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2013

Abstract

Effects of Labor Strikes on the Quality of University Education in Nigeria

by

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B.Tech. Federal University of Technology, Akure, Nigeria, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Although research has been done on the quality of university education in Nigeria, little is known about the effects of the last 2 decades of serial labor strikes in the universities. The purpose of this study was to bridge this gap by examining the perceptions of university administrators, academic staff, and students on the effects of serial labor strikes on the quality of university education in Nigeria, given the fact that differing perceptions of strike impacts among stakeholder groups may shape the future direction of higher education policy outcomes. The theoretical framework of the study was based on Craig's model of industrial relations. The study employed cross-sectional and ex-post facto quantitative research design, using a university that was purposively sampled. One hundred fifty-four participants completed a self-constructed and administered questionnaire. Descriptive statistics and analyses of variance showed a significant mean difference in the perceptions of labor strikes among students and academic staff. However, no significant difference was found in the perceptions of academic staff and university administrators. The study indicated that serial labor strikes have strong and negative effects on students' perceptions of their learning and performance. Labor strikes were also perceived to decrease collaborative/trans-disciplinary research in Nigerian universities. The potential for positive social change is in the awareness created among educational administrators and policy makers about the consequences of labor strikes in the universities. This awareness will provide a framework for better understanding of industrial conflict management in Nigerian university system, and will ultimately improve employment prospects for university system graduates.

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Dedication

I dedicated this dissertation to my wife, Mrs. Abiodun Ige, and my children, Jesupemi, Oluwapelumi, and Olaoluwa, for their love, understanding, and sacrifice.

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The view that any scholarly achievement is a collective responsibility and part product of earlier academic endeavor is specifically true of this work. In the course of producing this piece, I have certainly incurred debts of gratitude to those whose write ups, comments, and criticisms have contributed to the production of this study. I hope this acknowledgement will be taken in good faith.

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Chapter 1: Introduction to the Study

Introduction

In the last 2 decades, the Nigerian university system has been subjected to labor strike actions by university unions and these have resulted in various education interruptions of the Nigerian university system. A labor strike, according to Flippo (as cited in Isiaka, 2001) "is a concerted and temporary withholding of employee services from the employer for the purpose of exacting greater concessions in the employment relationship than the employer is willing to grant at the bargaining table" (p. 39). Esenwa (2003) stated that "between 1970 and 2003 the Nigerian university system has witnessed closures due to student demonstrations or due to staff union strikes" (Esenwa, 2003, para. 1). The latter parts of which were due to academic staff strike over "gross under funding of the Nigeria universities, condition of services of academic staff, and university autonomy and academic freedom" (Esenwa, 2003). In 2009 and 2010, "the Academics Staff Unions of Universities (ASUU) went on strike for more than four times following the continued negligence, failure, and refusal of government to sign the collective bargaining agreement reached between ASUU and the government negotiating teams" in order to ratify it (Academics Staff Unions of Universities [ASUU], 2010; Ujumadu, 2010). The effects of years of protracted instability of the academic calendar occasioned by incessant strikes by staff and students still resonate in the university system (Okojie, 2010).

The usefulness of education in a developing country cannot be overemphasized. It is the key factor in economic development (Jekayinfa, Yusuf, Yahaya, & Yusuf, 2011;

Pillay, 2010). The higher its quality, the more the nation can achieve economic growth and poverty reduction (Bloom, Canning, & Chan, 2005; Pillay, 2010). Quality basic education is a fundamental human right that promotes the development of the individual and enables citizens to achieve their full potential (United Nations, 1948). Higher education produces highly skilled workers who drive technological innovation through research, which in turn lead to larger social productivity increase (Dabalen, Oni, & Adekola, 2000). Bloom et al. (2005) in their study of higher education and economic development in Africa argued that tertiary education may improve technological catch-up, accelerate technological diffusion and therefore maximize Africa potential to achieve its economic growth potential. They posited that

A one-year increase in the total education stock would raise African GDP by 0.24 percentage points per year. But a one-year increase in tertiary-education stock would raise African output by an added 0.39 percentage points per year, generating a total increase of 0.63 percentage points per year from increased tertiary education. (Bloom et al., 2005, p. 29)

The focus of this dissertation was on the interruption of academic activities in Nigerian universities, specifically the effects of the serial labor strikes on the quality of university education in Nigeria. This study examined the perceptions of university administrators, lecturers, and students on the effects of serial labor strikes on the quality of university education in Nigeria. A better understanding of the impact of serial strikes action on academic activities may have implications for positive social change by informing government officials, parents, students, and the union members of potential

positive impacts of effective collective bargaining process in the Nigerian university system. This understanding may improve industrial harmony in the university system.

Kofi Annan (as cited in Bloom et al., 2005) argued:

The university must become a primary tool for Africa's development in the new century. Universities can help develop African expertise; they can enhance the analysis of African problems; strengthen domestic institutions; serve as a model environment for the practice of good governance, conflict resolution and respect for human rights, and enable African academics to play an active part in the global community of scholars. (p. 4)

By an act of the British Parliament, Nigeria became an independent country within the Commonwealth on October 1, 1960. In 1963, Nigeria became a republic within the Commonwealth. The first president, who was elected by the Nigerian citizens through its representatives at the joint session of the parliament, replaced the crown as the symbol of national sovereignty and the British monarch as head of state. Nigeria had, as far back as the 1970s, identified with the United Nations initiative of worldwide eradication of illiteracy. As a result, there was a phenomenal expansion of educational institutions and opportunities for primary and secondary education. The Ibadan University College (now University of Ibadan), the first university in Nigeria, was established in 1948 with 104 students and 13 instructors (Fafunwa, 2010). The university was an appendage of London University until December 1962 when it became an autonomous institution (Fafunwa, 2010). Omolewa (2010) has observed that long before the first university was founded in Nigeria, Nigerians had appreciated the benefits of

university education to include its liberating influence from poverty, inequity, and inequality; its ability to offer people an opportunity to demonstrate their competence, ability, and the potential for acquiring knowledge, learning, and being accepted into the professions (p. 28). In 2012, the country with a population of 167 million persons had 128 universities, comprised of 40 federal, 38 state-owned, and 50 owned by private individuals or organizations.

Poor funding has been attributed to the poor state of university education in the 1990s (Odebiyi & Aina, 1993; Oni, 2000) coupled with the migration of the highly skilled and seasoned public institutions academics to the private sector and developed countries in search of greener pasture (Timilehin, Esohe, Osalusi, & Babatope, 2010). Funds are required for recruitment of staff, attendance of academic conferences, and procurement of laboratory equipments, field trips, purchases of library books, study fellowship, and research grants (Odebiyi & Aina, 1993). In the year 2000, “inadequate financing; insufficient and irrelevant learning materials; including old and outdated equipment, books and journals; poorly-paid and trained academic staff; outmoded and inflexible managerial structures; unplanned expansion of enrollment leading to oversupply of graduates, and irrelevant curriculum” were some of the widespread agreements on the broad outlines of the causes of declining quality of education in Nigeria (Dabalen et al., 2000, p. 24). For example, the low university research outputs were attributed to poor funding of the system (Saint, Hartnett, & Strassner, 2003). Odebiyi and Aina (1993) argued for some different ways of generating income in the universities. These include introduction of tuition fees and education levies from the

private sector for their benefits of manpower from the universities, commercial ventures and consultancy services, and privatization through divestiture and regulation (Odebiyi & Aina, 1993, p. 3). The decrease in government funding of the education sector in the 1990s resulted from the macro-economic programs of the military regime equally contributed to the crisis in the system (Anugwom, 2002).

In 2004, the Nigerian National Planning Commission described the country's education system as "dysfunctional" due to decaying institutions and ill-prepared graduates (Library of Congress, 2008). According to Saint, Hartnett, and Strassner (2003), funding shortfalls have been the norm for many years as enrollment has increased more quickly than the government's capacity to maintain its proportional financial support (p. 273). These funding constraints have been mainly the result of government insistence that it remain as virtually the sole source of financial support for institutions of higher learning in Nigeria (Saint et al., 2003). Thus, increased budgetary allocations have been muted by the effect of rising enrollment. The 2010 Nigerian universities enrollment is shown in Table 1. Both the federal and state-owned universities exceeded their carrying capacity; this is the maximum number of students that the human and material resources available to a university can support in order to deliver quality university education in an academic year (Moti, 2010; Okojie, 2011). As shown in Table 1, students' enrollment was above the capacity the universities can support due to inadequate facilities occasioned by poor funding of the system (Moti, 2010).

Table 1

Enrolment and Carrying Capacity of Nigerian Universities in 2010

University Type	Carrying Capacity	Current Enrollment	Difference
Federal Universities	342,049	442,834	+100,785
State Universities	163,586	265,166	+101,580
Private Universities	28,548	19,740	-8,808
Total	534,183	727,740	+193,557

Source: National Universities Commission, Abuja record (In public domain)

The over-enrollment is one of the key factors identified as impending quality of university education in Nigeria (Okojie, 2011), as over-crowded lecture rooms, inadequate libraries, and high student-to-staff ratios make learning and research difficult for students and lecturers respectively. The government increased the funding of the Nigerian university system (NUS) from \$354,300,936.79 in year 2005 to \$1,150,992,273.41 in 2010 as indicated in Table 2 to respond to the inadequate libraries, staff/students ratios, and other facilities needed for conducive learning and teaching occasioned by over-enrollment of students (National Universities Commission, 2011).

Table 2

Funding of Federal Universities and Inter-University Centres 2005-2010

YEAR	FUNDING (Naira)	FUNDING (Dollars)
2005	56,688,149,886.00	354,300,936.79
2006	78,882,101,649.00	493,013,135.31
2007	85,667,178,895.00	535,419,874.34
2008	107,750,489,219.00	673,440,557.62
2009	113,004,977,170.00	706,281,107.31
2010	184,158,763,746.00	1,150,992,273.41

Source: From the National Universities Commission, Nigeria record (In public domain).

With this increase in the funding, it was expected that the quality of the university education would increase. This was not the case as the quality is still very low, therefore, necessitating the search for other factors that might be responsible for the low quality.

Background of the Problem

Despite the increased funding of the system in the 2000s, the quality of Nigerian universities is still comparatively low demonstrated by the results of the 2010 World Universities Ranking. The ranking indicated that no Nigerian universities were among the top 500 universities of the world in 2010 (Academic Ranking of the World Universities [ARWU], 2011). University of Ibadan, the foremost university in Nigeria (32nd in Africa) was ranked as the 2,310th university in the world (4 International Colleges and

Universities, 2011). In a lecture delivered by invitation of the University of Ibadan Alumni Association (Oyo State Chapter) at the Trenchard Hall, University of Ibadan, Adeniran stated

Profiling recent products of our universities is not a pleasant exercise. The shock has, however, now gone beyond some so-called graduates who are unable to construct two correct sentences or a degree-holding job seeker who titled his application as “Application for the post of Employment” to a University Professor who, on national television, announced to the world that “my names are ...” Or the one who asserted that “Government cannot afford to obligate its responsibility” or another “wanted to intimidate” his boss, “with the facts!” (T.

Adeniran, personal communication, September 23, 2011)

The academic ranking of the world universities is "based upon several indicators of academic or research performance, including alumni and staff Nobel Prizes and Fields Medals, highly cited researchers, articles indexed in major citation publications and the per capita academic performance of an institution" (Best College Rankings, 2010, para. 1). Salmi (2009) argued that it is the dynamic interactions of high concentration of talented students and faculties, abundant educational and financial resources, and good governance and administration that makes a world-class university (Salmi, 2009, pp. 6-7). He posited that “highly sought after graduates; cutting-edge research; and dynamic technology transfer” are the products of a world-class university (Salmi, 2009, p. 7). He defined highest-ranked university as:

The one that make significant contributions to the advancement of knowledge through research; teach with the most innovative curricula and pedagogical methods under the most conducive circumstances; make research an integral component of undergraduates teaching; and produce graduates who stand out because of their success in intensely competitive arenas during their education, and after graduation. (p. 71)

These are some of the indicators used in the ranking of world-class universities (Coates, 2005; Dill & Soo, 2005; Usher & Savino, 2006).

Several studies have pointed out factors that need to be addressed to improve the quality of Nigerian universities (Okoroma, 2008; Ramon-Yusuf, 2003; Saint et al., 2003; Timilehin et al., 2010). Saint et al. (2003) attributed labor strikes, lack of employee motivation, and weak accountability for educational performance as some of the internal factors, which might have accounted for the poor quality of university programs in Nigeria (p. 270). Federal character admission policies, such as catchment area policy and the quota system were equally found to have contributed to the reduction in the quality of education in the country (Okoroma, 2008; Oni, 2000). Examining the perceptions of some of the actors in the Nigerian university system on the effects of the ASUU 2000 to 2010 serial strikes on the quality of university education in Nigeria was the focus of this dissertation.

In Craig's model of industrial relations, "labor strikes are both conversion mechanism and output of the Industrial Relation system" (Chaulk & Brown, 2008, p. 244). This model was the framework of the study. The model proposes that external

inputs from the environment influence the actors of the industrial relations (IR) system and through a series of conversion mechanism such as collective bargaining process; the parties convert the inputs into both organizational and worker-oriented outputs (Chaulk & Brown, 2008). Thus, according to the system model, strikes impact workers' effect (Chaulk & Brown, 2008, p. 244). The goals, values, and power of the actors in the universities as units of an industrial relations system affect the quality of their productivity, which in turn will impact the quality of the universities and outputs of the system.

Murillo, Tommasi, Ronconi, and Sanguinetti (2002) in their research on the economic effects of unions in Argentina found that strike frequencies were influenced by the relationship between the supervising government and unions. They considered the impact of unions on some intermediate variables (teachers' tenure, teacher/student ratios, teacher job satisfaction, education finances, and teacher pay) that affect student performance, and found that strikes, which are "the means unions use to obtain their demands, have strong and negative effects on student learning" (Murillo et al., 2002, p. 39). They concluded "that the impact of unions on students' performance depends on the channel and kind of political market where unions operate, but not on the existence of unions by itself" (Murillo et al., 2002, p. 39). The present study sought to find the perceptual effects of labor strike on students' learning and performance among students, academic staff, and university administrators in Nigerian universities. Another study has also shown that labor strikes may effect positive change in a system (Otobo, 1983), but when the strike action is serial, it could be dangerous to the system. The duration and

reasons for labor strikes in the Nigerian university system from 2000 to 2010 were discussed in the review of literature.

No single measure can capture the quality of higher education because it is a multidimensional concept, which should embrace all its functions and activities (United Nations Educational Scientific and Cultural Organization [UNESCO], 1998). The quality of university education is a measure of the aggregation of indicators used by the global and national ranking system of world universities (Usher & Savino, 2006). These indicators are students/staff ratios, the percentage of staff with PhDs, students and staff diversity, graduate level teaching evaluations, student satisfaction rates, graduation rates, employment prospects, research grant success, international ranking, international admission for graduate, research productivity (research citations per head of academic faculty), and library holdings (Dill & Soo, 2005). Dill and Soo (2005) examined the ranking of the Good Universities Guide (Australia), the Maclean's Guide for Canadian universities, the Times Good University Guide (UK), the Guardian University Guide (UK) and USA News and World Report, American Best Colleges (p. 498). These five established commercial rankings agencies of first-level higher education vary in their validity, comprehensiveness, comprehensibility, relevance, and functionality, but have converging indicators of the definition of quality of university education. According to Dill and Soo (2005), "the comparison of their league tables shows an emerging global agreement on the definition and measurement of the academic quality of first-level degree programs" (p. 504). They posited that academic quality can be assessed primarily by input measures (quality of enrolling students, faculty quality, student/staff ratios, and university

financial resources), the process (teaching quality and student learning), and outcome indicators (graduation rates, employment prospects of graduates and alumni satisfaction; Dill & Soo, 2005).

Coates (2005) argued "for a greater focus on process indicators as outcome indicators can be difficult or ambiguous both to define and measure" (p. 30). He noted that the information "on output measures may provide a snapshot of what is happening at a certain point in time; the information may not be sufficient to direct quality management, and improvement activities" (Coates, 2005, p. 30). He argued that students' engagement in learning and progress rate would be inherently valuable as key for quality indicators (p. 31). Kuh (2003) posited that level of academic challenge, active and collaborative learning, student/faculty interaction, enriching education experience, and supportive campus environment are some of the areas where effective colleges contribute to learning (Kuh, 2003, pp. 26-28). Interruptions of these engagement process occasioned by the serial labor strikes in Nigerian universities will impact the quality of the system.

