées pour assembler les données; les résultats ont été présentés sous forme de pourcentages pour des analyses, des comparaisons et des inférences.
Principales conclusions: les élèves des niveaux de motivation vers leur carrière ont été touchés négativement, au dessus de leur rapport initial manque d'intérêt dans l'anatomie, comme un cours d'étude; l'absence de claire politiques sur les rôles professionnels dans le secteur de la santé et d'autres secteurs pertinents ainsi que la mauvaise réputation de cette carrière. Les étudiants de l'attitude envers l'étude était assez positif.
Conclusion : Anatomie motivation des élèves est limité par a identifié les facteurs et mesures urgentes devraient être prises afin de les traiter pour augmenter le niveau de motivation parmi les étudiants.

Mots-clés: anatomie , la motivation, les étudiants, les universités, le Nigéria

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Introduction

There has been observable concern about the level of motivation among the students studying anatomy in Nigeria. Motivation has always been a key factor in career development and so can be derived by professionals from many sources or a collection of factors. It has been reported that when a positive attitude toward the future is combined with a promising and rewarding mechanism or instrumentality, it produces the highest motivation to study and subsequently, the best academic performances. Thus, when the attitude is high but the perceived instrumental value is low, motivation to study and school results were observed to be very low (1).

We considered it important to investigate factors that motivate our students and those that de-motivate them because we hope that results from our study can be applied to help students channel their career paths both during the undergraduate and postgraduate years. Students require motivation and this is an indispensable component of education especially at the university levels where they are given the final basic and fundamental trainings expected to usher them into their different careers. Van Calster (1) reported that the educational practice of motivating students by explaining the future importance of their present school work and school results would have the best effects when students had a positive affective attitude toward their personal future.

Anatomy is indeed an ancient Basic Medical Science and it is originally the study of the structure of the body. It was first studied formally in Egypt about 500 B.C.E. [BC.] (2) and Aristotle (384 -322 B.C.E.) was the first person to use the term *anatome*, a Greek word that basically means 'cutting up' or 'taking apart'. The Latin word *dissecare* has a similar meaning (2). The earliest writings on anatomy were done using papyruses between 3000 and 2500 B.C.E. (3). It is obvious therefore that Anatomy started with what is currently referred to as Gross anatomy- an aspect of Modern Anatomy.

Anatomy has greatly evolved over the years. The traditional concept of Anatomy as just the study of the body, particularly through the dissection of bodies has successfully evolved into the Modern concept of Anatomy. Anatomy, in the modern sense can better be described as the purposeful study and exploration of the human body to understand and appreciate its absolute nature and structure in the normal living condition in order to apply such knowledge to improve living conditions and solve problems in conditions of anomalies and diseases. Also, the role of the Anatomist in the health care has advanced. People now study Anatomy, and make a career out of it, not just to explore the body anymore; but to apply such knowledge to improve living conditions and solve problems of anomalies and disease conditions (4). Moore and Dalley (2) stated that modern Anatomy is functional anatomy as they broadly described Anatomy as the setting or structure within which the events or functions of life take place.

The serious concerns about the level of motivation among the students studying anatomy in Nigeria necessitated this study. To measure, assess and evaluate motivation, it will be crucial to examine students' affective attitude towards their career, the attitude-related study challenges and career related emotional circumstances and situations. An individual's affective attitude toward the future is their influential emotional outlook on their personal future in general. It may sometimes be useful to distinguish between different specific areas in the personal future, such as a professional, a social, or a family life (5, 6). It is in line with this statement that we chose to relate students' motivation not with just the past and current situations and circumstances surrounding their studies but also with their future career and professional expectations.

Materials and Methods

Pilot studies

Pilot studies were conducted prior to the main study reported in this article- predominantly qualitative with a little of quantitative methods to quantify and analyse inferences. These were aimed at generating from the target student population, the basic factors influencing their levels of motivations. The above steps helped to generate a number of questionnaire-questions. These were then subjected to structuring in line with the suggestion of Rattray and Jones (7) that questionnaire design and development had to be

supported by a logical, systematic and structured approach. The use of questionnaire was purposefully adopted for this study as it was a reliable, effective method and approach for such a study (8, 9).

