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PERCEPTION OF LECTURERS ON RESEARCH MISCONDUCTS AMONG STUDENTS OF TERTIARY INSTITUTIONS IN NIGERIA

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Abstract

Globally, tertiary institutions are established for research and other consultations aimed at the advancement of knowledge and national development. However, research ethics and integrity have been threatened by the gross misconduct prevalent among researchers. The purpose of this study therefore, was to explore lecturers' perception of the extent of research misconduct among tertiary institution students in Nigeria. Purposive sampling technique was employed in selecting 102 lecturers from tertiary institutions in the six-geopolitical zones of Nigeria. Lecturers' Perception of Research Misconduct Questionnaire (LPRMQ)" was developed by the researcher and used for data collection. The instrument comprised a demographic information section and another section with fifteen items using a five-point Likert type scale which sought information on fabrication, falsification, and plagiarism in research. The questionnaire was validated and a reliability coefficient of 0.75 was established using the Cronbach Alpha procedure. Three research questions were posed and answered using descriptive statistics while three hypotheses were tested with one-way analysis of variance at .05 alpha levels. The results indicated that the research practice of tertiary education students was plagued with fabrication, falsification and plagiarism and that the lecturers' perception on research misconduct among students was significant. Furthermore, years of experience and professional status do not significantly influenced lecturers' perception of research misconduct among students tertiary institution. The study concluded that lecturers perceived the extent of fabrication, falsification, and plagiarism among students as great. Based on the conclusion, it was recommended among others, that research ethics should be a major topic during the teaching of Research Methods to students just before they are engaged in conducting and writing a research project. Also, institutions should set up regulatory bodies that would investigate any suspected research misconduct and take appropriate actions when there are evidences. This will prevent future occurrences.

Key words: fabrication, falsification, plagiarism, research integrity and ethics, lecturers.

Introduction

Research as an academic activity is aimed at contributing solutions to problems through the application of scientific procedures. To achieve this aim, tertiary institution undergraduates and most importantly, the postgraduate students should be closely supervised by lecturers in the course of writing their research work (Akomolafe, 2009). A lecturer is seen as “a person who gives lecture or a person teaches at a university or college” (Hornby, 2010, p. 847). A lecturer, according to Olaitan, Alaribe and Eze (2010) cited in Alaribe, Okirie and Olaitan (2015, p. 185), “is an individual who gives instruction or lectures students in higher institutions such as university or college”. In the context of this study, a lecturer is one who along with his responsibility to teach also conducts researches. More so, a lecturer has as part of his work description the responsibility to supervise students' projects, dissertations or theses. However, from researchers' observation, it is obvious that research ethics and integrity have been threatened by gross misconduct prevalent among student researchers (Fanelli, 2009; Fanelli, 2010; Isreal, 2014; Resnik, 2015).

According to Sidle (2010), integrity means strict adherence to a standard of value or conduct while ethics is a principle of right and wrong. Morris (2014, p.11) stressed that research integrity is important because “university is committed to facilitating research with the highest ethical standards; shared responsibility to reassure the public and funders that the methods, conduct, results and outcomes of research are trustworthy and valuable”. Responsible conduct of research entails “honesty in all aspects of research, accountability in conduct of research, professional courtesy and fairness in working with others and good stewardship of research on behalf of others” (Singapore Statement of Research Integrity, 2010 cited in Morris, 2014, p. 10). Israel (2014) opines that ethics and integrity could be seen as working through a series of possible actions and reaching a conclusion about what might or might not be defensible. Some ethical standards that various codes address includes honesty, objectivity, integrity, carefulness, openness, respect for intellectual property, confidentiality, responsible publication, respect for colleagues, social responsibility, non-discrimination, legality and competence among others (Resnik, 2015) Departure from undertaking research to high ethical standard amount to research misconduct.

Various definitions of research misconduct by different schools of thought converge to the same point. Research misconduct is seen as “fabrication, falsification or plagiarism in processing, performing or reviewing research or in reporting research result” (University of Minnesota, UoM 2003, p. 27). Fabrication involves making up data or result and recording or reporting them; also claims made based on incomplete or assumed results is a form of fabrication. Falsification on the other hand, is manipulating research materials, equipment or processes or changing or omitting data or result in such a way that the results of the research are no longer accurately reflected in the research report. While plagiarism is the use of another person's idea, process, result or words without giving appropriate credit to the source. Fabrication and falsification are seen as more serious forms of misconduct than plagiarism because they involve distortion of scientific knowledge with the intention to deceive, which subtly eludes the researchers' consciousness (Fanelli, 2009).