Statement of the Problem

In the 2010 World Universities ranking, no Nigerian universities were among the top 500 universities. While much research has been done on the quality of university education in Nigeria (Anugwom, 2002; Okoroma, 2008; Oni, 2000; Ramon-Yusuf, 2003; Saint et al., 2003; Timilehin et al., 2010), little is known about the perceptions of the university administrators, lecturers, and students on the effects of serial labor strikes in Nigerian universities. In the last 2 decades, Nigerian universities have been

subjected to serial staff union strikes that have resulted in interruptions of the Nigerian university system. Anugwom (2002) believed that the crisis in the system was a direct offshoot of the repressive practices of military rule in the 1990s, and the government handling of the industrial disputes in the system. Therefore, a study that examined the relationship between serial labor strikes and the quality of Nigerian universities from the perspective of the actors in the system would add to existing research conducted on the crisis in the Nigerian university system.

Purpose of the Study

The purpose of this research study was to examine the perceptions of the university administrators, lecturers, and students on the effects of serial labor strikes on the quality of university education in Nigeria. The quality of university education as described above was in terms of students' learning and research outputs of the universities (Coates, 2005; Dill & Soo, 2005; Kuh, 2003). A high quality university is expected to contribute positively to national development through quality teaching and research activities for 21st century global competitiveness. It was therefore important for the actors in the Nigerian university system to understand the differences in their perceptions on issues affecting their academic performance. An examination of their perceptions on the effects of serial labor strikes on some of the indicators commonly used to rank university (such as staff research output [publications], students training, courses accreditation status, foreign content of staff and students, class size, and graduation rates) at one of the universities has created awareness for policy makers on how to address the perceptual consequences of labor strike in the universities, and provided an understanding

of the management of the IR practice in the Nigerian university system. Improving the IR practice in the Nigerian university system may not only improve the quality of governance in the university and academic freedom, but may also contribute to positive social change in the industrial relations practice in Nigeria.

Research Questions and Hypotheses

The following research questions and hypotheses have been derived from existing literature on labor strikes, perceptions, and quality of higher education. The central research question was: Is there a significant difference in the perceptions of serial labor strikes among university administrators, academic staff, and students on the quality of university education in Nigeria? The two subresearch questions were:

1. Is there a significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities?
2. Is there a significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on the research output of Nigerian universities?

The basic research hypothesis was: serial labor strikes caused a significant difference in the perceptions of university administrators, lecturers, and students on the quality of university education in Nigeria (as measured by research output and students' performance and learning). This study has lent general support to the hypothesis that labor strikes have strong and negative effects on students learning (Murillo et al., 2002). The hypothetical link between the independent variables (university administrators,

lecturers and students) and their perceptions on the effects of serial labor strikes on the quality of the universities, the dependent variables was determined. The dependent variables measurement were drawn from the extent to which respondents (independent variables) agreed or disagreed with some predetermined statements that related serial labor strikes with above discussed education quality indicators. It was hypothesized that staff would have different perceptions of the effects of serial labor strike on the quality of university education. It was expected that students and university administrators, who were at the receiving end of the labor crisis, would perceive negative effects of serial labor strikes on the quality of university education. The null hypotheses were:

1. There is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff, and students on the quality of university education in Nigeria.
2. There is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities.
3. There is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on the research output of Nigerian universities.

Research Method and Approach

In this study, the serial labor strikes incidents in Nigerian universities from 2000 to 2010 were related to the quality of university education in Nigeria. These relationships were revealed in the perceptions of the university administrators, academic staff, and

students. Quantitative research questions inquire into the relationships among variables that the investigator seeks to know and quantitative hypotheses on the other hand, are predictions the researcher makes about the expected relationships among variables (Creswell, 2009, p. 132). Ex post facto design was used for this study. Tuckman (1999) defined ex post facto as “a study in which the researcher is unable to cause a variable to occur by creating a treatment and must examine the effects of a naturalistically occurring treatment after it has occurred” (p. 181). It is a design in which the independent variable or variables have already identified and in which the researcher starts with the observation of a dependent variable or variables (Kerlinger, 1964). The use of true experiment was not possible for the study; thus, ex post facto design, where the after-the-fact treatment was related to an outcome, the dependent variable was applicable. Data was collected through self-administered questionnaires, which I constructed using the Likert scale (see Instrumentation sub-section below). The goal of using this method was to explore relationships and correlations that might exist in the data from the different actors in the system. Analysis of Variance (ANOVA) was used to analyze the perceptions of the three categorical groups (students, faculties, and university administrators) on the effects of serial labor strikes on quality of university education SPSS was used for the statistical analyses.

Operational Definitions

Accreditation: This is “a system for recognizing educational institutions (universities and programs offered in these institutions) for a level of performance,

integrity and quality which entitles them to the confidence of the educational community, the public they serve and the employers of labor” (NUC, 1989, p. 2).

Foreign Content: The proportion of the academic staff (or students) of the university who are non-Nigerians (Awale-Ale, 2007; Okebukola, 2011).

Labor Strike: According to Flippo (as cited in Isiaka, 2001) "is a concerted and temporary withholding of employee services from the employer for the purpose of exacting greater concessions in the employment relationship than the employer is willing to grant at the bargaining table" (p. 39).

Research: This is defined as the creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings (Australian Government Department of Innovation, Industry, Science and Research, 2011, pp. 7-8).

Research Output (Research publications): These are books, book chapters, journal articles, and/or conference publications which comply with the definition of research and are characterized by substantial scholarly activity; originality; veracity/validity through a peer review process, or commercial publisher process; increasing the stock of knowledge; and being in a form that enables the dissemination of knowledge (Australian Government Department of Innovation, Industry, Science and Research, 2011).

Serial labor strikes: Serial labor strikes in this study refer to the incessant strikes action by the ASUU in the period 2000-2010.

Skilled labor: This refers to persons holding diplomas and degrees from polytechnics and universities respectively (Dabalen et al., 2000).

Assumptions, Limitations, and Delimitations

The following were the assumptions, limitations, and delimitations associated with the study. Rudestam and Newton (2007) discussed delimitations as the limitations on the research design that researchers imposed deliberately, and limitations as restrictions in a research study over which the researcher has no control (p. 105).

Assumptions

First, granted that research outputs (publications) and students training/learning may not be the most or the only reliable indicators of quality of education measurement (Coates, 2005; Dill & Soo, 2005; Salmi, 2009; Usher & Savino, 2006), I argued that for the purpose of this study, they were the most valued indicators of quality of university measurement.

Second, I also assumed that a single university could represent all the federal universities because they all experienced the serial labor strikes at the same period.

Third, it was also assumed that the participants in the study completed the questionnaires truthfully and to the best of their ability.

Limitations of the Study

First, the data collected from the questionnaires may tend to be superficial, and actual respondent may not be the one that completes the questionnaire. This was because respondents did not complete the questionnaires in the presence of the researcher in order to protect the respondent's anonymity.

Second, the accuracy, or the reliability and validity of the data, was dependent on the research design, sampling, and questionnaire construction.

Third, no prestrike measures of the quality of the universities in Nigeria were taken before the study. These measures would have been useful for comparison purposes with the post-strike measures of the quality of the universities, in the perceptions of the actors in the system.

Fourth, parents are strong and relevant stakeholders in the Nigerian university system. They share with the staff and university authority a common goal of training the students for a better tomorrow in term of responsible citizens and nation building. Although it was expected that some university administrators and staff may respond as parents, excluding respondents designated as parents from the participants might have limited the scope of the study.

Delimitations

First, only one university was sampled out of the 40 federal universities in Nigeria (using the theory of proximal similarity). University of Ibadan, the Nigeria premier university was purposively sampled for convenience and other factors as discussed in the sampling strategy section of the research methodology.

Second, only the ASUU members were sampled as staff representatives. Other unions in the universities may have contributed to the serial labor strikes in the Nigerian universities. These unions were the Senior Staff Association of Nigerian Universities (SSANU); the Non-Academic Union of Allied and Education Institutions (NASU), which represents the junior non-teaching staff in Nigerian universities; and, the National

Association of Academic Technologists (NAAT), formally known as the Association of University Technologists of Nigeria (ASUTON). It was assumed that the opinion of academic staff on such academic quality indicators such as student learning, research outputs, and graduation rates were more pronounced than non-academic staff. The academic staff was on strike more frequently than the nonacademic staff, and these strikes were more pronounced in the universities.

Third, other factors other than the indicators discussed in the study may have contributed to the low quality of university education in Nigeria such as campus terrorism (cultism), structural and moral decay, funding, and brain drain.

Fourth, the prospective student participants were limited to final year students as discussed in the research methodology.

Significance of the Study

Education stakeholders in Nigeria have been complaining about the education interruptions occasioned by serial labor strikes over the last 2 decades, but the perceptions of the actors in the system on this issue were hardly discussed. The need to investigate the perceptions of university administrators, lecturers, and students on the effects of serial labor strikes on the quality of university education in Nigeria has therefore become imperative for a better understanding of the industrial conflict management in the Nigerian university system. This was because this investigation may create awareness for educational administrators, policy makers, and stakeholders in education on the perceptual consequences of labor strikes in the university system and thereby improve the industrial harmony, and employment prospect of graduates from the

system. Improving the IR practice in the Nigerian university system may not only improve the quality of governance in the university and academic freedom, but also contribute to positive social change in industrial relations in Nigeria. The implications for positive social change may also include a better understanding of the effects of nonimplementation of collective bargaining agreements and serial labor strikes in Nigerian universities. The outcomes of the study also included information for government officials and union members of potential positive impacts of effective collective bargaining process in the Nigeria university system.

The implications of the results of this study may also encourage institution self-evaluation and reflection. Provide needed information to student consumers as well as helping inform universities and policy makers on areas needing improvement, and provide steps to take to improve the quality of the Nigerian university system. A crisis-free environment and improvement in the ranking of Nigerian universities may make higher education more attractive. In addition, this study lent itself general support to the hypothesis that labor strikes have strong and negative effects on student learning (Murillo et al., 2002). The findings of this study also contributed to literature on public perceptions of unions (Boris, 2012; Turner & D'art, 2011). Finally, studying the effects of labor strikes on the quality of university education in the perspective of the actors in the system may enable policy makers or university officials to predict performance in the wake of any industrial disputes.

Summary

This chapter dealt with the background of the problem, the problem statement; the purpose of the study; operational definitions; assumptions, limitations, and delimitations of the study; research questions and hypotheses; and social implications of the results of the study to researchers, practitioners, and for positive social change.

Chapter 2 addresses a review of the existing literature and how new research is suggesting a likelihood of a relationship between serial labor strike and the quality of university education in Nigeria. The chapter begins with a description of Craig's model of industrial relations, which was the theoretical framework for this study. The strategy for searching the literature is also included in this chapter. The chapter ends with implications of past research. Chapter 3 consists of the research design, its methodology, sampling population, sampling strategy, and sample size. Other issues dealt with in Chapter 3 are the instrumentation and materials for the study, the data analysis plan, its reliability, validity and limitations, and ethical concerns. The results of the study are presented in Chapter 4 while Chapter 5 consists of discussions, interpretations of findings, recommendations, implications for positive social change, and conclusions.

Chapter 2: Literature Review

Introduction

This literature review established the need for continued research on the quality of higher education in Nigeria, especially the quality of Nigerian universities. Several studies in Nigeria have been done on admission policies, collective bargaining process, quality of higher education and funding of the university system (Anugwom, 2002; Odebiyi & Aina, 1993; Okoroma, 2008; Oni, 2000; Ramon-Yusuf, 2003; Saint et al., 2003; Timilehin et al., 2010), but little research has been carried out on the perceptions of actors in the system on the effects of serial labor strikes on the quality of university education in Nigeria, hence the justification for this study. The purpose of this study was to examine the perceptions of university administrators, lecturers, and students on the relationship between serial labor strikes and the quality of university education in Nigeria.

In order to build on the knowledge of other scholars, I reviewed relevant literature published over the past 5 years. The search was later extended to publications between 2000 to date, in order to get more relevant journal articles. The purpose of literature review in this research as in other study was for the researcher to understand the intellectual heritage and intellectual genealogy associated with the study (Laureate Education, 2010). This was in order to position the study in the context of a stream and flow of knowledge. I used the keyword search technique for previous research including: *labor strikes, labor unions, ranking of universities, quality of education, accreditation, industrial relations, research output, survey design, ANOVA, MANOVA, quantitative,*

statistical analysis, perceptions, National Universities Commission, Nigerian university system, and higher education in Nigeria.

Theoretical Framework

The theoretical framework of this study was rooted in Craig's model of industrial relations. This model was an advancement over the John Dunlop schema, which was based on Talcot Parsons' paradigm (Adams, 1983). Craig's model was based on David Easton's analysis of political life that described *industrial relations systems* as a complex of private and public activities operating in an environment, in which the system is concerned with the allocation of rewards to employees for their services, and the conditions under which services are rendered (Craig, 1975). Industrial relations are the relationship between employees and employers within the organizational setting. It is the relationship between management and workers, particularly groups of workers represented by a union. It involves the interactions between employers, employees and the government, and institutions and associations through which such interactions are mediated. The main objectives of industrial relations are to safeguard the interest of labor and management by securing the highest level of mutual understanding and goodwill among staff and to avoid industrial conflict or strife and develop harmonious relations, which are an essential factor in the productivity of workers and the industrial progress of a country.

Craig suggested that the output of an industrial relations system be considered terms and conditions of employment as against the rules of work, which was previously the central focus of John Dunlop's industrial relations systems (Adams, 1983). This is a

situation where a union uses a strike action to achieve goals through agitation to improve the conditions of service as an output of the industrial relations system. He incorporated both the rules and substantive issues, which are the specific actor objectives in the systems model (Adams, 1983). In the model, labor strikes are both conversion mechanisms and outputs of the Industrial Relation system (Chaulk & Brown, 2008). The model proposes that external inputs from the environment influence the actors of the industrial relations system, and through a series of conversion mechanisms such as collective bargaining process and labor strikes, the parties convert the inputs into both organizational and worker-oriented outputs (Brown, 2003; Chaulk & Brown, 2008). Other procedures for converting inputs to outputs are day-to-day relationships among individuals in the work place and their perceptions of work. These constitute a complicated set of relationships involving those between managers, workers and managers, workers themselves and other workers, and their union leaders (Craig, 1975). For Craig, it is at this level that the participants satisfy their social and psychological needs. Craig viewed the three actors of the system (labor, government and private agencies, and management) as being impacted by internal inputs (power, values, and goals of the actors) that flow from the external inputs of the external environment (Brown, 2003).

The National Universities Commission (NUC) regulates the Nigerian university system, which constitutes an industrial relation system. The NUC as an agency of government is empowered to coordinate the orderly development of the Nigerian university system (NUC, 2009a). For the Commission to discharge this responsibility

efficiently and effectively, the atmosphere in the system should be peaceful and conducive for learning, research and community service. The university community is made up of teaching and nonteaching staff, represented by their respective unions. There are four unions in the system, namely: the ASUU, the NAAT, the SSANU, and the NASU. These unions are supposed to be working harmoniously with university management in repositioning the system to attain the objectives for which the institutions were established. Unfortunately, this has not been the situation as the unions, at various times, are often engaged in industrial disputes with their respective university authorities and the federal government over issues that should have been discussed and resolved amicably. The serial industrial crises in the universities have on several occasions, compelled the federal government to empanel a team to negotiate, on its behalf, with the university-based unions in order to restore lasting peace in the system. In the process, the National Universities Commission, as the regulatory agency, has played a pivotal role in ensuring hitch-free collective bargaining between the federal government and the university-based unions. Most of the reasons for the strikes in the universities have been on agitation for increase funding of the system and non-implementations of collective bargaining agreements, which were on the condition of services of staff (Esenwa, 2003). Craig's model suggests that:

Strikes (when used as a conversion mechanism to achieve union goals) impact the worker-oriented output of employee affect and actors of the system via the feedback loop; and through the feedback loop, the output of the strike can

positively or negatively impact workers reactions towards their union and employer. (Chaulk & Brown, 2008, p. 244)

Thus, according to the system model of Industrial Relations, “strikes impact workers affect” (p. 244). Craig refined the Dunlopian framework in at least three major dimensions:

He introduced ‘withinputs’, which included the goals, values and power of the actors in the industrial relations system; outputs of the industrial relations system were shown to have an impact on the environmental inputs through a feedback mechanism; and instead of the technological, market and budgetary context in Dunlop's framework, Craig defined broad societal environment in terms of economies, social, political and legal inputs into the Industrial Relation system. (Hameed, 1982)

In the above context, some of the factors influencing the actors in the Nigerian university system are the external inputs such as legal subsystem, which supported the right of workers to strike (Isiaka, 2001; Worugji & Archibong, 2009) and a political subsystem, which was against the rights of workers to strike with the enactment of various Trade Union Acts (Abu, 2007). The other factor is the public opinion (social subsystem) on the current state of Nigerian universities. In term of the social subsystem, research has shown that public opinion on the issue of serial labor strikes and the causes of the low quality of the Nigerian universities are not uniform (Library of Congress, 2008; Odebiyi & Aina, 1993; Okoroma, 2008; Oni, 2000; Ramon-Yusuf, 2003; Saint et al., 2003; Timilehin et al., 2010). Chaulk and Brown (2008) used a survey method to

assess workers' reaction to their union and employer following a five-month long strike. Using a *t*-test data analysis, they found that the strike had a negative effect on workers' job satisfaction, work climate satisfaction, management satisfaction, organizational commitment, and union commitment (Chaulk & Brown, 2008). The study and its findings were consistent with the Craig model of feedback loops.