Questionnaire design

The questions were grouped into subsections of the questionnaires such as basic information on the course of study, background knowledge before enrolling for the study of Anatomy, prospects, attitudes, career related changes and the proposed solutions for career development problems, and career emancipation (The questionnaire used will be made available on request).

Questionnaire administration

A total of 254 students were recruited using random sampling technique exclusively across the universities that offer bachelor's degree programme in Anatomy in South-western Nigeria; these also cut across the 100 to 400 or 500 levels of study in the universities. This involved five Universities including federal, state and private universities. The students were made to complete questionnaires specifically designed to assess carefully selected study parameters and factors. In line with global ethical standard practices and especially with reference to the Declaration of Helsinki (10), questioning language was structured to avoid infringement of personal feeling or emotion. A cover letter was also attached to each questionnaire to solicit their cooperation. The students were informed about the purpose of the questionnaire, and their cooperation was sought and without coercion (11).

Results Collation, Analysis and Presentation

Completed questionnaires were collected and results collated using suitable statistical tools and methods. The frequencies of responses were considered in forms of percentages. Results were presented on tables or charts. Analyses were critically made in forms of comparisons and associations using statistical methods.

Results

On the basis of sex, 54.5% of respondents were males. Only 27.3% of respondents originally chose to study Anatomy. For those who did not originally choose Anatomy, 83.0% originally chose to study Medicine and Surgery while 17.0% altogether indicated that their original choices included Pharmacy, Microbiology, Physiology, Medical Laboratory Science and Statistics. Others include Dentistry, Computer Engineering, Human Rehabilitation, Agricultural Sciences, Biochemistry and Yoruba Language.

Other results are as shown in Table 1 and Figures 1-6.

Table 1: Shows the percentage distribution of respondents across the levels of studies in their respective universities in South West Nigeria.

Figure 1: Bar chart illustrating responses on background Information and Course Entry Procedures. Students' background knowledge of Anatomy as well as initial interest were low.

Figure 2: Showing results from questions employed to assess and evaluate the prospects of students about their course of study from their perspectives and level of knowledge. Students' level of their job prospect is generally low; but their interest to remain in the career is high.

Figure 3: Bar chart showing responses to questions on career related attitude. Attitude towards study is fairly positive on the average.

Figure 4: Bar chart showing responses to career related challenges. Major challenges are job and career prospect-related; these have much greater impacts than study or school-related challenges.

Figure 5: Bar chart showing responses to career development problems proposed Solutions. Students desired that Anatomy remain a university course of study but would want improvement in terms of professionalism.

Figure 6: Bar chart showing Responses to career emancipation questions. All students agree to professionalizing Anatomy, creating specific

areas of specialization and awarding fellowships on merit.

Discussion

The authors thought it important to assess vital background information and the entry procedure of students in to the Anatomy course in the universities. As shown in Figure 1, only 27.3% made an original choice of studying Anatomy. The implication of this is that a high percentage of students did not originally make the choice to study Anatomy. About half (52.3%) indicated that they studied Anatomy because it was what the university offered them. Only 20.9% of the respondents admitted for anatomy was properly introduced to them-,4.5% were unsure of any such introduction while the rest affirm to the contrary. This scenario contradicts those of a group of 200 medical students examined by Faseeh *et al.,* (13) that stated that they had chosen the medical profession of their own free will; though some still had regrets. In the same study though, students were aware of the importance of specialization in a particular field, it was reported that they seemed to need career counseling to help them in their decision-making.

It is also striking to note that 83.8% of respondents indicated that their original choice was Medicine and Surgery while 17.0% altogether indicated that their original choices was neither Anatomy nor Medicine and Surgery. It will be interesting to observe a link between the original choice of course of a good percentage of students which was denied and consequently, commitment to Anatomy as a course of study and career.