Plagiarism has important consequences for the careers of the people involved and indeed, the whole scientific enterprise (Steneck, 2006). The integrity, ethics, and trustworthiness of a research is questionable if the researcher uses other people's

intellectual property without proper acknowledgement. Commenting on forms and the consequences of plagiarism, UoM, (2003, p.11) stated that:

Plagiarism takes many forms. On one end of the spectrum are people who intentionally take a passage word-for-word, put it in their own work, and do not properly credit the original author. The other end consists of unintentional (or simply lazy) paraphrased and fragmented texts the author has pieced together from several works without properly citing the original sources. No part of the spectrum of potential plagiaristic acts is tolerated by the scientific community, and research manuscripts will be rejected by publishers if they contain any form of plagiarism – including unintentional plagiarism.

Furthermore, act of plagiarism include some students intentionally reproducing and resubmitting research works previously and originally submitted by authors of the research work to unsuspecting supervisors (Opie, Asim & Joshua, 2015). However, unintentional errors due to ignorance or honest differences in designing or interpreting a research are currently not considered as misconduct (Fanelli, 2009).

Many reasons have been adduced as causes of research misconduct which range from economic desperation, pressure to publish for promotion, pressure to obtain a research grant, career ambition, lack of funding of research, ignorance to poor oversight of researchers. Specifically, students engage in research misconduct due to pressure to finish and graduate, poor supervision, lack of training in responsible conduct of research, and lack of documentation. According to Resnik (2015), the “bad apple” and stressful environment theory give a clearer picture of why researchers commit misconduct. Bad apple theory stresses that only researchers who are morally corrupt, economically desperate, or psychologically distrusted commit misconduct. According to the stressful or imperfect environment theory, misconduct is as a result of institutional pressures, lack of incentives, and constraints (Shamoo & Resnik, 2015). Arguably, research misconduct can be traced to environmental and individual causes, as people who are morally weak, ignorant, or insensitive are placed in stressful or imperfect environment.

Admittedly, research misconduct has some negative impact, as stated by Resnik (2015), which include:

- i. Undermining the reliability of the research record;
- ii. Compromising the integrity of research;
- iii. Eroding the trust colleagues have in one another and the trust; the public has on researchers;
- iv. Wasting of time;
- v. Wasting research funds and
- vi. Leading to decisions that cause public and/or personal harms.

Earlier studies on research misconduct are mostly in the area of science. Fanelli (2010) investigated why the pressures to publish increase scientist's bias. The study found that competitive academic environments increase not only scientists' productivity but also their bias. Investigating the level of fabrications and falsification of research among scientists, Fanelli (2009) found that misconduct and questionable practice are common as on the average, 1.97% of respondents admitted to having fabricated, falsified or modified data or results at least once. Up to 33.7% admitted to questionable research

practices whereas 14.12% knew of falsification and 72% knew of other questionable research practice among their colleagues.

In another development, Akomolafe (2009) in an indigenous study on the practice and challenges of higher education research in Nigerian universities found that the practice of research was not adequate. The findings indicated that challenges facing research are; non-utilization of research outcomes, fabrication and falsification of data and that the level of integrity in the practice of research was moderate. Furthermore, it was found that there is a significant difference in the perception of practice of research based on year of experience and academic status. The study concludes that the observed negative perception of the practice of higher education was higher among researchers with higher academic qualification, and more years of experience.

The few empirical studies reviewed were an indication that not much empirical studies had been done on the issue of research misconduct. Based on the forgoing, the present study explored the extent of research misconduct among tertiary institution students as perceived by lecturers. Specifically, the study investigated the extent of lectures' perception of falsification, fabrication and plagiarism in research data processing and reporting among students of tertiary institutions. The study addressed the following research questions:

1. What is the perception of lecturers on the extent of falsification among students in the tertiary institutions?
2. What is the perception of lecturers on the extent of fabrication among students in the tertiary institutions?
3. What is the perception of lecturers on the extent of plagiarism among students in the tertiary institutions?