The Craig model suggests that external environmental factors influence the goals, values, and power of the actors and the outputs of the university system, the quality of their productivity, which in turn will influence the quality of the universities, as was true for the IRS. The perceptions of the actors on the effects of serial labor strikes on the quality of universities may be different. A lecturer may see serial labor strike as a right of workers irrespective of the damages the action may cause in the system (Worugji & Archibong, 2009) and students may see the effects of the action differently (Okuwa & Campbell, 2011). The research questions and hypotheses of this study were based on the above submission and some of the literature reviewed in this chapter.

Labor Strikes and Industrial Relations Practice in Nigeria

Isiaka (2001) examined the industrial relations practice in Nigeria and the continued relevance of strikes as a form of industrial action in Nigeria. He posited that the environment influences the actors, their goals, ideology, and power in an industrial relations system. This, in turn, influences the behavior of the actors, especially in the process of rule-making. He argued that a strike is a very important means of ensuring favorable employment conditions in Nigeria, and posited that the argument against the right to strike in the public sectors in Nigeria rests more on the impact of the strike on the

economy, public health, and safety than on the sovereignty doctrine (Isiaka, 2001).

Sovereignty is the “supreme, absolute, and uncontrollable power by which any independent state is governed” (Black, 1910). Disagreement and dissatisfaction can lead to re-examination of basic assumptions and practices to the extent that adjustments can be made to improve overall organization effectiveness. Industrial conflict is neither bad nor contrary to good organization (Flippo as cited in Isiaka, 2001). Kelloway, Francis, Catano and Dupre (2008) posited that strikes could have substantial effects on organizations, unions, individuals involved in the dispute, and third parties who might be affected by the strike (p. 806). For example, in the public sector, the withdrawal of public services such as health care or education can have a severe impact on a number of third party stakeholders (Kelloway et al., 2008). The concept of strikes and the freedom to strike is not new to international law (Worugji & Archibong, 2009). The Universal Declaration of Human Rights (UDHR) provides that everyone has the right to form and join a trade union for the protection of his or her interests (United Nations, 1948). This placed the right to strike or freedom of workers to withdraw their labor as a fundamental human right. According to Worugji and Archibong (2009), “it is within this context that freedom to strike is seen as complementary to freedom from slavery and forced labor given that denial of the freedom involves being forced to work against one’s better judgment” (p. 111). Tsebelis and Lange (as cited in Murillo et al., 2002) “modeled strikes as bluffing from unions that try to get better conditions from employers than what their real strength allows them” (p. 23). This argument makes the role of the state crucial in the industrial relations system because not all the strikes in the Nigerian universities are justifiable.

Dunlop (cited in Jeong, 2010) posited that the state acts as a third-party regulator, sets labor standards and wages levels, provide individual workers with social insurance against employment-related risks, and the largest employer of labor in most countries (Jeong, 2010). Thus, in Nigeria, the government, being the largest employer is one of the stakeholders of the Nigerian university system. The government enacted laws and regulations that shape the employment relationship in the system.

Abu (2007) reviewed some of the national policies and laws enacted by the government to regulate the formation, administration and operation of trade unions in Nigeria. These include the Trade Union Ordinance 1938, Trade Disputes (Arbitration and Inquiry) Act, 1941, Wage Board Act 1958, Trade Union Act 1969, Trade Union Act 1973, Labor Policy 1975, Trade Dispute Act 1976 including Decree No. 43 of 1978, Decrees No. 4, 24 and 29 of 1996 and the current Trade Union Act (Amendment) 2005. He argued that most of these Acts/Decrees were either promulgated or enacted at various times by the military and civilian administrations in Nigeria without due consultation with labor (p. 36). He appraised the current Trade Union Act of 2005 (Amendment) in relation to the current Labor-Management Relations in Nigeria. Most important to the current study on the Trade Union Act (Amendment) of 2005 is the ban on strikes or lockouts. Section 6 of the Act as amended makes it clear that no employee, trade union, or employer should take part in a strike or lockout. They could only take part if the dispute arises from a collective and fundamental breach of contract of employment or collective bargaining agreement, or unless the person, trade union or employer is not engaged in the provision of essential services (Abu, 2005). Although the trade unions

Amendment Act of 2005 makes provision for industrial democracy between labor and management through its collective bargaining process, “the amendment is aimed at crushing the excesses of the labor unions and their interference with unpopular government policies through strike action” (Abu, 2005, pp. 44-45).

Akkerman (2008) found out that “strike incidence is higher where two or more unions bargain with an employer than where only one union does” (p. 445). Akkerman focused her study on the propagandistic use of strikes to attract union members and union competition by bidding up bargaining demand, elaborated on the value of investigating strike at the sector level rather than national level. Her study revealed that “industry-sector level data for seven European countries for the year 1990-2006” indicated that “under multi-unionism, unions compete with each other by bidding up bargaining demand” (Akkerman, 2008, p. 445). As applicable in Akkerman (2008), “strike duration, the number of employees on strike, or a combination of those variables, such as working days lost to strikes, would be used as strike frequency as a measure of strike activity” in the present study (p. 452). Campolieti, Hebdon, and Hyatt (2005) focused on bargaining units as a determinant of strike incidence and duration. They found that:

Small bargaining units were less likely to strike than were larger units, but had longer strikes when they did strike; solidarity and group cohesion are strong determinants of strike duration; and "the longer a strike lasted, the greater was the probability of settling, in conformity with asymmetric/private information models of strikes. (Campolieti et al., 2005, pp. 627-629)

As stated earlier, the Nigerian university system has witnessed several labor strikes called by the Academic Staff Union of Nigerian universities and other unions in the universities. The universities were closed for seven months in 1996 over the need for review of 1992 collective bargaining agreements between the government and ASUU, and in 1999 for 5 months before an agreement were reached in May 1999 (Esenwa, 2003). In the year 2000 to 2010, there was no year that the universities were not closed for at least 2 months due to labor strikes except 2002 and 2008 when the universities were closed for 2 weeks in both years. The review of strikes in Nigerian universities from 2000 to 2010 is shown in Appendix A.

The concern of this study was not on strike or industrial dispute settlement, but on the perceptions of university administrators, lecturers, and students on the effects of serial labor strikes on the quality of university education in Nigeria. Thus, the review of literature included studies on strike effects on some organization and relevant studies on the quality of university education, its indicators, and perceptions.

Anugwom (2002) examined the roles of academic unionism in the perennial crisis seen as causing instability in Nigerian universities. He found that the crisis in the system was a direct offshoot of the repressive practices of military rule in the 1990s, and the government handling of industrial disputes in the system (Anugwom, 2002). He argued that decrease in government funding of the education sector in the 1990s resulted from the macro-economic adjusted programs of the military regime, which contributed to the crisis in the system (Anugwom, 2002). Okuwa and Campbell (2011) examined the influence of strikes (organized by the ASUU and the NASU) on the choice of household

demand for higher education in Nigeria. Okuwa and Campbell used a two-stage stratified sampling technique to select 2000 respondents for the survey research in eight local council of Oyo State, Nigeria. In their descriptive statistics, they found out that 80 percent of households sent their wards to private higher institutions because of the serial strikes actions directed at public institutions, irrespective of cost (Okuwa & Campbell, 2011). In the study, final year students mostly feel strike effects because it paralyzes campus administrative and academic activities. Due to the education interruptions, students' loss of focus and lack of motivation for studies increases antisocial practices such as crime and unwanted pregnancy and makes students unable to finish their degree in a timely manner (Okuwa & Campbell, 2011).

Wickens (2008) explored the impact of collective bargaining on employee working conditions including job security, academic freedom, university governance, and due process. He presented both “postulated and empirically tested consequences of university unionization and labor strikes on the North American institution’s administration, faculty, and students,” and found that an “increase in academic unionization will likely also translate into an increase in labor militancy, including strike action” (p. 560). He advocated for

Any initiative that improves communication between the union and the administration, and allows faculty to feel that they have some element of influence or control over their working environment will alleviate labor tensions and reduce the likelihood of a strike. (Wickens, 2008, p. 560)

Using time series and panel data analysis to investigate how quickly aggregate sports league attendance recovers from loss of output, Schmidt and Berri (2004) found that “strikes had little or no impact on competing league attendance as nearly all responses were insignificant” (p. 356). They argued “the threat of consumers rejecting their industry is often cited as a reason for management and labor to resolve their disputes peacefully” (p. 356). They posited that consumer threat had not been credible, and “in almost all instances, attendances immediately rebounded in the year following the labor conflict” (Schmidt & Berri, 2004, p. 356). This study indicated that a strike may not necessarily have a direct impact on the consumers in term of costs, but it imposes a cost on the firm. This may be in form of loss of productivity or output experienced in the firm during the strike. In the method of a pair of studies, Finley (2010) used a pair of Canadian studies as models to analyze labor strikes in the United States from 1992 to 2008. He found that “strikes are generally shorter when the striking unit represents a larger portion of the firm’s total workers, a proxy for its bargaining power” (p. 307). This ratio provides a better understanding of the strike dynamics (including expected length) than do sheer bargaining unit size or sheer firm size. The regression analysis conducted did not yield the significant results. The author posited “other studies may benefit from classifying a handful of discrete strike-length outcomes instead of simply measuring the number of days that a strike lasts” (Finley, 2010, p. 321). He argued that “the latter can be highly dependent on long periods of stalled negotiation, and determining how long these stalls last may be a separate matter” (p. 321). He posited that the relationship between propensity to strike and wages, contract status, political issues, and utility maximization

by the actors are necessary conditions for strike occurrences, as opposed to the length of strikes. As discussed above, none of the models presented by Finley (2010) with data from the United States found any relationship between strike duration and the raw size of bargaining unit as the Canadian studies had found. In that sense, what occurs in Canada may not necessarily be the case in another country. Strike occurrence in the Nigerian universities may be due to factors such as political pressure including union mandates. Understanding the effects of the serial labor strikes in the Nigerian university system may lead to a better understanding of the causes of the perennial industrial action in the system.

Murillo et al. (2002) found that strike activities are influenced by the relationship between the supervising government and unions. They considered the impact of unions on some intermediate variables (teacher tenure, teacher/student ratio, teacher job satisfaction, education finances and teacher pay) that affect student performance, and found that strikes are "the means unions use to obtain their demands, have strong and negative effects on student learning" (Murillo et al., 2002). They concluded "that the impact of unions on students' performance depends on the channel and kind of political market where unions operate, but not on the existence of unions by itself" (Murillo et al., 2002). Greenglass, Fiksenbaum, Goldstein, and Desiato (2002) used hierarchical multiple regression to examine the stressful effects of a university faculty strike on students, and found that the more unfair students felt they were treated during the strike and the more their plans had been affected by the strike, the greater their angry feelings about the strike (p. 276). Students were not satisfied with their academic program at the

university due to a lecturers' strike (Wickens, Fiksenbaum, Greenglass, & Wiesenthal, 2006). In their path analysis of a model testing the relationship among students' emotions, attitudes, and coping ability, they found that the more students' plans had been affected by the strike, the more anger and anxiety they felt towards the strike (Wickens et al., 2006). This was because the strike had worsened their financial situations, affected graduation, travel, employment, and interrupted their career progress (Wickens et al., 2006).

Quality of University Education in Nigeria

In a quantitative study of admission policies and the quality of the university in Nigeria, Okoroma (2008) used an instrument known as "Admission Policy and Effect on University Education Quality (APEUEQ)" to gathered responses from 384 participants selected from eight universities in South-South Zone of Nigeria. He used a chi-square statistical measure and found that all the parameters identified in the federal character admission policy, such as catchment area policy and the quota system, contributed to the reduction in the quality of education in the country (Okoroma, 2008). Timilehin, Esohe, Osalusi, and Babatope (2010) posited that the migration of the highly skilled and seasoned academics to developed countries in search of greener pasture contributes to the falling standard of university education in Nigeria (p. 156). They argued that the inability of government to implement the collective agreements reached with academic staff in the universities resulted in the incessant strikes, which accounted for the brain drain (Timilehin et al., 2010. p. 157). Arikewuyo (2004, as cited in Timilehin, 2010) lamented the dismissal of 49 academic staff of a university in Nigeria for taking part in a labor

strike called by the ASUU in 2001 (p. 157). The output feedback process as proposed in Craig's model suggests that the academic staff reacts by desiring to migrate to universities abroad where there are better working conditions (Timilehin et al., 2004, p. 157).

The quality of university education is a measure of the aggregation of indicators used by the global and national ranking system of world universities (Usher & Savino, 2006). These indicators include: student/ staff ratios, percentage of staff with PhD, students and staff diversity, graduate rating of teaching quality, students' satisfaction with courses of study, graduation completion rates, employment prospects, research grant success, international ranking, international admission for graduate, research productivity, research citations per head of academic faculty, and library holdings (Dill & Soo, 2005). Dill and Soo (2005) posited that academic quality can be assessed primarily by input measures (quality of enrolling students, the quality of faculty, student/staff ratio, and the financial resources available to the university); the process (teaching quality and student learning); and, outcome indicators (graduation rates, employment prospects of graduates and alumni satisfaction; p. 499).

Coates (2005) argued "for a greater focus on process indicators as outcome indicators can be difficult or ambiguous both to define and measure" (p. 30). He noted that the information "on output measures may provide a snapshot of what is happening at a certain point in time; the information may not be sufficient to direct quality management, and improvement activities" (Coates, 2005, p. 30). He argued that students' engagement would be inherently valuable as a key quality indicator (p. 31).

Kuh (2003) posited that level of academic challenge, active and collaborative learning, students/faculties interaction, enriching education experience, and supportive campus environment are some of the areas where effective colleges are contributing to learning (Kuh, 2003, pp. 26-28).

Some of the literature discussed above supports the process indicators as determining factors of academic quality measurement in the university system (Coates, 2005; Dill & Soo, 2005; Kuh, 2003). For example, research on the effect of strikes on student learning has established that students perform better when they attend more class days (Murillo, et al., 2002). These input and process indicators determine student performance, faculty and student research outputs, and student graduation rates.

Research Output

Research output is a measure of what academics contribute to the existing body of knowledge. Outputs can be in the form of publications such as books, book chapters, journal articles and/or conference presentations, which comply with the definition of research. These publications are characterized by substantial scholarly activity, originality, veracity/validity through a peer review process, or commercial publisher process, increasing the stock of knowledge, and being in a form that enables the dissemination of knowledge (Australian Government Department of Innovation, Industry, Science and Research, 2011). Ochai and Nedosa (as cited in Okafor & Dike, 2010) stated that in universities the world over, recognition and advancement of academic staff rests largely on the quantity and quality of their research output. These assessments count and list the number of books published, book chapters, and journal articles produced over a

period of time (Okafor & Dike, 2010). Much research has been produced that addresses some of the factors that affect research outputs in Nigerian universities. Okafor and Dike (2010) in their study of research output of academics in the science and engineering faculties of federal universities in Southern Nigeria found that lack of essential research resources and inadequate research environment have a negative effect on the research output of Nigerian academics. In Northern Nigerian universities, religion practices have also hindered the research output of female academics (Ogbogu, 2009). Women accounted for 13% of academic staff in Nigerian universities (Okebukola, 2002). Chudnovsky, Lopez, Rossi, and Ubfal (2008) argued “researchers in developing countries face more difficulty constraints on undertaking scientific activity than those in developed countries, which underscores the relevance of public funding programs” (p. 77). In their study of the impact of subsidies on the academic performances of researchers in developing country, a case study of Argentina, they found that lack of adequate research grants negatively impact academic output. Akpochafo (2009) attributed poor quality supervision of doctoral theses to the low research outputs in Nigeria universities (Akpochafo, 2009).