Preliminary observations and pilot studies had strongly suggested that career and job prospects were the key factors influencing the motivation of students as they undertake Anatomy as a first degree course of study. In line with these findings, Figure 2 shows that only 29.1% of students indicated that they knew up to three established places of work for an Anatomist as against 57.3% that said they didn't and 13.6% that were unsure. Only 49.2% of students knew that there could be other jobs for Anatomy graduates other than lecturing. Only 57.8% opined that it is worth studying Anatomy in the Nigerian University. However, 69.7% would desire to work with their skills while 68.2% would want to obtain higher degrees. It is however important to note that only 25.5% answered yes to whether they have acquired professional skills that can serve entrepreneurial purposes with 45.5% accepting that they acquired research skills.

This calls to question the philosophy and integrity of the manifestos of the Nigerian institutions that offer Anatomy as a course as to what specifically they are set out to make of the products of the course (Anatomy), and the mechanism they employ in achieving the goal(s). The fact that most respondents could not identify up to three places where they could work looks like a pointer to why they were not motivated majorly to have chosen Anatomy as a course of study. The responses further revealed from the students' perspectives, a low knowledge of career prospects and opportunities for career enhancements and diversification. Aside from their knowledge about an Anatomist being able to teach Anatomy to students in health institutions and universities, slightly less than half of the respondents had knowledge of alternative job opportunities. These factors are strongly connected to the level of motivation among students and could as well affect their academic performance, self confidence, career fulfillment and public opinion relative to their career.

With respect to students' attitude towards Anatomy as their course of study and a career, (illustrated in Figure 3). up to three-quarters of them showed a high level of positive attitude and were proud to be student-anatomists, aspiring to be great anatomists; they found Anatomy interesting and would encourage interested students to study the course. Relating to the high percentage positive response to the positive-attitude testing questions, the percentage of YES response to negative response questions was low as was seen when responding to whether studying Anatomy as a career was a mistake, embarrassed to be identified as Anatomy students, considering Anatomy as boring and frustrating or studying it just to pass and consequently graduating to obtain a degree. More than half responded they would not read

Anatomy again if they had a second chance while just above one third indicated *YES* to still choose to study Anatomy again. In addition about two thirds indicated that their study was to prepare them for a particular desired course of study or career while over a quarter of the students responded with a *NO* to the question with the intention of purposefully studying Anatomy with the possibility of making a career out of it. Inferences from these responses indicate that most of the students would not have studied Anatomy if given their desired choice of course; so also if given another chance, most of them would not study Anatomy as a course or make a career out of it. However, in as much as they are currently undertaking the course, they seem happy and proud of doing so.

These inferences are not unconnected with the fact that a large percentage of the students indicated that they had originally chosen to study another course other than Anatomy indicating that they currently study Anatomy simply because the Universities offered them Anatomy as the available alternative to their original desired courses and they also accepted the offer. However, having accepted the offer of the course Anatomy most students who currently study the course are motivated, exhibiting a positive state of mind about their current course of study. It is also worthy of note that though only 27.3% of the students indicated that they originally applied and desired to study Anatomy in the universities; the percentage of those who would re-choose anatomy if given a second chance increased to 34.3%, an increase of 7%. This indicates that the interest and desire of students to study Anatomy did increase after admission into the university and consequently there is an upward increase in the level of their positive attitude.

Lack of professional recognition and poor job prospects were of the highest percentages of 77.1% and 77.0% among the twelve problem-factors that were tested for respectively (See Figure 4). Surprisingly, lack of quality and adequate textbooks and dislike for cadaver which are often some of the factors taken for why students might not be motivated to study Anatomy had the least percentages of affirmation- 16.0% and 23.0% respectively, of why students might not be motivated. Lack of adequate facilities with technologically driven training, lack of adequate practical skills, and professional trainings and unconducive learning environment were also seen to be some of the factors that militate against students' motivation. Interestingly, these were seen as the basic problems militating against students' motivation in developing and underdeveloped countries of the world. It however appears, from the current study, that these problems were considered to be of less impact and consequence than the first duo of lack of professional recognition and poor job prospects. The initial lack of interest in studying anatomy but for the universities' offer of admission seems to add to the anti-motivation problems of the students.