The following hypotheses guided the study:

1. The mean scores of the forms of research misconduct (falsification, fabrication and plagiarism) among students in the tertiary institutions as perceived by the lecturers do not differ significantly
2. Years of experiences of lecturers do not significantly influence their perceptions on forms research misconduct among students in the tertiary institutions.
3. Professional status of lecturers does not significantly influence their perceptions on forms research misconduct among students in tertiary institutions.

Method

The study adopted the descriptive survey design because the study obtained information from a representative sample of lecturers on their perception of research misconduct among tertiary institution students and the findings of the study was generalized to the entire population. The population comprised lecturers in tertiary institutions in Nigeria. Purposive sampling technique was used to select a sample of 102 lecturers from tertiary institutions in the six-geopolitical zones who participated in a National conference organized by National Institute for Nigerian Languages (NINLAN), Aba, Abia State.

The instrument for data collection was a structured questionnaire tagged Lecturers' Perception of Research Misconduct Questionnaire (LPRMQ). It consisted of two parts. Part A sought the demographic information on participants' years of experience and professional status whereas Part B comprised 15-item five-point Likert type scale, eliciting information on lecturers' perceptions of students' research

misconduct on aspects of fabrication, falsification and plagiarism. The scale adopted five response categories of Very Great Extent (VGE), Great Extent (GE), Moderate Extent (ME), Low Extent (LE) and Very Low Extent (VLE). The instrument was validated by colleagues in Measurement and Evaluation. Their comments were incorporated in the final version of the instrument. The reliability coefficient of the instrument was estimated using Cronbach Alpha and r-value of .75 was obtained indicating that the instrument was reliable and therefore suitable for data collection.

The data collected were analyzed using Statistical Package for Social Sciences version 20 (SPSS-20) computer software. The data analyses comprise descriptive statistics used to answer the research questions and one way analysis of variance (ANOVA) for testing hypotheses at .05 levels of significance. The responses to the items of the questionnaire for positively worded were weighted VGE (5), GE (4), ME (3), LE (2), and VLE (1). The weight was reversed for negatively worded items. The boundaries of each response in the 5-point scale were calculated by dividing the serial width (4) by the number of responses (5) and were found to be 0.8 (Topkpaya, 2010). This value was used to interpret the mean value. Based on this calculation the accepted boundaries for each response are presented as follows:

1 = 0.0 + 0.8 = 0.8	0.00- 0.80 = VLE
2 = 0.8 + 0.8 = 1.6	0.81 – 1.60 = LE
3 = 1.6 + 0.8 = 2.4	1.61 – 2.40 = ME
4 = 2.4 + 0.8 = 3.2	2.41 – 3.20 = GE
5 = 3.2 + 0.8 = 4.0	3.31 – 4.0 = VGE

The value 2.4 is the decision rule. A mean score value of above 2.4 indicates the presence of the issue under consideration, from a great extent to a very great extent; below 2.4 indicates the presence from a low extent to a very low extent while 2.4 is indication to a moderate extent.

Results

The results of this study were obtained from the research questions answered and hypotheses tested through the data collected and analyzed. The results are presented in Tables 1 to 7.

Table 1: Mean Scores of Lecturers' Perception of Extent of Falsification among Students

S/N	Items	N	X	Decision
1	Research students often misinterpret data ignorantly	102	2.93	GE
2	Some students manipulate research procedures in order to achieve pre-conceived results	102	3.54	VGE
3	Students sometimes use inappropriate statistical techniques for analysis	102	2.84	GE
4	Students researchers often report false sampling procedures	102	2.95	GE
5	Student researchers ensure that findings are reported as they are	102	2.30	ME
	Overall mean average		2.91	GE

Table 1 revealed that the mean scores for perception on the extent of falsification ranged from 2.30 (moderate extent) to 3.54 (very great extent). Whereas some students manipulate research procedures in order to achieve pre-conceived results, as indicated by item 2 was to a very great extent, issues raised in items 1, 3 and 4 existed to great extents while student researchers ensure that findings are reported as they are, as represented by item 5, to a moderate extent. The overall mean score was 2.91 indicating that lecturers' perception of falsification of research procedure and result among students was to a great extent. The result of the perception of lecturers on the extent of fabrication among students in the tertiary institutions is presented in Table 2.