In the present study, respondents were asked about the extent to which they agreed or disagreed with some hypothetical statements that related strikes with research output in the universities. These included hypothetical statements such as: serial strikes decreases faculties’ evaluation of students’ research studies, serial strikes decreases faculty publications of articles to reputable local and international journals and serial strikes decreases collaborative/trans-disciplinary research in the universities. These

statements were used to examine the perceptual consequence of labor strike on research outputs among university administrators, academic staff, and students in Nigerian universities to contribute to the existing knowledge.

Graduation Rates

The graduation rate of a program is defined as the percentage of those students who succeed after initially entering the program (Jacoby, 2006). These rates have been described as one of the most important factors in determining the quality of a university (Coates, 2005; Dill & Soo, 2005; Usher & Savino, 2006). Studies have shown that when faculties are unavailable, students were less likely to persist in working towards their degree and significantly alter student learning outcomes (Benjamin, 2002; Harrington & Schibik, 2001). For each 10% increase in the percentage of faculty employed on a part-time basis that are not always available to do the work at four-year institutions, graduation rates decreases by 2.65% (Ehrenberg & Zhang, 2004). Whenever there was labor strike action called by the ASUU in the universities, faculties were not always available to lecture students.

Quality Assurance in Nigerian Universities and the Roles of the National Universities Commission

The importance of university research outcomes and learning are imperative to national economic development (Pillay, 2010). Therefore, there is no doubt that the NUC strengthens Nigerian universities to meet their objectives. The NUC Abuja was established in 1962 as an advisory agency in the Cabinet Office. However, in 1974, it became a statutory body with the appointed of its first Executive Secretary. In its over 47

years of existence, the Commission has transformed from a small office in the cabinet office to an important arm of government in the area of development and management of university education in Nigeria (NUC, 2009b, para. 3). The vision of the Commission is to be “a dynamic regulatory agency acting as a catalyst for positive change and innovation for the delivery of quality university education in Nigeria” (NUC, 2009a, para.1). The NUC mission is to ensure the orderly development of a well-coordinated and productive university system that will guarantee quality, and relevant education for national development, and global competitiveness (NUC, 2009a, para. 2).

Functions of the Commission include the mandates: to prepare, after consultation with the state governments, the universities, the National Manpower Board, and such other bodies as it considers appropriate, periodic master plans for the balanced and co-ordinated development of all universities in Nigeria and to inquire into and advise the federal government on the financial needs, both recurrent and capital, of university education in Nigeria (NUC, 2009b). In particular, the Commission has a mandate to investigate and study the financial needs of university research and to ensure that adequate provision is made for this in the universities. The commission is also to take into account, in advising the federal and state governments on university finances, such grants as may be made to the universities by the federal and state governments, private proprietors and persons and institutions in and outside Nigeria (NUC, 2009b). Its other functions include acting as the agency for channeling all external aid to the universities in Nigeria and to receive block grants from the Federal Government and allocate them to federal universities in accordance with such formula as may be laid down by the National

Council of Ministers (para. 4-6). The Mandates of the Commission for the Nigerian University system includes the following: approval of courses and programs; determination and maintenance of minimum academic standards; publications and research assessment; compliance with carrying capacity and admission quotas; monitoring of universities; accreditation of academic programs; and, provision of guidelines and processing of applications for the establishment of private universities (NUC, 2009b, para. 4).

As stated earlier, quality is multidimensional in nature. In a university setting, quality permeate every aspect of the university system including teaching, student learning, academic programs, research, scholarship, academic and non-academic staff, physical infrastructure, facilities, community services and academic milieu (Njenga, Bissoonanth, & Diarra, 2008). According to Njenga et al. (2008), internal self-evaluation and external review conducted openly by independent specialists are vital for enhancing this quality. Internal quality assurance is on policies and mechanism effected internally to ensure that a particular institution, program, and course continue to achieve its spelt-out objectives and standards (Martin & Stella, 2007). External quality assurance is achieved if the exercise is conducted by an external agency to find out the extent of its compliance with the established standard (Martin & Stella, 2007). These accrediting agencies external to the institutions are expected to ensure that academic and professional programs of the institution are of high quality and meet clearly spelt-out minimum academic standards (Oladosu, 2010). The research questions and questionnaire

instrument for the present study were a reflection of the accreditation instruments of the NUC and from other literature.

It is important for all the actors in the Nigerian university system to understand the perceptual consequence of serial labor strikes on the quality of their universities. Understanding the consequence may create awareness for policy makers on how to address the issue, for potential improvement in the employment prospect of graduates from the system. Kowalski and Western (as cited in Adeniyi & Taiwo, 2011) described perceptions as a process through which the brain organizes and interprets what happens in one's environment (p. 527). These are influenced by experiences, memories, expectations, suggestions, and the context in which any given experience occurs (Schiffman, 2000). Several studies have been on perceptions of public on unions (Boris, 2012; Turner & D'art, 2011). Adeniyi and Taiwo (2011) provided insight on lecturers, students and parents' perception on cost sharing as an effective strategy to deal with the problem of underfunding higher education institutions in Nigeria (p. 534). Turner and D'art (2011) used a Europe-wide survey to address the extent to which European citizens perceive a need for trade unions, and found that "contrary to expectations, a substantial majority of respondents perceived a need for strong trade unions to protect their pay and working conditions" (p. 33).

Implications of Past Research

The effects of labor strikes on third parties are well documented. Several studies support their negative effect (Day, Stinson, Catano, & Kelloway, 2006; Grayson, as cited in Day et al., 2006; Greenglass et al., 2002; Kelloway et al., 2008; Murillo et al., 2002;

Wickens et al., 2006). Students experienced adverse academic and financial effects from labor disputes (Grayson as cited in Day et al., 2006; Wickens et al., 2006).

Undergraduates reported greater disruption in their academic work and more negative opinions of the university than did graduate students (Amos et al. as cited in Day et al., 2006), and students asserted that increased disruptions in the academic work had decreased perceived control over their tasks and they experienced higher levels of stress (Day et al., 2006). The above studies help to better understand student's perceptions of labor strikes on the quality of university education in Nigeria for comparison with the perceptions of academic staff and university administrators in the system.

Summary

The current review explored research on the effects of strikes, quality of higher education, indicators of quality assurance and the concept of perceptions. Studies have shown that labor strike action can negatively and positively affect any system. Kelloway et al. (2008) posited that strikes could have substantial effects on third parties who might be affected by the strike. Strikes have strong and negative impact on students' learning (Murillo et al., 2002) and dictate parents' choice for university placement of their wards (Okuwa & Campbell, 2011). Adeniyi and Taiwo (2011) dealt with perceptions of lecturers, students and parents on cost sharing as an effective strategy to deal with the problem of underfunding higher education institutions in Nigeria. Studies have suggested some indicators that have negatively affected research output in the universities (Chudnovsky, 2008; Ogbogu, 2009; Okafor & Dike, 2010), but the actors' perceptions of the role of serial labor strikes on the quality of the universities have been relatively

unexplored. The majority of studies on the reasons for the low quality of university education in Nigeria have been on the correlation between government policies and the resulting quality indicators (Anugwom, 2002; Okoroma, 2008; Timilehin et al., 2010). Survey research such as Adeniyi and Taiwo (2011), Grayson, as cited in Day et al. (2006), and Okuwa and Campbell (2011) have paved way for other researchers to follow in this direction. Just as Adeniyi and Taiwo (2011) examined the perceptions of some actors in the NUS on cost sharing in the universities, the present study will contribute to knowledge by exploring the perceptions of these actors on the effects of year 2000 to 2010 ASUU serial labor strikes on the quality of the university system.

In the Craig model, strike action has been well documented as conversion mechanism and output of an industrial relations system (Brown, 2003; Chaulk & Brown, 2008). Strikes, when seen as conversion mechanism may affect workers positively or negatively thereby affecting their productivity. This model has provided insight into the perceptions of university administrators, academic staff, and students of the effects of the serial labor strikes on the quality of university education in Nigeria. The next chapter provided information on the methodology appropriate for the study, the sampling technique, instrumentation, data analysis, and ethical considerations.

Chapter 3: Research Method

Introduction

In this chapter, I discuss the research design, its methodology, population sampling, sampling strategy, and sample size. Other issues dealt with in this section are the instrumentation and materials for the study, how data was collected and analyzed, its reliability, validity and limitations, researcher's role, and ethical concerns. A quantitative research method was used for this study.

Purpose of the Study

The purpose of this research study was to examine the perceptions of the university administrators, lecturers, and students on the effects of serial labor strikes on the quality of university education in Nigeria. It is important for all the actors in the Nigerian university system to understand the differences in their perceptions on issues affecting their performances. An examination of their perceptions on the effects of serial labor strikes on some of the indicators commonly used to rank university (such as, faculty and researcher output [publications], student training, course accreditation, foreign content of staff and students, class size, and graduation rates) at the University of Ibadan, one of the universities in Nigeria may create awareness for policy makers on how to address the issue of labor strikes in Nigerian universities, and provide an understanding of the management of the IR practice in the Nigerian university system. University of Ibadan, the premier university in Nigeria, was used for the research study as representative all the federal universities in Nigeria based on the “theory of proximal

similarity” (Campbell as cited in Trochim & Cook, 1992, p. 59) as was discussed in detail in the sampling strategy section below.

Research Design and Rationale for Chosen the Approach

A complete way to consider the type of research design used in a research study “is in the basic philosophical assumptions researchers bring to study; the strategies used in the research; and the specific methods employed in conducting these strategies” (Creswell, 2009, p. 3). Quantitative research, which “is a means of testing objective theories by examining the relationship among variables,” is in agreement with the post-positivist philosophy where causes determine effects and outcomes (Creswell, 2009, p. 4). In this type of research, research questions and hypotheses are based on the identified causes and observations, and the measurement of the objective reality that exists in the study (Creswell, 2009). In this study, I used this strategy of inquiry to test the Craig’s model of Industrial Relations deductively. The survey design used for this study was similar to the concept expressed by Singleton and Straits (2005) that “the basic idea of a survey is to measure variables by asking people questions and then to examine the relationships among the measures” (pp. 227-228). The aim of the survey research was to investigate the extent to which the effects of serial labor strikes on the quality of university education influence the perceptions of academic staff, students and university administrators. Perceptions are affected by experiences, memories, expectations, suggestions, and the context in which any given experience occurs (Schiffman, 2000). Perceptions provide a valuable reflection of the beliefs that individuals hold. Beliefs lead individuals to action (Ajzen, 2002). Creswell (2009) indicated that the qualitative

research method uses observations, interviews, documents, and audiovisual materials for data collection. This study, however, focused on examining the perceptions of the three groups of actors (dependent variable) on the effects of serial labor strike on the quality of university education in Nigeria. The independent variables were the different actors in the system. These were university administrators, lecturers, and students. For this reason, the qualitative method of inquiry was rejected.

Research Design

A research design is the program that guides the investigator as he or she collects, analyzes, and interprets observations (Frankfort-Nachmias & Nachmias, 2008, p. 88). It defines “the domain of generalizability and allows the researcher to draw inferences concerning causal relations among the variables under investigation” (p. 88). This design guides the researcher in the various stage of research in the determination of whom to study, what to observe, when to observe, and how the data would be collected and analyzed (p. 88). The problem statement and research questions helped determine the appropriate research design and the research design in turn helped determine the research method.

In behavioral sciences, many problems cannot be solved by the experimental method because of the complexity and nature of social phenomena. Selecting and controlling the factors involve in a cause and effect relationship may not be practicable in all situations. I used the ex post facto design for this study. Tuckman (1999) defined ex post facto as “a study in which the researcher is unable to cause a variable to occur by creating a treatment and must examine the effects of a naturalistically occurring treatment

after it has occurred” (p. 181). It is a design in which the independent variable or variables have already occurred and in which the researchers starts with the observation of a dependent variable or variables (Kerlinger, 1964). Employing the experimental method for this study was impractical because one cannot cause or stage a situation that will warrant the employees in the universities to declare or to be involved in industrial disputes in order to measure their effects. As the use of a true experimental design was not possible for the study, the ex post facto design, where the after-the-fact treatment was related to an outcome, the dependent variable is applicable. In this study, the serial labor strikes incident in Nigerian universities from 2000 to 2010 were related to the quality of university education in Nigeria in the perceptions of the university administrators, lecturers, and students. This design was very useful in finding the co-relations between serial labor strikes and university education quality in Nigeria. It also unmasks other factors that causes both the incessant labor strikes and reduces higher education quality. The design allows for the use of control variables, and comparison group for internal validity of the study. Unlike the true experimental design, ex post facto design does not allow for manipulation of the independent variable. Other weakness of this design was that it may be difficult for the researcher to ascertain the causal links between the variables and the actual predictor variable may not be observed (Tuckman, 1999, p. 181).

Research Method

Survey design of quantitative research was used for this study. According to Creswell (2009), a survey design provides "a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (p.

145). This method was used to generalize the findings of the research study to all the universities in Nigeria. The survey method was cross-sectional, with data on relevant variables collected at one point in time from actors in the system. Data were collected through self-administered questionnaires, which I constructed after the Likert scale (see Instrumentation subsection below). The goal of using this method was to explore relationships and correlations that might exist in the data from the different actors in the system. The survey design was preferable over other design because of the economy of the design, provision of a high degree of anonymity for respondents, and the rapid turnaround in data collection (Creswell, 2009, p. 146). According to Trochim (2006), questionnaires “are relatively inexpensive to administer; the researcher can send the same instrument to a wide number of people, and allow the respondent to fill it out at their own convenience” (Trochim, 2006, para. 2).

Sample Population

For quantitative research findings to be of scientific value, their explanation and predictions supported by the data collected must be capable of being generalized (Frankfort-Nachmias & Nachmias, 2008, p. 162). Sampling of participants is therefore very important because it is impractical, impossible, and often extremely expensive to collect data from all individuals or other units of analysis covered by a research problem (Frankfort-Nachmias & Nachmias, 2008, p. 163). For the selected samples to be considered representative of the entire population being analyzed, the sample frames must be complete and free from blank foreign elements and clusters of elements. The sampling population is “the aggregate of all cases that conform to some designated set of

specification” (Frankfort-Nachmias & Nachmias, 2008, p. 163). A questionnaire was used to collect the data sets from university administrators, academic staff, and students to elicit their perceptions of the effects of serial labor strikes of 2000 to 2010 on the quality of university education in Nigeria. This survey was conducted in a federal university where there were cases of labor strikes as discussed below.

Sampling and Sample Size

Sampling Strategy

All the federal universities were closed for the same number of days as a result of the incessant labor strikes of the ASUU in the year 2000 to 2010, which argues for generalizability. Therefore, any of the universities could be selected for the survey research. I obtained a convenience sample by selecting whatever sampling units conveniently available and used my subjective judgment to purposively select sampling units that appear to be representative of the population (Frankfort-Nachmias & Nachmias, 2008). I employed both the convenience and the purposive sampling methods of the nonprobability sample design to select University of Ibadan, the Nigeria premier university. The university is older and well established. The university comprises one College of Medicine and nine Faculties. These are Agriculture and Forestry, Arts, Education, Law, Pharmacy, Sciences, Social Sciences, Technology, and Veterinary Medicine (University of Ibadan, 2010). Each of the faculty units are headed by a dean and the College of Medicine is headed by a provost. In this university, three groups of participants were sampled. These were the university administrators, academics staff, and students. Following from the study of Okoroma (2008) on admission policies and the

quality of university education in Nigeria, Vice Chancellors, Deputy-Vice Chancellor, Deans and Heads of Departments were classified as administrators while Senior lecturers and Professors were defined as academic staff (p. 11). It should be noted that all the academic staff in the university are members of the academic staff union. Final year undergraduate students were conveniently selected from the students' population, out of which sample size of students were selected using a stratified random method. I selected the final year undergraduate students from the six departments in the Faculty of Social Sciences of the university. This was because of their perceived availability and experiences on the serial labor strikes issues in the university and their familiarity with what is expected of a high-class university. Most of these students experienced the 2008-2010 labor strikes. Although, Frankfort-Nachmias and Nachmias (2008) argued "only probability sampling can be used in representative sampling designs," I believe that the samples that were drawn from the population could still be considered to be representative of the population (p. 167).