As illustrated in Figure 5; about three quarters of the students still desire to have Anatomy sustained as an undergraduate course of study. This suggests that the students are still motivated to study Anatomy. However, a very high percentage of 86.1 students would want the course restructured into an ideally professional programme. Importantly, 98.0% indicated their wish for Student-Anatomists to be equipped with specialized skills to work in various existing health and industrial sectors. Again, 96.5% indicated that specific job opportunities be created for them after graduation or as seen in other countries in some other countries where Anatomists are trained to work in the health and industrial sectors as specialized and highly skilled professionals.

Peter *et al.,* (14) reported in a study conducted on Nigerian Anatomy students that 100% of the respondents agreed that students are not sent out for industrial training or clinical experience in related areas. Majority (91.9%) of the respondents were of the view that this will motivate and further improve the quality of anatomy graduates. Majority of the respondents in the study also thought that subspecialties like radiology, forensic anatomy, embryology, teratology, embalmment, and anatomical techniques should be introduced. The above report has vital inferences similar to our current study. Also, from this study- presented as Figure 6, six out of ten students had three major opinions on how to bring about career improvement in Anatomy. The suggestions included making it 5-year professional

programme with the fifth year as the year of specialization, that postgraduate centres for professional trainings and honours be established to train Anatomists and that professional honours such as Fellowships be given after obtaining certain postgraduate honours such as Masters or Doctorate or after passing certain professional post-graduate examinations.

Conclusion

Students' levels of motivation appears to be affected majorly by their initial lack of interest in Anatomy as a course of study, lack of clear cut policies about the professional roles in the health and other relevant sectors as well as poor career recognition. Urgent steps should be taken to address these problems so as to improve the motivation of students. A holistic career emancipation programme is required if the current trend is to be addressed for the optimal benefit of the contributions from professional Anatomist to the Nigerian Health and Medical, Industrial, Educational and other relevant sectors to be obtained.

Conflict of interest: No conflict of interest to be declared.

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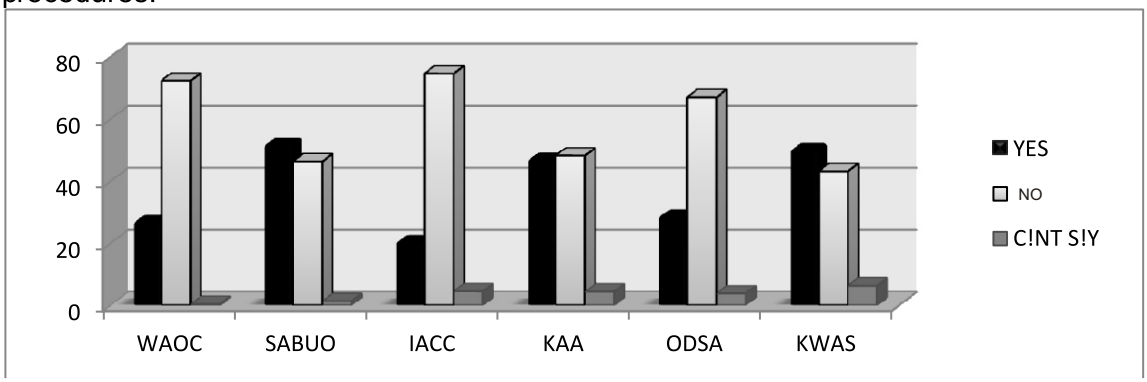
Table 1: Table showing the percentage distribution of respondents across university levels