Table 2: Mean Scores of Lecturers' Perception of Extent of Fabrication among Students

S/N	Items	N	X	Decision
6	Often students make up data instead of actually collecting them	102	3.43	VGE
7	Some students manipulate research reports	102	3.31	VGE
8	Some students alter results when the one obtained seems to be inconsistent with generally accepted knowledge	102	2.76	GE
9	Pressure to meet up with the deadline for submission force students to make up research reports	102	3.01	GE
10	Some students fabricate results due to lack of proper training in the conduct of research	102	3.05	GE
Overall mean average			3.11	GE

Table 2 indicates that the mean score for perception on the extent of fabrication ranged from 2.76 (great extent) to 3.43 (very great extent). Items 6 and 7 revealed that some students make up data instead of actually collecting them and manipulate research reports to a very great extent as revealed by mean scores of items 6 and 7 respectively. Furthermore, items 8, 9, and 10 indicated, by the mean scores that some students alter result, make up research reports and fabricate results to a great extent. The overall mean score was 3.11 indicating that lecturers perceived the extent of fabrication among students as great extent. Based on the result, it could be deduced that the extent to which students make up data, manipulate research reports, alter or fudge result was great. The results of the perception of lecturers on the extent of plagiarism among students in the tertiary institutions are presented in Table 3.

Table 3: Mean Scores of Lecturers' Perception of Extent of Plagiarism among Students

S/N	Item	N	X	Decision
11	Students acknowledge all sources of the information used during research	102	2.09	ME
12	Students make up references when the source of the information is not found	102	1.53	LE
13	Students infringe on copyright by reproducing a source of information as original	102	3.13	GE
14	Students researchers do not consider the use of another person's ideas without giving appropriate credit as plagiarism	102	2.26	ME
15	Some research students duplicate other peoples' research report and submit them as their own	102	3.54	VGE
Overall mean average			2.51	GE

Table 3 shows that the perceptions of lecturers varied from 1.53 (low extent) to 3.54 (very great extent). The mean scores for items 11 and 14 indicated a moderate extent of the issues raised while item 12 indicated the presence of the issue raised to a low extent. Whereas the mean score for item 13 showed that students infringe on copyright by reproducing a source of information as original to a great extent, students duplicating other peoples' research report and submitting them as their own was perceived by lecturers to occur among students to a very great extent represented by item 15. The overall mean score was 2.51 indicating that lecturers' perception on plagiarism among students was to a great extent. The results of hypotheses test are presented in Tables 4 to 7.

Table 4: ANOVA of the Research Misconduct among Students as Perceived by Lecturers

Sources of variance	Sum of Squares	Df	Mean Square	F-cal.	Sig.
Between Groups	469.458	2	234.729	36.404*	0.01
Within Groups	1953.735	303	6.448		
Total	2423.193	305			

$p < 0.05$

Table 4 showed that the calculated $F(2, 303) = 36.404, p < .05$. The null hypothesis of no significant difference was therefore, rejected at alpha level of .05. Based on the result, there is a statistical significant difference in the mean score of the research misconduct (falsification, fabrication and plagiarism) among students in the tertiary institutions as perceived by lecturers. Further analysis to establish mean difference between the groups was done using Scheff's Multiple Comparison statistic. The result of the test for different forms of research misconduct is as shown in Table 5.

Table 5: Scheffe Post Hoc Multiple Comparison Test

(I) Research misconduct	(J) Research misconduct	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Falsification	Fabrication	-.951*	.356	.029	-1.826	-.076
	Plagiarism	2.020*	.356	.000	1.145	2.894
Fabrication	Falsification	.951*	.356	.029	.077	1.826
	Plagiarism	2.971*	.356	.000	2.096	3.845
Plagiarism	Falsification	-2.020*	.356	.000	-2.89	-1.145
	Fabrication	-2.971*	.356	.000	-3.845	-2.096

* The mean difference is significant at the 0.05 level.