As discussed above, any of the federal universities could be selected for this study, but University of Ibadan was purposively selected because the convenience and economy of data collection from the university outweigh the advantages of using a probability sampling method (Frankfort-Nachmias & Nachmias, 2008). Therefore, the sampling strategy adopted was best suited for the study. The sample of the introductory letter to the Vice Chancellor of University of Ibadan to conduct research in the university is shown in Appendix B.

Sample Size

The data from the survey questionnaire from the three groups was analyzed using F-test ANOVA to determine whether the explained variance in the data set was significantly greater than the unexplained variance, and by testing the equality of three means at one time by using variances. In order to determine the appropriate sample size needed for the analysis, I used power analysis with the G* Power software. Statistical power is the probability of detecting a real effect. A priori power analysis was utilized because I have determined the acceptance levels of the alpha, beta, and the effect size expected at the end of the study (Sherperis, n.d.a). This approach helps researchers to determine an adequate sample size that may result in appropriate statistical significant without excess or an increased chance for a Type I or a Type II error (Faul, Erdfelder, Lang, & Buchner, 2007, p. 176; Sherperis, n.d.b). As indicated above, an F-test ANOVA with fixed effects, omnibus, and one-way was selected. I accepted a 5% chance of error in the analysis; therefore, my alpha was set at 0.05; willing to accept an 80% chance of finding a statistically significant difference, power set at 0.80; and an effect size of 0.25 for a reasonable sample size. Inputting theses parameters to the G* Power calculator yielded 159 sample size. A total of 180 questionnaires were administered at the research site to the selected participants. The excess questionnaires were included to allow for participants who may not return the questionnaire. As indicated above, stratified random sampling method was then used to sample the participants from the list of each group in the six departments of the selected faculty (Frankfort-Nachmias & Nachmias, 2008, p. 171).

Instrumentation and Measurement of Variables

In this study, a questionnaire was used as the instrument for the survey research. The questionnaire was administered to the participants to test the hypotheses. The questionnaire instrument was named "Labor Strikes and Effects on Quality of University Education in Nigeria" (LASQUEN), and considered the effects of labor strikes on the quality indicators used to rank universities in the perception of students, academic staff, and administrators in the university as shown in Appendix C. The instrument, which was constructed based on the Likert scale, sought to uncover the perceptions of the respondents on the relationship between the variables with respect to the research propositions. The respondent's perceptions were measured by asking the extent to which they agree or disagree with a particular question or statement, typically comprise continuum responses or expression such as strongly agree, agree, neither agree nor disagree, disagree, strongly disagree. For example, labor strikes reduce the number of research projects received by the university. The measurement obtained with this scale is equally amenable to more precise statistically analysis. In addition, "Likert scale measures are fundamentally at the ordinal level of measurement because responses indicate a ranking only, and each item on the scale are assigned equal value so that respondents are scored rather than items" (Page-Bucci, 2003, para. 8). Concepts or phenomena with several empirical properties such as labor strikes and collective agreements are very difficult to measure because they are composite variables. Such concepts require the use of scales as composite measures, constructed by combining two or more variables, to be employed as indicators (Frankfort-Nachmias & Nachmias, 2008,

p. 414). These measuring instruments are “designed to represent the complexities inherent in human behavior in a more reliable way” (p. 414). The score was based on a scale of responses to more than a single question or item, thereby increasing the reliability of measurements, which is an important condition for validity of the measurements in the study (Frankfort-Nachmias & Nachmias, 2008).

The labor strike index, obtained from the National Universities Commission was derived from measurements of strike duration, the number of employees on strike, or a combination of those variables, such as working days lost to strikes (Akkerman, 2008). I preferred strike duration and number of employees to strike frequency as a measure of strike activity, especially when the economic or social impact of strikes is under investigation (Akkerman, 2008). In addition, the precision of the numerical measures used in the ratio level, make the measurement of the labor strike occurrences appropriate at this level. Both the continuous scales (strongly agree to strongly disagree) and categorical scales (yes/no, rank from highest to lowest importance) were used to measure the items on the questionnaire. These continuous or categorical measurements represented the perceptions of the respondents on the relationship between strikes and some of the indicators use to rank universities (staff research output [publications], students learning/training, and graduation rate). These constituted the measurement of the dependent variable. I traveled to Nigeria to administer the questionnaire at the research site. Response rate was 85.6% as discussed in Chapter 4.

Research Questions and Hypotheses

The research questions and hypotheses are listed below for review.

Research Question 1: Is there a significant difference in the perceptions of serial labor strikes among university administrators, academic staff, and students on the quality of university education in Nigeria?

Null Hypothesis 1: There is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff, and students on the quality of university education in Nigeria.

Research Question 2: Is there a significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities?

Null Hypothesis 2: There is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities.

Research Question 3: Is there a significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on the research output of Nigerian universities?

Null Hypothesis 3: There is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on the research output of Nigerian universities.

Reliability, Validity and Limitations of the Research Methods

The concepts of validity and reliability are very important in any research study and inseparable from measurement (Frankfort-Nachmias & Nachmias, 2008). In this quantitative study, for the findings to be considered valid and reliable, I made sure that

the values assigned to variables were reliable and valid during the measurement process. Establishing the validity of the scores in this survey research helped to establish that the measuring instrument was a good one to use (Creswell, 2009). As argued by Key (1997), “to establish the content validity of a measuring instrument, the researcher must identify the overall content to be represented” (para. 2). In order to ensure the content validity of the instrument and to improve items, format, and scales in this research study, I involved some of my colleagues at the National Universities Commission who brainstormed about the items on the questionnaire. This was because these officials are familiar with serial labor strikes, the quality of the universities, and the actors in the Nigerian university system. Their feedback was used in shaping the items on the questionnaire. Responses and comments from the officials were equally incorporated in the final revision of the instrument, suggesting a strong content validity of the instrument.

The reliability of a research instrument concerns the extent to which the instrument yields the same results on repeated trials (Key, 1997, para. 6). This is the “extent to which a measure contains variable errors” (Frankfort-Nachmias & Nachmias, 2008, p. 158). Thirty senior staff of the National Universities Commission (NUC) participated in the pilot study of this study as discussed in Chapter 4. This was to ensure the reliability of the questionnaire. Reliability tests were run on the three subscales of the questionnaire. The labor strikes and students’ learning/performances subscale consisted of 14 items (Cronbach’s $\alpha = .76$), labor strikes and research outputs subscale consisted of seven items (Cronbach’s $\alpha = .68$), and labor strikes and other quality indicator subscale consisted of two items (Cronbach’s $\alpha = .72$). A Cronbach's alpha

value of .7 to .8 has been considered as acceptable for most research instrument (Field, 2009, p. 675).

Internal validity deals with the effect of one variable on another in a particular setting, while external validity deal with "the extent to which the research findings can be generalized to larger populations and applied to different social or political settings" (Frankfort-Nachmias & Nachmias, 2008, p. 101). In order to ensure the external validity of this study, the characteristics of the participants at the University of Ibadan reflected the characteristics of the targeted stakeholders of the Nigerian university system (Frankfort-Nachmias & Nachmias, 2008). Participants were carefully selected using a sampling method described above that assures representativeness of the population. I included the other quality indicators subscale to address the internal validity of the study.

Data Analysis Plan

The statistical analysis useful for any quantitative research data analysis depends on the nature of the research question, the number of dependent variables (outcome variables) and the nature of the independent variables (predictors), and the number of variables controlled in the study (Creswell, 2009, p. 152). Other factors considered were the nature of the dependent variable: whether it was an interval, ordinal or categorical variable and whether it was normally distributed (UCLA's Academic Technology Services, n.d.). The independent variables of the study were the three categorical groups and the dependent variables were their perceptual consequences of labor strikes in the universities. After the data collection process, the data were checked for accuracy, and described by descriptive statistics. As discussed above, ANOVA which is the most

suitable for the analysis of the data from the survey was used to analyze the perceptions of the three categorical groups (students, academic staff, and university administrators) of the effects of serial labor strikes on quality of university education. The analysis was to find whether there is significant variance in the perceptual consequences of labor strikes in the universities between the three groups.

The following statistical assumptions were applied in conducting the analysis of variance: the observations within each sample were independent and none of the scores in either of the experimental groups are related to each other; the populations from which the samples are selected was normal, that is, the dependent variable is normally distributed for each of the populations as defined by the different levels (groups) of the factor; and, the populations from which the samples are selected had equal variances, that is the variance must be homogenous (Laureate Education, 2009). The one-way ANOVA yields inaccurate p values if the independent assumption was violated. All the above assumptions were met before the data analysis. I used the Statistical Package for the Social Sciences (SPSS) for all the statistical analyses in the study.

Ethical Issues and Measures for Protection of Participants

This study involved collecting data from people. I protected all my research participants by developing a trusting relationship, promoting the integrity of the research, guarding against misconduct and impropriety that might reflect on participants' organizations or institutions; and striving to cope with new and challenging problems (Creswell, 2009). I addressed all ethical issues that might arise from this study, as soon as the study was approved and defended. The study instrument and protocols were

reviewed by the Institutional Review Board (IRB) of Walden University and the Nigeria National Health Research Ethics Committee (NHREC) with the IRB authorization number of 03-18-13-0226213 and NHREC/01/01/2007-18/03/2013 respectively. The questionnaire administration was preceded by a cover letter that explained the importance of the research to both the public and the participants as shown in Appendix C. The purpose of the research, minimal risks and benefits for participating, voluntary nature of the study, guarantee of confidentiality and anonymity of the participants, researcher information, participant's level and type of involvement were included in the informed consent form. Walden University IRB and the NHREC reviewed and approved the informed consent form. Contact information of both the researcher and researcher's advisor with a promise that the results of the research would be made available to the respondents were also included in the cover letter.

During the data collection for both the pilot study and the main research, after I identified the participants that met my inclusion criteria at the National Universities Commission for the pilot study and with the assistant of the representative of the head of the organization at the main research site, I approached potential participants individually with the questionnaire and the Informed Consent form. For the pilot study, I gave the participants adequate time to study the Informed Consent form and the questionnaire and later returned to them to collect their responses. In order to further secure the privacy of the respondents at the research site, I provided a designated box where respondents dropped the addressed envelope containing the completed questionnaire. The NHREC

approval and the letter of cooperation from the research site are shown in Appendices D and E respectively.

Researcher's Role

During the course of the study, I developed the measuring instrument, identified the participants and carried out the data collection process. I interpreted the data, analyzed the data, and provided an accurate summary of the information, and the results. Finally, I released the details of the research and its design for readers to determine for themselves the credibility of the study (Creswell, 2009).

Summary

This chapter examined the research design, its methodology, sampling population, sampling strategy, sample size, and the rationale for using a quantitative research method was provided. In addition, I described the instrumentation and materials for the study, the data analysis plan, its reliability, validity and limitations, researcher's roles, and ethical concerns associated with the study. In Chapter 4, I present the results from the pilot study and the detailed results of the survey research.

Chapter 4: Results

Introduction

The purpose of this research study was to examine the perceptions of the university administrators, academic staff, and students on the effects of serial labor strikes on the quality of university education in Nigeria. In the study, I described the quality of university education in terms of students' learning and research outputs of the universities (Coates, 2005; Dill & Soo, 2005; Kuh, 2003). A high quality university is expected to contribute positively to national development through quality teaching and research activities for 21st century global competitiveness. It is therefore important for the actors in the Nigerian university system to understand the differences in their perceptions on issues affecting their academic performance. As discussed in Chapters 1 and 2, the literature has shown that labor strike action can negatively and positively affect any system (Kelloway et al., 2008; Murillo et al., 2002; Okuwa & Campbell, 2011). While much research has been done on the quality of university education in Nigeria (Anugwom, 2002; Okoroma, 2008; Oni, 2000; Ramon-Yusuf, 2003; Saint et al., 2003; Timilehin et al., 2010), little is known about the perceptions of the university administrators, academic staff, and students on the effects of serial labor strikes in Nigerian universities. The present study contributed to knowledge by exploring this gap in the literature. A questionnaire was administered to examine the participant's perceptions of the effects of serial labor strikes between 2000 to 2010 on the quality of the university system. This chapter presents the descriptive statistics and quantitative analysis for relationships among the variables studied. ANOVA and MANOVA were

used to model the relationship between the status of participants in the university, the independent variable and their perceptions of the effects of labor strikes on the quality of university education in Nigeria, the dependent variable. The analysis of variance or ANOVA test is a method that finds whether there is significant variance between two or more independent variable regarding a specified dependent variable (Frankfort-Nachmias & Nachmias, 2008). The analysis evaluated whether the three group means on the dependent variable differ significantly from each other (Green & Salkind, 2011). The statistical results of this analysis are given in this chapter, and where necessary, they are evaluated and validated against the hypotheses.

The Data Collection Instrument

The self-administered questionnaires were constructed based on the Likert scale. It comprised sections that addressed the status of participants in the university, their level of knowledge to assess the quality of a world-class university, and statements that relate labor strikes with students' learning and research outputs in the universities as shown in Appendix C. A pilot study was conducted to determine the reliability of the instrument as approved by the Walden University IRB and the NHREC. The reliability of a research instrument concerns the extent to which the instrument yields the same results on repeated trials (Key, 1997, para. 6). This is the "extent to which a measure contains variable errors" (Frankfort-Nachmias & Nachmias, 2008, p. 158).

Results of the Pilot Study

The questionnaire was administered to 30 selected participants at the National Universities Commission to determine the reliability coefficient of the instrument as

discussed in Chapter 3. Twenty seven participants returned the completed questionnaires and SPSS were used to calculate the Cronbach's alpha (the reliability coefficient) of the three subscales of the instrument. As shown in Appendix C, the instrument has three subscales: (a) Labor strikes and Students' Learning and Performances (Items 3-18), (b) Serial Labor Strikes and Research Outputs (Items 19-27), and (c) Serial Labor Strikes and Other quality indicators (Items 28-31). For subscale (a), the reliability coefficient (Cronbach's Alpha) was .673; this alpha would be .755 if items 3 and 5 were deleted from the subscale. A Cronbach's alpha value of .7 to .8 has been considered as acceptable for most research instrument (Field, 2009, p. 675). For Subscale (b), the coefficient was .560; the coefficient would be .683 if items 19 and 26 were deleted from the subscale. For subscale (c), the coefficient is .353; this coefficient will be .558 if item 31 is deleted. It would be .717 if both items 29 and 31 were deleted. I deleted items 3, 5, 19, 26, 29 and 31 from the scale and completed the change of procedure form with the IRB. An Alpha Cronbach's reliability of .746 was established for the entire instrument from the pilot study data which I considered acceptable for the study instrument. Subscale reliabilities for the rating sections ranged between .683 and .755. The revised questionnaire is shown in Appendix D. The revised questionnaires were administered to the research participants at the research site after the approval of a change in procedure by Walden IRB. The administration of the questionnaire took a period of one week from April 2 to April 8, 2013. The responses were entered into SPSS for analysis.

Sample Description

The target population for this study was 159 participants as discussed in Chapter 3. This sample size was determined by power analysis with the G* Power software (Sherperis, n.d.a). Three groups of participants were sampled from a faculty in the selected university. The university comprises one College of Medicine and nine Faculties. These are Agriculture and Forestry, Arts, Education, Law, Pharmacy, Sciences, Social Sciences, Technology, and Veterinary Medicine (University of Ibadan, 2010). As discussed in Chapter 3 and in order to ensure external validity of the study, the selected faculty's characteristics were reflections of the other faculties and college in the university. The characteristics of the selected participants reflected the characteristics of the targeted stakeholders of the Nigerian university system (Frankfort-Nachmias & Nachmias, 2008). The participants included the university administrators, academics staff, and students. Vice Chancellors, Deputy-Vice Chancellor, Deans and Heads of Departments were classified as university administrators while Senior lecturers and Professors were regarded as academic staff (Okoroma, 2008). It should be noted that all the academic staff in the university are members of the academic staff union. Final year undergraduate students were conveniently selected from the six Departments in the selected Faculty, out of which sample size of students were selected using a stratified random method.