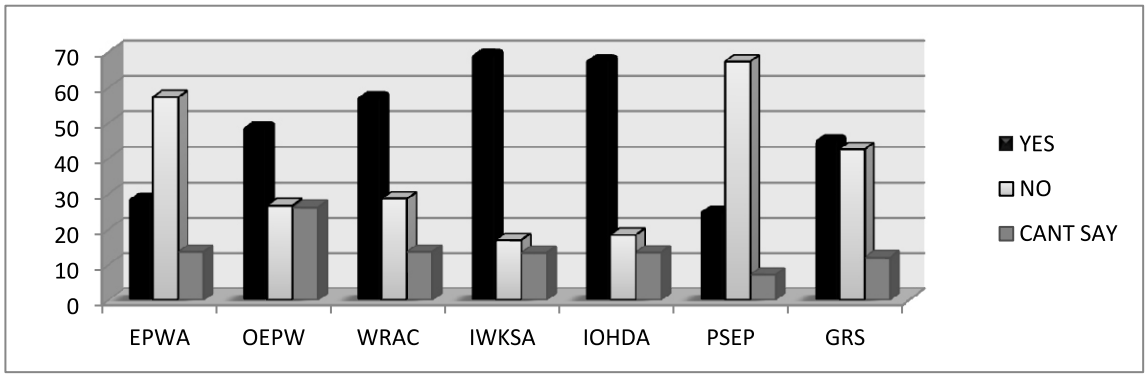
LEVEL OF STUDY	PERCENTAGE (%)
100	18.2
200	9.5
300	32
400	18.6
500	21.7
TOTAL	**100**

Figure 1: Bar chart illustrating responses on background information and course of entry procedures.



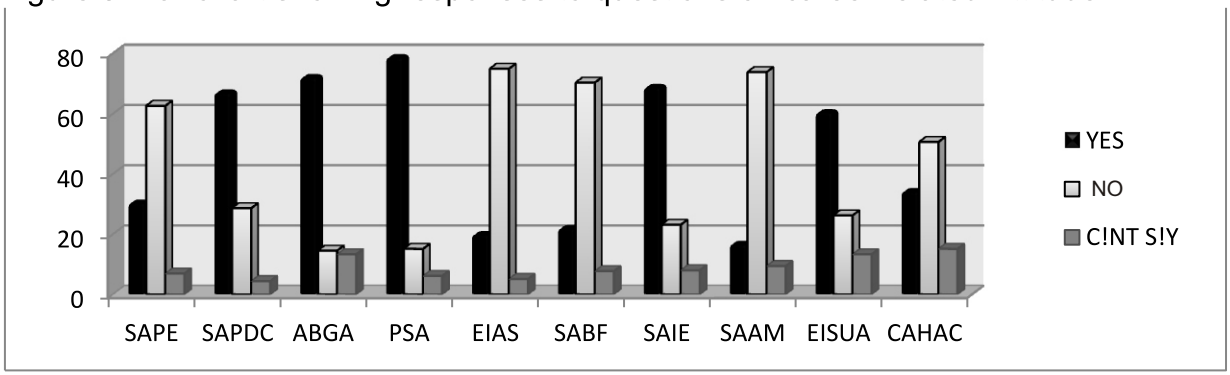
Legend:
WAOC: Was anatomy your original choice of course of study in the University?
OCC: If not; what was your original choice of course of study?
SABUO: I study Anatomy only because the University offered me
IACC I was introduced to the course Anatomy by a career counselor
KAA: I knew quite well what the Course Anatomy is before being admitted to study it
ODSA: I originally desired to study Anatomy
KWAS: I knew why Anatomy is studied in the University

Figure 2 Showing results from questions employed to assess and evaluate the prospects of students about their course of study from their perspectives and level of knowledge.