Scheff's test analysis as presented in Table 5 revealed three possible pair wise comparison of mean difference in the research misconduct (falsification, fabrication, and plagiarism). Significant mean differences were observed between falsification and fabrication (.951), falsification and plagiarism (2.020) then fabrication and plagiarism (2.971). The greatest significant mean difference was found between fabrication and plagiarism. These differences confirm that the mean differences observed earlier for the research questions were not by chance. Table 6 revealed that the calculated $F(2, 101) = 1.903$, $p = .155$. Based on this result, the null hypothesis of no significant difference was retained, implying that years of work experiences of lecturers do not significantly influence their perceptions of research misconduct among students in the tertiary institutions.

Table 6: ANOVA of the Perception of Lecturers on Research Misconduct among Students Based on Years of Experience

Sources of variance	Sum of Squares	df	Mean Square	F-cal.	pvalue
Between Groups	84.417	2	42.209	1.903*	.155
Within Groups	2196.249	99	22.184		
Total	2280.667	101			

* $p > .05$.

Table 7: ANOVA of the Perception of Lecturers on Research Misconduct among Students Based on Professional Status

Sources of variance	Sum of Squares	df	Mean Square	F-cal.	pvalue
Between Groups	97.447	2	48.724	1.620*	.203
Within Groups	2978.013	99	30.081		
Total	3075.461	101			

* $p > .05$; F-crit. = 3.07

Table 7 indicated that the calculated F-ratio $(2, 99) = 1.620$, $p = .203$. The null hypothesis of no significant difference was therefore, retained. Based on the result, professional status of lecturers does not significantly influences their perceptions of research misconduct among students in tertiary institutions.

Discussion

The main purpose of this study was to investigate the extent of research misconduct among tertiary institution students as perceived by lecturers. Specifically, the study explored the extent of lecturers' perception of falsification, fabrication and plagiarism in research data processing and reporting results among students of tertiary institutions.

The finding revealed a statistical significant difference in the lecturers' perception of research misconduct in terms of falsification, fabrication and plagiarism. Scheff's Post Hoc test indicated robust significant mean difference between falsification and plagiarism also, fabrication and plagiarism. This finding was in line with Fanelli (2009), who found that fabrication and falsification are more serious forms of misconduct than plagiarism as they involve distortion of scientific knowledge with the intention to deceive. Akomolafe (2009) also reported fabrication and falsification as challenges facing the practice of research in higher education.

The finding on the extent of perception of lecturers based on the years of work experience indicated that there was no significant difference in the lecturers' perception of misconduct among students based on their year of work experience. This finding is surprising because one would expect that as the years of work experience in the tertiary institution increases, the lecturer would have many research students passing through them and hence, can assess properly, the level of misconduct among them this finding contradicted the view of Akomolafe (2009) who found that experienced researchers have carried out lots of studies and would be able to understand the practice and the trend in research over the years.

The study also revealed that the professional status of lecturers do not influence their perception lecturers of research misconduct among tertiary institution students. This finding was contrary to Akomolafe (2009) found that lecturers with higher academic qualification such as the Professors, Readers, and Senior lecturers have more negative perception whereas lecturers below senior lecturer status have less negative perception. The current study deduced that perception might be due to better exposure to ideas and interaction among similar researchers of their academic status.

Recommendations

Based on the findings the following recommendations were made.

1. Research ethics should be a major topic during the teaching of Research Methods to students just before they are engaged in conducting and writing a research project, dissertation or thesis.
2. Lecturers should train students on how to do research well as they will learn responsible conduct of research from those around them.
3. Lecturers should foster research integrity as a way of cultivating good research culture in students.
4. Students should be made to understand that the research is not just an academic exercise that will earn them a certificate, but that the outcome should be trustworthy for utilization for national development.
5. Institutions should set up regulatory bodies that would investigate any suspected research misconduct and take appropriate actions when there are evidences. This will prevent future occurrences.

Conclusion

The study concluded that the lecturers' perception of various forms research misconduct among students was to a great extent. Years of experience and professional status showed no evidence of difference in perception. The study therefore, concluded that lecturers perceived the extent of fabrication and falsification as forms of research misconduct among students as moderate while extent of plagiarism was perceived as low. In addition, years of experience and professional status do not influence the perception of lecturers.

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