A total of 180 questionnaires were administered at the research site to the selected participants at a predetermined ratio 5:30:65 for university administrator, academic staff, and students respectively. A total of 154 participants returned the completed

questionnaire ($N = 154$). Thus, the response rate was 85.6%. The sample consisted of 10 (6.5%) university administrators, 54 (35.1%) academics staff, and 90 (58.4%) students. These completed and returned questionnaires were used for data analysis (see Table 3). To aid the discussion and interpretation of the results of the research findings, descriptive characteristics of the participants were examined. There were no missing data in the analyses. The detailed descriptive and inferential statistics are presented below. It has been argued that “descriptive statistics enable researchers to summarize and organize data in an effective and meaningful way while inferential statistics allow researchers to make decisions or inferences by interpreting data patterns” (Frankfort-Nachmias & Nachmias, 2008, pp. 320-321). I used the frequencies, percentages, and crosstabs to give a graphical and tabular summary of the data.

Table 3

Distribution of the Sample by their Status in the University

Status in the University	Frequency	Percent
Student	90	58.4
Academic Staff	54	35.1
University Administrator	10	6.5
Total	154	100

Data Analyses by Survey Questions

The Levels of Knowledge of Participants to Assess the Quality of World-Class University

The results showed that among the respondents, 35 (22.7%) indicated that they were very knowledgeable, 78 (50.6) were knowledgeable, 29 (18.8%) were moderately knowledgeable, 2 (1.3%) were fairly knowledgeable, and 10 (6.5%) indicated that they were not very knowledgeable to assess the quality of a world-class university (see Table 4 and Figure 1). The distribution by their status in the university is shown in Figure 2.

Table 4

Distribution of the Sample by their Level of Knowledge to Assess the Quality of a World-Class University

Responses	Frequency	Percent
Not very knowledgeable	10	6.5
Fairly knowledgeable	2	1.3
Moderately knowledgeable	29	18.8
Knowledgeable	78	50.6
Very knowledgeable	35	22.7
Total	154	100

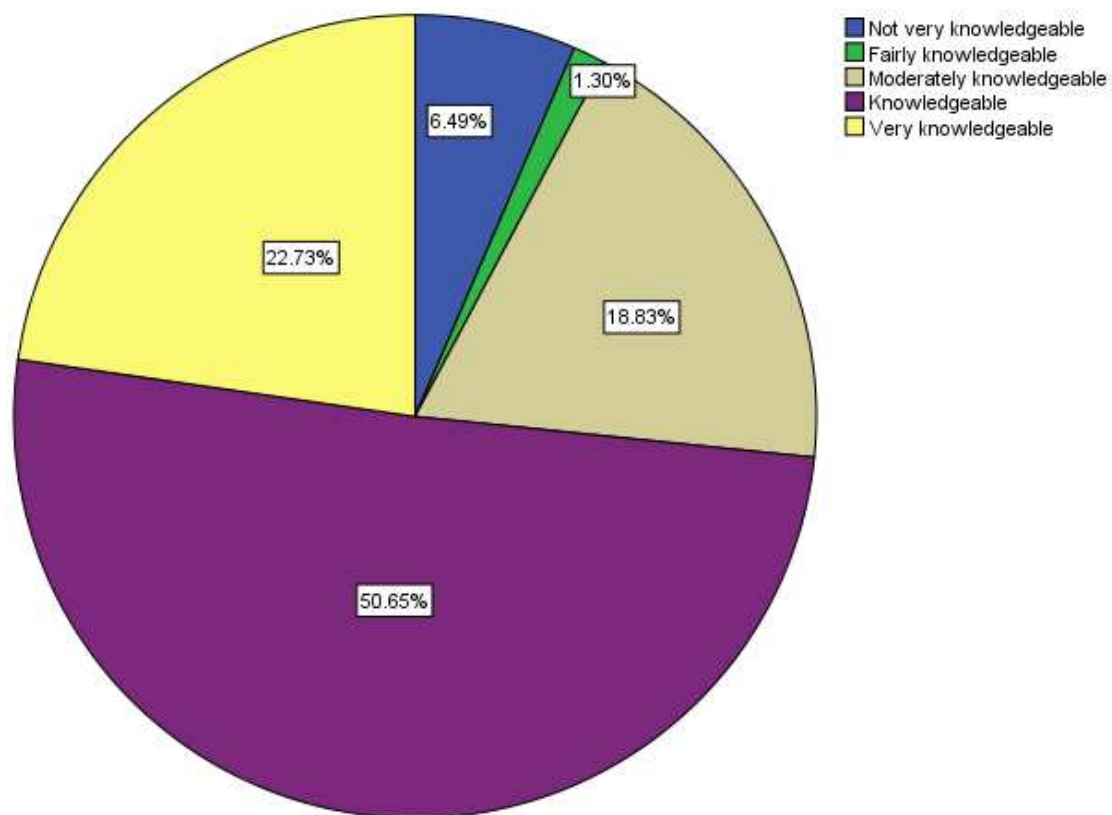


Figure 1. Description of the sample by their Level of Knowledge to assess the Quality of a World-Class University.

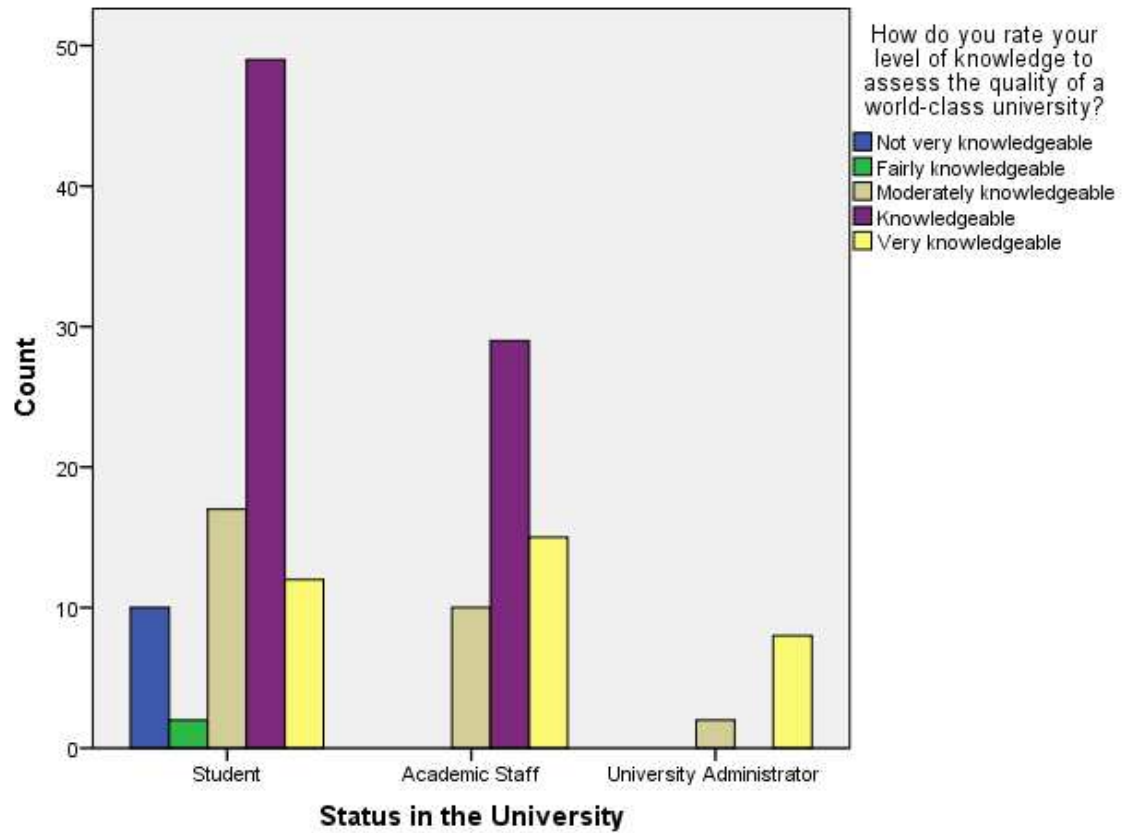


Figure 2. Description of the Level of Knowledge to Assess the Quality of a World-Class University by Respondents Status in the University.

Labor Strikes and Students Learning and Performances

This section focused on the perceptions of the respondents about the role of labor strikes on students learning and performances in Nigerian universities. It examined their level of agreement or disagreement with the following statements:

- Students make less progress in their academic plans as a result of labor strikes.
- Labor strikes destabilize students and decrease their eagerness to learn.

- Learning environment is less conducive during a labor strike.
- Labor strikes have strong and negative effects on student learning.
- Labor strikes allow less time for faculty to prepare and teach.
- Labor strikes reduce the level of student participation in the classroom.
- Labor strikes hinder the progress to the next level of a degree program annually.
- Labor strikes interfere with students' ability to graduate at the same time as their entering cohort.
- Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.
- Students perform better when they have more class days.
- Labor strikes discourage foreign students from seeking admission to Nigerian universities.
- Labor strikes increase cases of campus cultism.
- Labor strikes worsen the financial situation of students.
- Labor strikes interrupt the career progress of students.

Generally, the study showed that majority of the respondents perceive that labor strikes have effects on students learning and performances in Nigerian universities as discussed below and showed in Table 5.

Students make less progress in their academic plans as a result of labor strikes. The results showed that out of the 154 participants, 85 (55.2%) indicated that they strongly agree that students make less progress in their academic plans as a result of

labor strikes, 65 (42.2%) agree, one (0.6%) disagree, and three (1.9%) strongly disagree (see Table 5).

Labor strikes destabilize students and decrease their eagerness to learn. The results showed that out of the 154 participants, 86 (55.8%) indicated that they strongly agree that labor strikes destabilize students and decrease their eagerness to learn, 53 (34.4%) agree, six (3.9%) were neither agree nor disagree, six (3.9%) disagree, and three (1.9%) strongly disagree (see Table 5).

Learning environment is less conducive during a labor strike. The results showed that out of the 154 participants, 49 (31.8%) indicated that they strongly agree that learning environment is less conducive during a labor strike, 82 (53.2%) agree, seven (4.5%) were neutral, nine (5.8%) disagree, and seven (4.5%) strongly disagree (see Table 5).

Labor strikes have strong and negative effects on student learning. The results showed that out of the 154 participants, 82 (53.2%) indicated that they strongly agree that labor strikes have strong and negative effects on student learning, 68 (44.2%) agree, zero (0.0%) neither agree nor disagree, four (4.6%) disagree, and zero (0.0%) strongly disagree (see Table 5).

Labor strikes allow less time for faculty to prepare and teach. The results showed that out of the 154 participants, 41 (26.6%) indicated that they strongly agree that labor strikes allow less time for faculty to prepare and teach, 90 (58.4%) agree, seven (4.5%) were neutral, seven (4.5%) disagree, and nine (5.8%) strongly disagree (see Table 5).

Labor strikes reduce the level of student participation in the classroom. The results showed that out of the 154 participants, 56 (36.4%) indicated that they strongly agree that labor strikes reduce the level of student participation in the classroom, 54 (35.1%) agree, 12 (7.8%) were neutral, 29 (18.8%) disagree, and three (1.9%) strongly disagree (see Table 5).

Labor strikes hinder the progress to the next level of a degree program annually. The results showed that out of the 154 participants, 88 (57.1%) indicated that they strongly agree that labor strikes hinder the progress to the next level of a degree program annually, 57 (37.0%) agree, none were neutral, six (3.9%) disagree, and three (1.9%) strongly disagree (see Table 5).

Labor strikes interfere with students' ability to graduate at the same time as their entering cohort. The results showed that out of the 154 participants, 107 (69.5%) indicated that they strongly agree that labor strikes interfere with students' ability to graduate at the same time as their entering cohort, 41 (26.6%) agree, 1 (0.6%) were neutral, 2 (1.3%) disagree, and 3 (1.9%) strongly disagree (see Table 5).

Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors. The results showed that out of the 154 participants, 80 (51.9%) indicated that they strongly agree that labor strikes affect negatively the timeliness in the release of examination results to students and sponsors, 70 (45.5%) agree, zero (0.0%) were neutral, two (1.3%) disagree, and two (1.3%) strongly disagree (see Table 5).

Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors. The results showed that out of the 154 participants, 80 (51.9%) indicated that they strongly agree that labor strikes affect negatively the timeliness in the release of examination results to students and sponsors, 70 (45.5%) agree, zero (0.0%) were neutral, two (1.3%) disagree, and two (1.3%) strongly disagree (see Table 5).

Students perform better when they have more class days. The results showed that out of the 154 participants, 76 (49.4%) indicated that they strongly agree that students perform better when they have more class days, 43 (27.9%) agree, 31 (20.1%) were neutral, two (1.3%) disagree, and two (1.3%) strongly disagree (see Table 5).

Labor strikes discourage foreign students from seeking admission to Nigerian universities. The results showed that out of the 154 participants, 69 (44.8%) indicated that they strongly agree that labor strikes discourage foreign students from seeking admission to Nigerian universities, 74 (48.1%) agree, seven (4.5%) were neutral, one (0.6%) disagree, and three (1.9%) strongly disagree (see Table 5).

Labor strikes increase cases of campus cultism. The results showed that out of the 154 participants, 39 (25.3%) indicated that they strongly agree that labor strikes increase cases of campus cultism, 64 (41.6%) agree, 17 (11.0%) were neutral, 31 (20.1%) disagree, and three (1.9%) strongly disagree (see Table 5).

Labor strikes worsen the financial situation of students. The results showed that out of the 154 participants, 41 (26.6%) indicated that they strongly agree that labor

strikes worsen the financial situation of students, 54 (35.1%) agree, 12 (7.8%) were neutral, 33 (21.4%) disagree, and 14 (9.1%) strongly disagree (see Table 5).

Labor strikes interrupt the career progress of students. The results showed that out of the 154 participants, 84 (54.5%) indicated that they strongly agree that labor strikes interrupt the career progress of students, 43 (27.9%) agree, six (3.9%) were neutral, six (3.9%) disagree, and 15 (9.7%) strongly disagree (see Table 5).

Table 5

Distribution of the Perceptions of Respondents about the Roles of Labor Strikes on Students Learning and Performances in Nigerian Universities

Students make less progress in their academic plans as a result of labor strikes

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	1.9	1.9	1.9
Disagree	1	.6	.6	2.6
Agree	65	42.2	42.2	44.8
Strongly agree	85	55.2	55.2	100.0
Total	154	100.0	100.0	

Labor strikes destabilize students and decrease their eagerness to learn

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	1.9	1.9	1.9
Disagree	6	3.9	3.9	5.8
Neutral	6	3.9	3.9	9.7
Agree	53	34.4	34.4	44.2
Strongly agree	86	55.8	55.8	100.0
Total	154	100.0	100.0	

Learning environment is less conducive during a labor strike

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	7	4.5	4.5	4.5
Disagree	9	5.8	5.8	10.4
Neutral	7	4.5	4.5	14.9
Agree	82	53.2	53.2	68.2
Strongly agree	49	31.8	31.8	100.0
Total	154	100.0	100.0	

Labor strikes have strong and negative effects on student learning

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	4	2.6	2.6	2.6
Agree	68	44.2	44.2	46.8
Strongly agree	82	53.2	53.2	100.0
Total	154	100.0	100.0	

Labor strikes allow less time for faculty to prepare and teach

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	9	5.8	5.8	5.8
Disagree	7	4.5	4.5	10.4
Neutral	7	4.5	4.5	14.9
Agree	90	58.4	58.4	73.4
Strongly agree	41	26.6	26.6	100.0
Total	154	100.0	100.0	

Labor strikes reduce the level of student participation in the classroom.