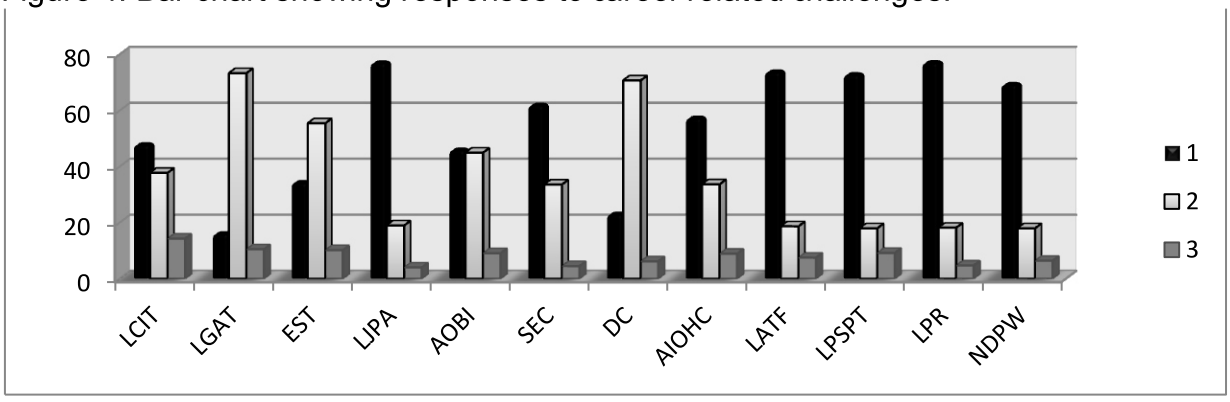
Legend:
EPWA: Do you know up to three established places of work for an Anatomist?
OEPW: Are there other existing places of work for a graduate of Anatomy other than lecturing in Nigeria?
WRAC: Do you think it is worth running Anatomy as a course of Study in Nigerian Universities considering the prospects?
IWKSA: Do you intend to work wi th your knowledge and skills from the study of Anatomy after graduation?
IOHDA: Do you intend to obtain higher degrees in Anatomy after graduation?
PSEP: Have you acquired any professional skill that can serve entrepreneurial purpose while studying Anatomy?
GRS: Apart from academic knowledge; do you gain research skills?

Figure 3: Bar chart showing responses to questions on career related Attitude.



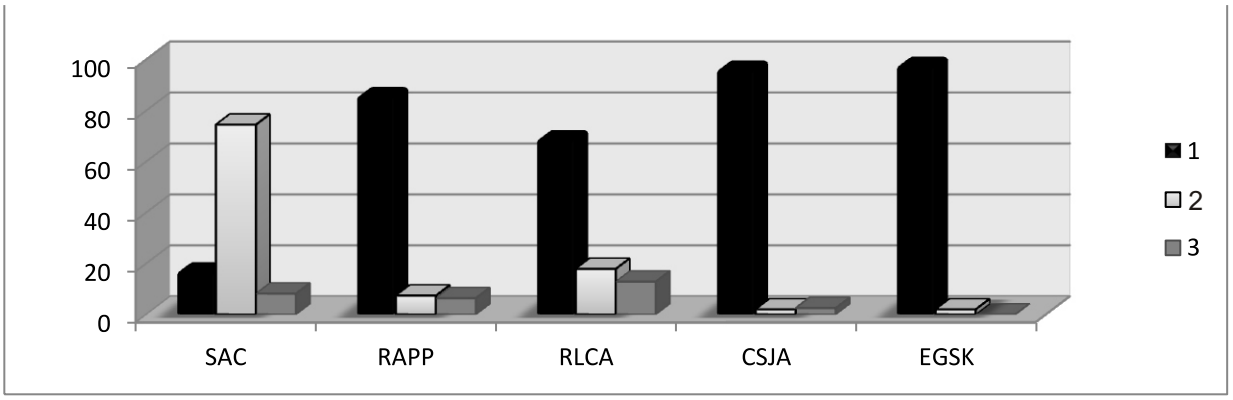
Legend:
SAPE: I study anatomy texts just to pass examinations
SAPDC: I study anatomy texts to preparewell for my desired course of study
ABGA: I aspire to become a great Anatomist and I will be proud to be
PSA: I am proud to be a Student Anatomist
EIAS: I am often embarrassed to be identified as an Anatomy student
SABF: Studying Anatomy is boring and frustrating
SAIE: Studying Anatomy is interesting and exciting
SAAM: I consider studying Anatomy a career mistake
EISUA: I will encourage interested students to undertake Anatomy as a course of study
CAHAC: Will you still choose Anatomy if you have another chance?