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	1.9	1.9	1.9
Disagree	29	18.8	18.8	20.8
Neutral	12	7.8	7.8	28.6
Agree	54	35.1	35.1	63.6
Strongly agree	56	36.4	36.4	100.0
Total	154	100.0	100.0	

Labor strikes hinder the progress to the next level of a degree program annually

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	1.9	1.9	1.9
Disagree	6	3.9	3.9	5.8
Agree	57	37.0	37.0	42.9
Strongly agree	88	57.1	57.1	100.0
Total	154	100.0	100.0	

Labor strikes interfere with students' ability to graduate at the same time as their entering cohort

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	1.9	1.9	1.9
Disagree	2	1.3	1.3	3.2
Neutral	1	.6	.6	3.9
Agree	41	26.6	26.6	30.5
Strongly agree	107	69.5	69.5	100.0
Total	154	100.0	100.0	

Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	2	1.3	1.3	1.3
Disagree	2	1.3	1.3	2.6
Agree	70	45.5	45.5	48.1
Strongly agree	80	51.9	51.9	100.0
Total	154	100.0	100.0	

Students perform better when they have more class days

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	2	1.3	1.3	1.3
Disagree	2	1.3	1.3	2.6
Neutral	31	20.1	20.1	22.7
Agree	43	27.9	27.9	50.6
Strongly agree	76	49.4	49.4	100.0
Total	154	100.0	100.0	

Labor strikes discourage foreign students from seeking admission to Nigerian universities

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	1.9	1.9	1.9
Disagree	1	.6	.6	2.6
Neutral	7	4.5	4.5	7.1
Agree	74	48.1	48.1	55.2
Strongly agree	69	44.8	44.8	100.0
Total	154	100.0	100.0	

Labor strikes increase cases of campus cultism

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	1.9	1.9	1.9
Disagree	31	20.1	20.1	22.1
Neutral	17	11.0	11.0	33.1
Agree	64	41.6	41.6	74.7
Strongly agree	39	25.3	25.3	100.0
Total	154	100.0	100.0	

Labor strikes worsen the financial situation of students

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	14	9.1	9.1	9.1
Disagree	33	21.4	21.4	30.5
Neutral	12	7.8	7.8	38.3
Agree	54	35.1	35.1	73.4
Strongly agree	41	26.6	26.6	100.0
Total	154	100.0	100.0	

Labor strikes interrupt the career progress of students

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	15	9.7	9.7	9.7
Disagree	6	3.9	3.9	13.6
Neutral	6	3.9	3.9	17.5
Agree	43	27.9	27.9	45.5
Strongly agree	84	54.5	54.5	100.0
Total	154	100.0	100.0	

Serial Labor Strikes and Research Outputs

This section focused on the perception of the respondents about the role of labor strikes on research outputs in Nigerian universities. It examined their level of agreement or disagreement with the following statements:

- Serial strikes decrease faculty publication of articles for reputable local and international journals;
- Serial strikes decrease the time available for lecturers' research;
- Serial strikes decrease faculty time working with students on research projects;
- Serial strikes reduce the faculty access to recent literature;
- Serial strikes decrease faculty research grant opportunities and international academic prizes;
- Serial strikes decrease collaborative/trans-disciplinary research at the university;
- Serial labor strikes negatively affect the quality of national manpower planning.

As shown in Table 6, the respondents have diverse perceptions on the effects of labor strikes on research outputs in Nigerian universities.

Serial strikes decrease faculty publication of articles for reputable local and international journals. The data showed that of the 154 participants in this study, 31 (20.1%) strongly agree that serial strikes decrease faculty publication of articles in

reputable local and international journals, 81 (52.6%) agree, 17 (11.0%) were neutral, 16 (10.4%) disagree, while nine (5.8%) strongly disagree (see Table 6).

Serial strikes decrease the time available for lecturers' research. The results showed that out of the 154 participants, 19 (12.3%) indicated that they strongly agree that serial strikes decrease the time available for lecturers' research, 70 (45.2%) agree, 28 (18.2%) were neither agree nor disagree, 28 (18.2%) disagree, and nine (5.8%) strongly disagree (see Table 6).

Serial strikes decrease faculty time working with students on research projects. The results showed that out of the 154 participants, 60 (39.0%) indicated that they strongly agree that serial strikes decrease faculty time working with students on research projects, 77 (50.0%) agree, zero (0.0%) were neither agree nor disagree, 14 (9.1%) disagree, and three (1.9%) strongly disagree (see Table 6).

Serial strikes reduce the faculty access to recent literature. The results showed that out of the 154 participants, 23 (14.9%) indicated that they strongly agree that serial strikes reduce the faculty access to recent literature, 59 (38.3%) agree, seven (4.5%) were neither agree nor disagree, 48 (31.2%) disagree, and 17 (11.0%) strongly disagree (see Table 6).

Serial strikes decrease faculty research grant opportunities and international academic prizes. The results showed that out of the 154 participants, 41 (26.6%) indicated that they strongly agree that serial strikes decrease faculty research grant opportunities and international academic prizes, 55 (35.7%) agree, 16 (10.4%) were

neither agree nor disagree, 21 (13.6%) disagree, and 21 (13.6%) strongly disagree (see Table 6).

Serial strikes decrease collaborative/trans-disciplinary research at the university. The results showed that out of the 154 participants, 27 (17.5%) indicated that they strongly agree that serial strikes decrease collaborative/trans-disciplinary research at the university, 104 (67.5%) agree, one (0.6%) were neither agree nor disagree, one (0.6%) disagree, and 21 (13.6%) strongly disagree (see Table 6).

Serial labor strikes negatively affect the quality of national manpower planning. The results showed that out of the 154 participants, 44 (28.6%) indicated that they strongly agree that serial labor strikes negatively affect the quality of national manpower planning, 83 (53.9%) agree, 17(11.0%) were neither agree nor disagree, six (3.9%) disagree, and four (2.6%) strongly disagree (see Table 6).

Table 6

Distribution of the Perceptions of Respondents about the Roles of Labor Strikes on the Research Outputs in Nigerian Universities

Serial strikes decrease faculty publication of articles for reputable local and international journals

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	9	5.8	5.8	5.8
Disagree	16	10.4	10.4	16.2
Neutral	17	11.0	11.0	27.3
Agree	81	52.6	52.6	79.9
Strongly agree	31	20.1	20.1	100.0
Total	154	100.0	100.0	

Serial strikes decrease the time available for lecturers' research

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	9	5.8	5.8	5.8
Disagree	28	18.2	18.2	24.0
Neutral	28	18.2	18.2	42.2
Agree	70	45.5	45.5	87.7
Strongly agree	19	12.3	12.3	100.0
Total	154	100.0	100.0	

Serial strikes decrease faculty time working with students on research projects

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	1.9	1.9	1.9
Disagree	14	9.1	9.1	11.0
Agree	77	50.0	50.0	61.0
Strongly agree	60	39.0	39.0	100.0
Total	154	100.0	100.0	

Serial strikes reduce the faculty access to recent literature

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	17	11.0	11.0	11.0
Disagree	48	31.2	31.2	42.2
Neutral	7	4.5	4.5	46.8
Agree	59	38.3	38.3	85.1
Strongly agree	23	14.9	14.9	100.0
Total	154	100.0	100.0	

**Serial strikes decrease faculty research grant opportunities and
international academic prizes**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	21	13.6	13.6	13.6
Disagree	21	13.6	13.6	27.3
Neutral	16	10.4	10.4	37.7
Agree	55	35.7	35.7	73.4
Strongly agree	41	26.6	26.6	100.0
Total	154	100.0	100.0	

Serial strikes decrease collaborative/trans-disciplinary research at the university

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	21	13.6	13.6	13.6
Disagree	1	.6	.6	14.3
Neutral	1	.6	.6	14.9
Agree	104	67.5	67.5	82.5
Strongly agree	27	17.5	17.5	100.0
Total	154	100.0	100.0	

**Serial labor strikes negatively affect the quality of national manpower
planning**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	4	2.6	2.6	2.6
Disagree	6	3.9	3.9	6.5
Neutral	17	11.0	11.0	17.5
Agree	83	53.9	53.9	71.4
Strongly agree	44	28.6	28.6	100.0
Total	154	100.0	100.0	

Serial Labor Strikes and other Quality Indicators

This section focused on the perception of the respondents about the role of labor strikes on other quality indicators in Nigerian universities. It examined their level of agreement or disagreement with the following two statements: labor strikes are instruments for improving working conditions of university staff, and labor strikes draw attention to faculty needs for teaching/research. These statements were the control variables used to address the internal validity of the study.

Labor strikes are instruments for improving working conditions of university staff. The results showed that out of the 154 participants, 23 (14.9%) indicated that they strongly agree that labor strikes are instruments for improving working conditions of university staff, 61 (39.6%) agree, 14 (9.1%) were neither agree nor disagree, 17 (11.0%) disagree, and 39 (25.3%) strongly disagree (see Table 7).

Table 7

Distribution of the Perceptions of Respondents about the Roles of Labor Strikes on improving Conditions of University Staff

Labor strikes are instruments for improving working conditions of university staff.				
	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	23	14.9	14.9	14.9
Agree	61	39.6	39.6	54.5
Neutral	14	9.1	9.1	63.6
Disagree	17	11.0	11.0	74.7
Strongly disagree	39	25.3	25.3	100.0
Total	154	100.0	100.0	

Labor strikes draw attention to faculty needs for teaching/research. As shown in Table 8, of the 154 participants, 33 (21.4%) indicated that they strongly agree that labor strikes draw attention to faculty needs for teaching/research, 62 (40.3%) agree, 14(9.1%) were neither agree nor disagree, 18 (11.7%) disagree, and 27 (17.5%) strongly disagree.

Table 8

Distribution of the Perceptions of Respondents about the Roles of Labor Strikes in drawing attention to Faculty Needs for Teaching and Research

Labor strikes draw attention to faculty needs for teaching/research				
	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	33	21.4	21.4	21.4
Agree	62	40.3	40.3	61.7
Neutral	14	9.1	9.1	70.8
Disagree	18	11.7	11.7	82.5
Strongly disagree	27	17.5	17.5	100.0
Total	154	100.0	100.0	

Data Analyses by Research Questions and Hypotheses

The central research question of this study was whether there is a significant difference in the perceptions of serial labor strikes among university administrators, lecturers, and students on the quality of university education in Nigeria? The quality of university education as described in Chapter 1 was in terms of students' learning and research outputs of the universities (Coates, 2005; Dill & Soo, 2005; Kuh, 2003). The

study was therefore, guided by two subresearch questions as follows: (a) Is there a significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities? (b) Is there a significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on the research outputs of Nigerian universities?

The two null hypotheses were: (H_01) there is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities; and (H_02) there is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on the research output of Nigerian universities. One-way MANOVAs, follow-up ANOVAs, and Post hoc Statistical analyses were used to answer all the research questions and hypotheses. The data analysis, based on the research questions are discussed in the following section. Results are presented in tables and figures.

Research Subquestion 1: Relationship between Labor Strikes and Students'

Learning/Performances

This question focused on the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities. Figures 3-16 shows detailed analyses of the perceptions of the roles of labor strikes on students learning and performances in Nigerian universities by status

of respondents in the university. The status of participants in the university was categorized as student, academic staff, and university administrator.

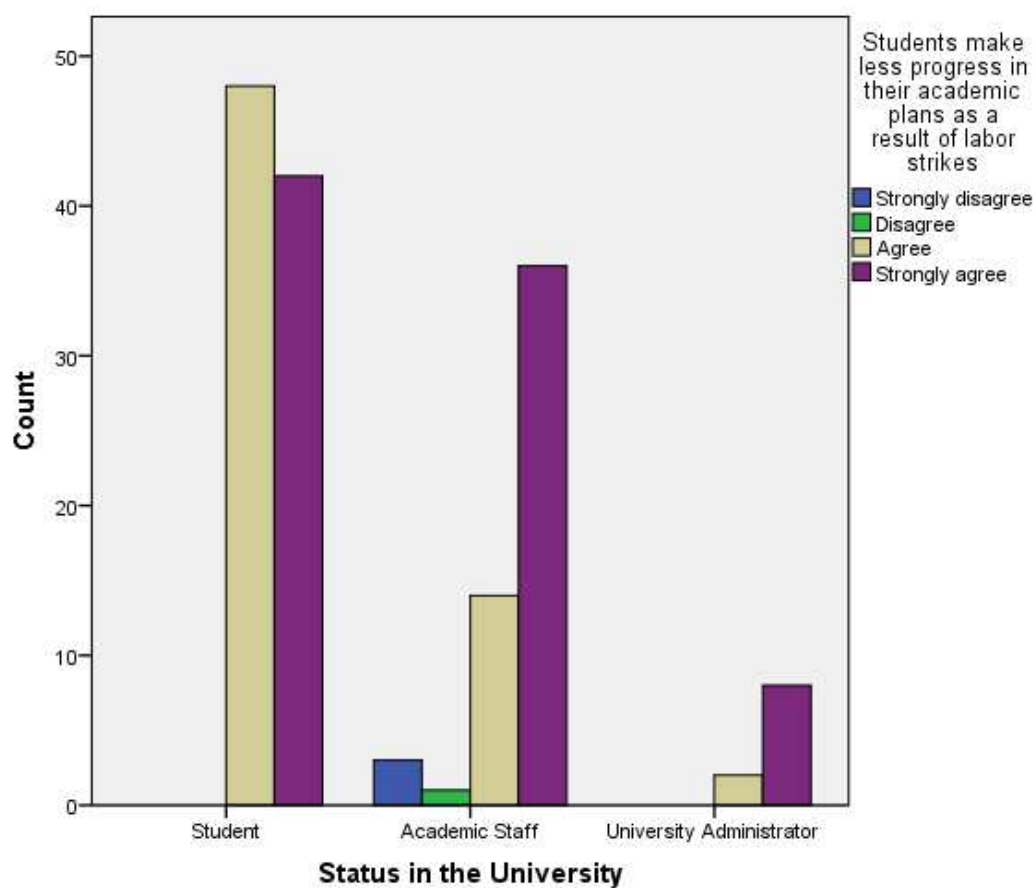


Figure 3. Labor Strikes and Students Progress in their Academic Plans in Nigerian Universities by Respondent Status.

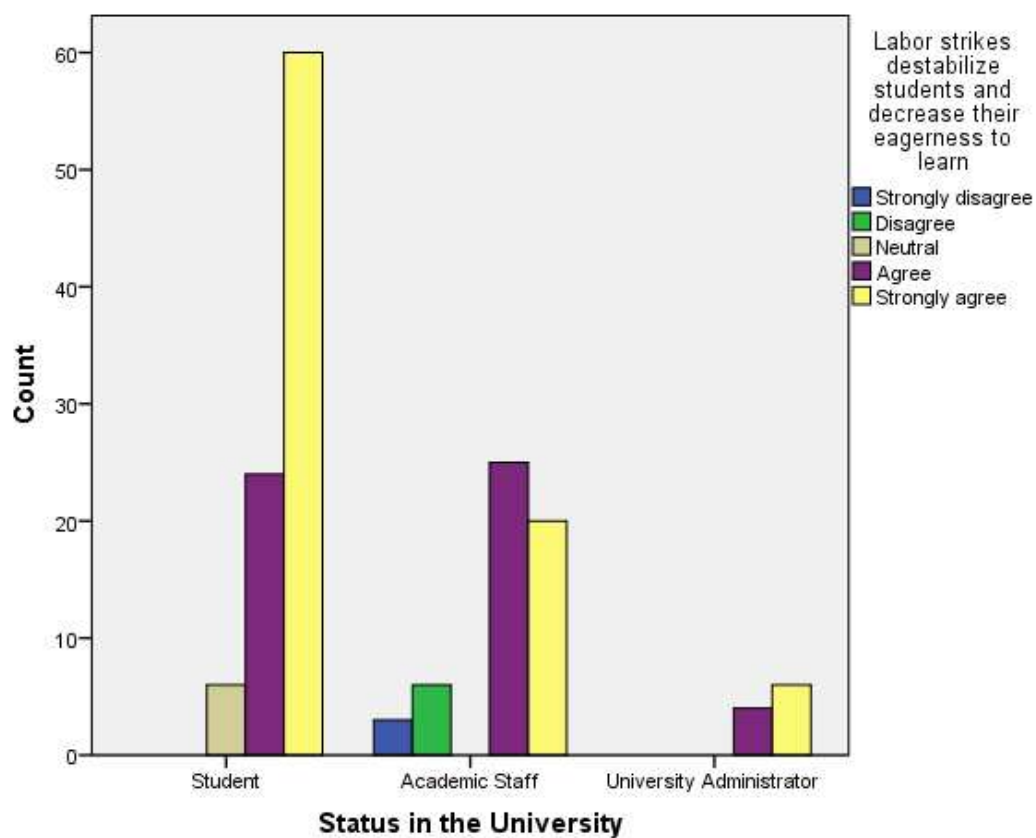


Figure 4. Labor Strikes and Eagerness of Students to Learn in Nigerian Universities by Respondent Status.