Figure 4: Bar chart showing responses to career related challenges.



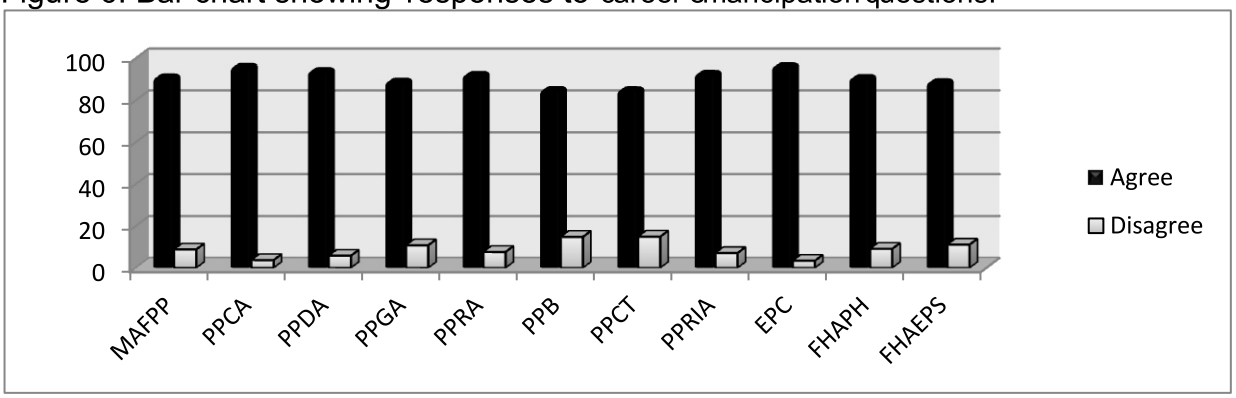
Legend:
LCIT: Lack of competent and inspiring teachers
LGAT: Lack of good and adequate textbooks
EST: Expensive and scarce textbooks
LJPA: Lack of job prospects after graduation
AOBI: Anatomy being offered to you by the institution against your original choice and will
SEC: Study environment not conducive
DC: Dislike for cadaver
AIOHC: Anatomy appear inferior to other health science courses
LATF: Lack of adequate technology and study facilities
LPSPT: Lack of practical skills and professional trainings
LPR: Lack of professional recognition
NDPW: Graduates of Anatomy do not have defined places of work
1-Agree; 2-Disagree; 3-Can't say

Figure 5: Bar chart showing responses to career development problems proposed solutions.



Legend:
SAC: Scraping Anatomy as a course of Study in Nigerian Universities
RAPP: Restructuring the Course Anatomy into a professional programme
RLCA: Recruiting only lecturers who are core Anatomists (those who obtained degrees in Anatomy as a course of Study)
CSJA: Creating specific job opportunities for graduates of Anatomy
EGSK: Equipping Anatomy graduates with specialized skills to work in various exiting health and industrial sectors
1-Agree; 2-Disagree; 3-Can t say

Figure 6: Bar chart showing responses to career emancipation questions.



Legend:
MAFPP: Make anatomy a professional 5 year course with a fifth year professional/specialization programme any of these field
Suggested areas of Specialization:
PPCA: Clinical Anatomy
PPDA: Developmental Anatomy
PPGA: Gross Anatomy
PPRA: Reproductive Anatomy
PPB: Biotechnology
PPCT: Cellular Toxicology
PPRIA: Reproductive and IVF Anatomy
EPC: Establish post graduate centres for students: (e.g. Nigerian Postgraduate School of Anatomy and Biomedical Research and Studies)
GFH: Give fellowship honours e.g. FARSN, etc.
Give the Fellowship:
FHAPH: After obtaining academic postgraduate honours
FHAEPS: After passing examinations in the postgraduate school