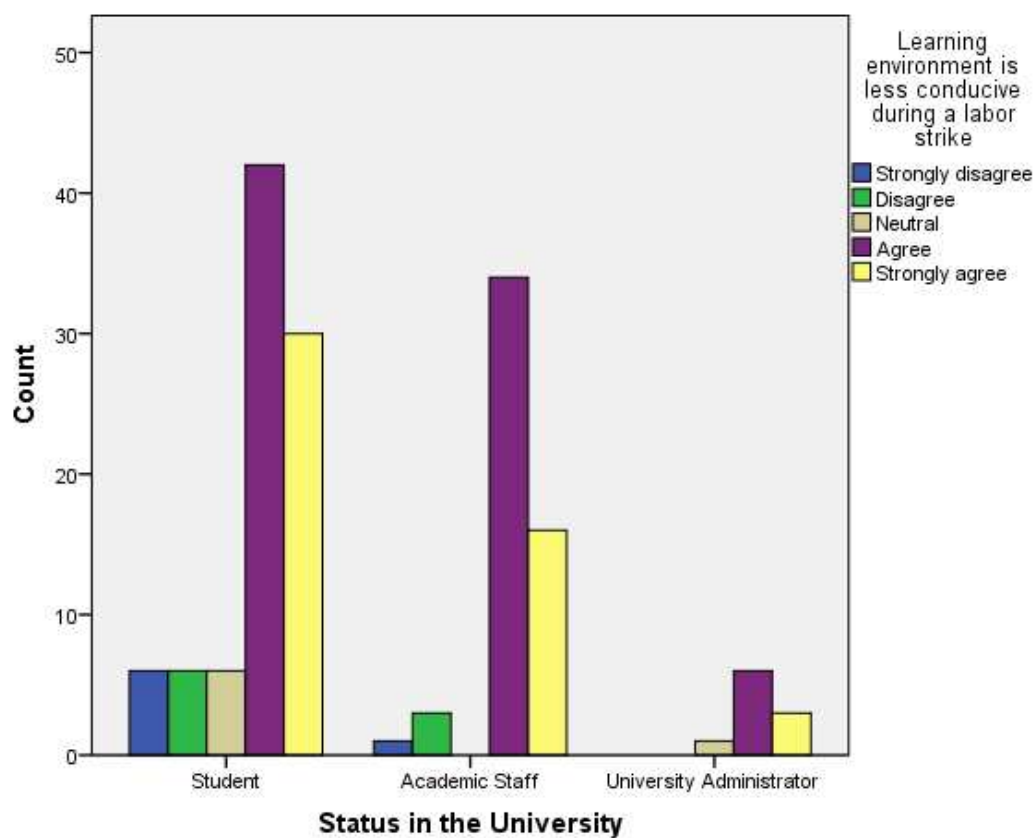


Figure 5. Labor Strikes and Learning Environment in Nigerian Universities by Respondent Status.

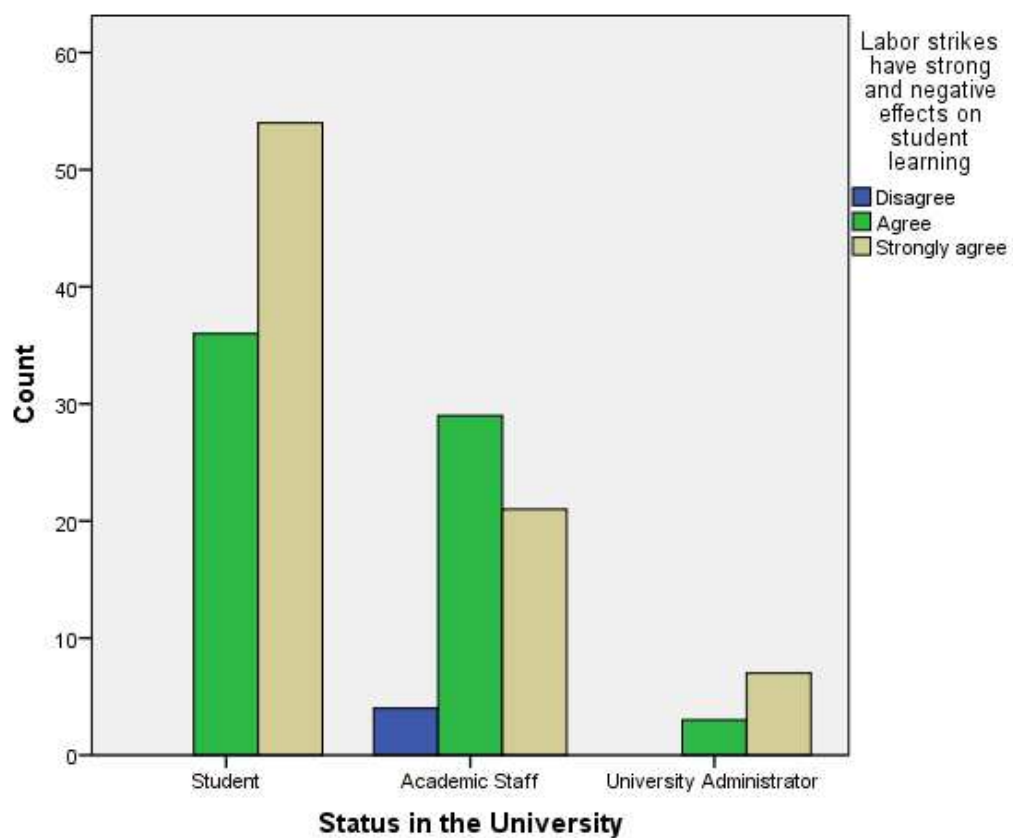


Figure 6. Labor Strikes and Students Learning in Nigerian Universities by Respondent Status.

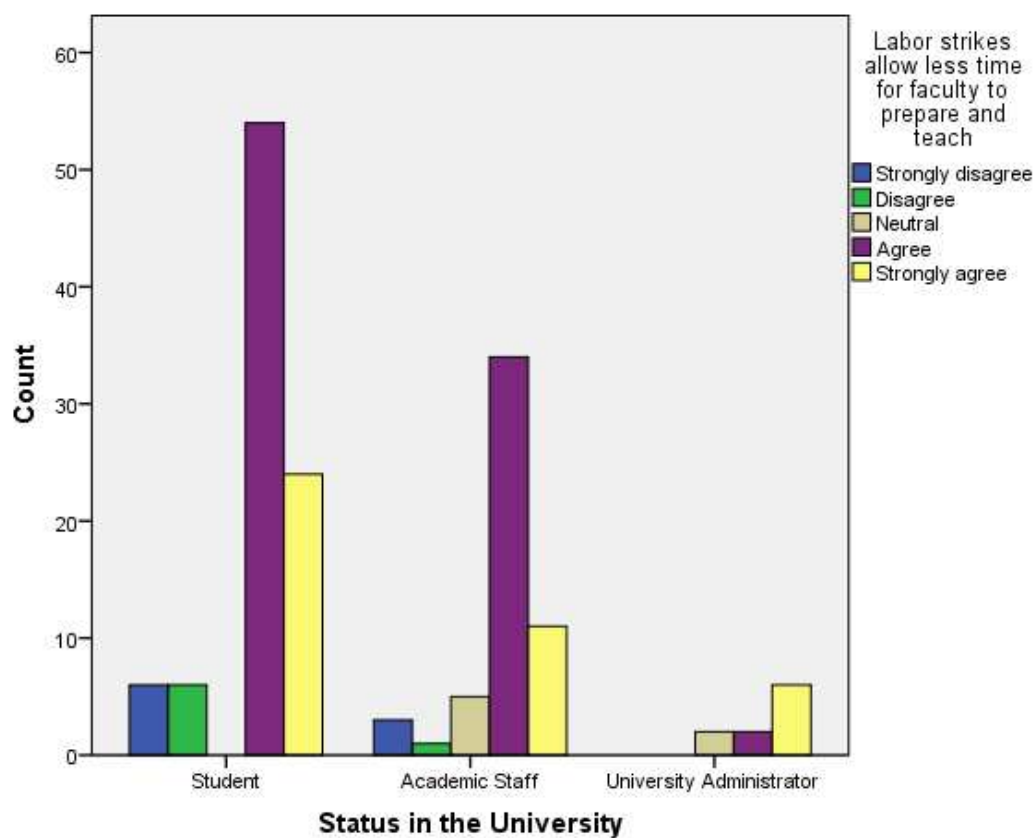


Figure 7. Labor Strikes and Time allow for Faculty to Prepare and Teach in Nigerian Universities by Respondent Status.

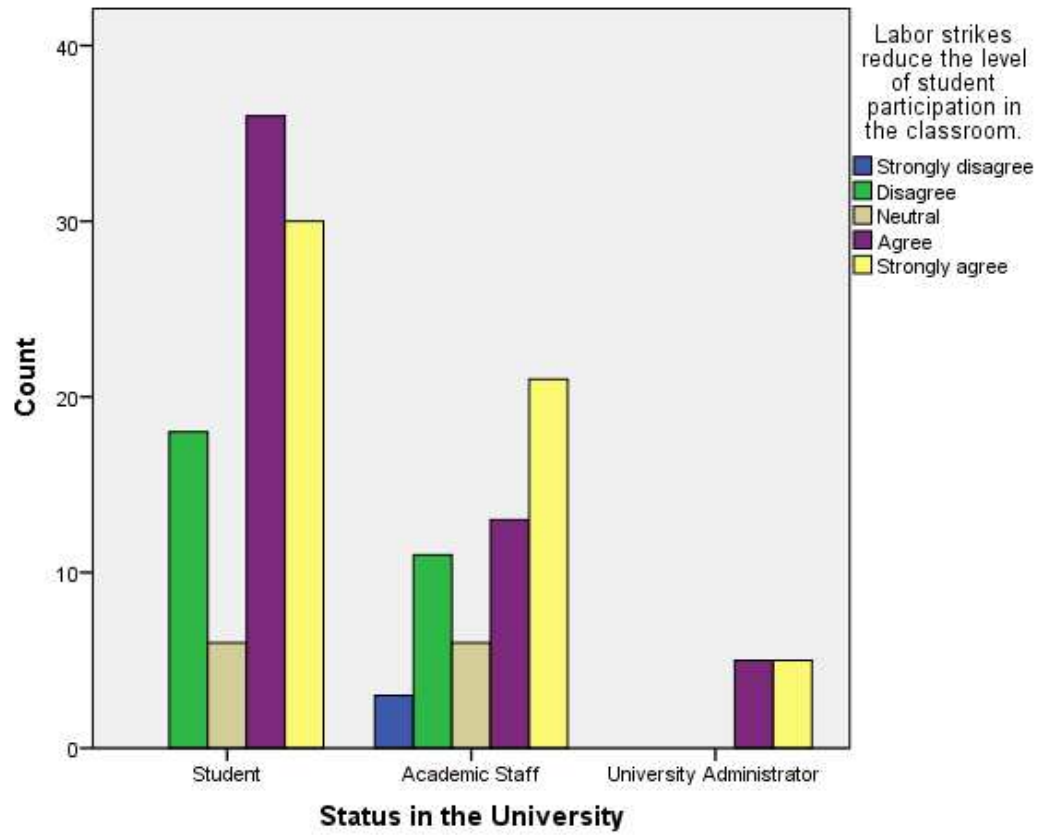


Figure 8. Labor Strikes and Level of Student Participation in Classroom in Nigerian Universities by Respondent Status.

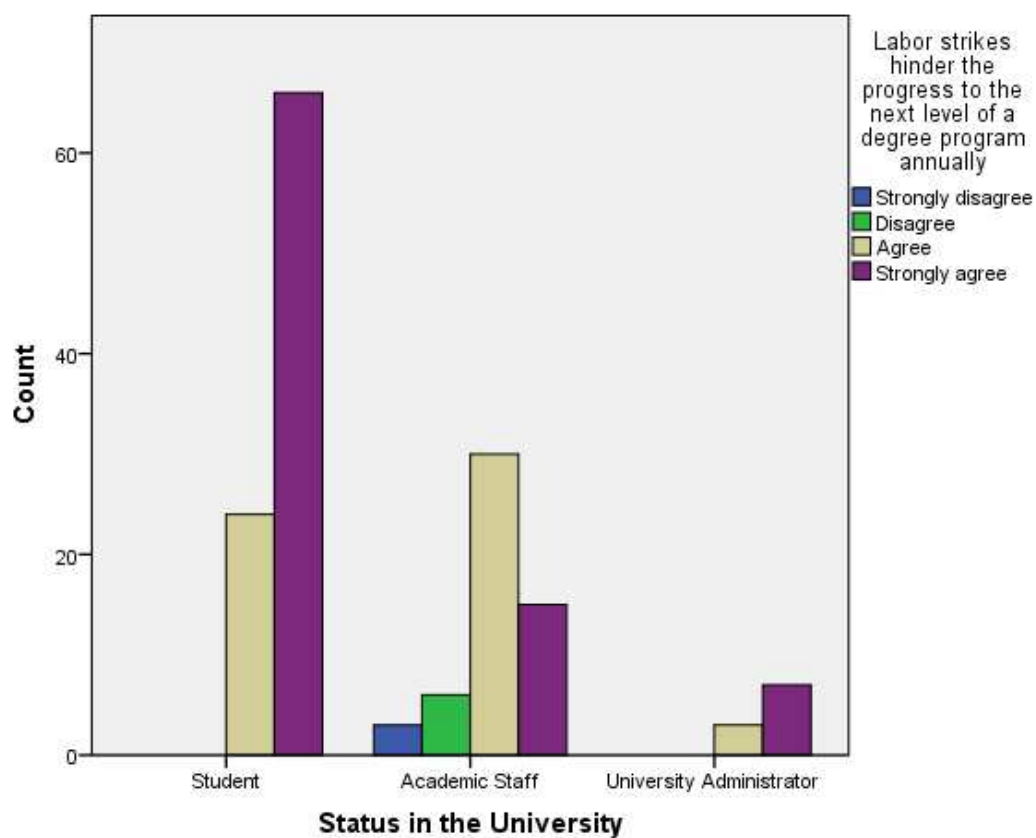


Figure 9. Labor Strikes and Students' Progress to the Next Level of a Degree Program Annually in Nigerian Universities by Respondent Status.

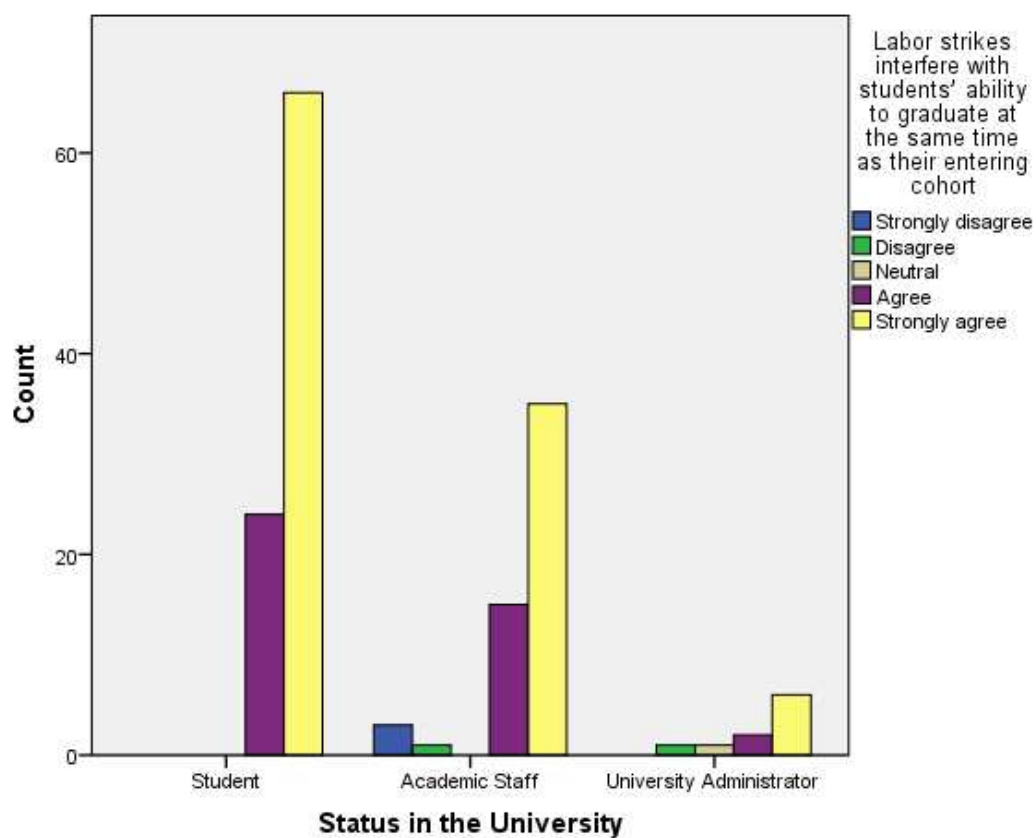


Figure 10. Labor Strikes and Students' Ability to Graduate at the same Time as their entering Cohort in Nigerian Universities by Respondent Status.

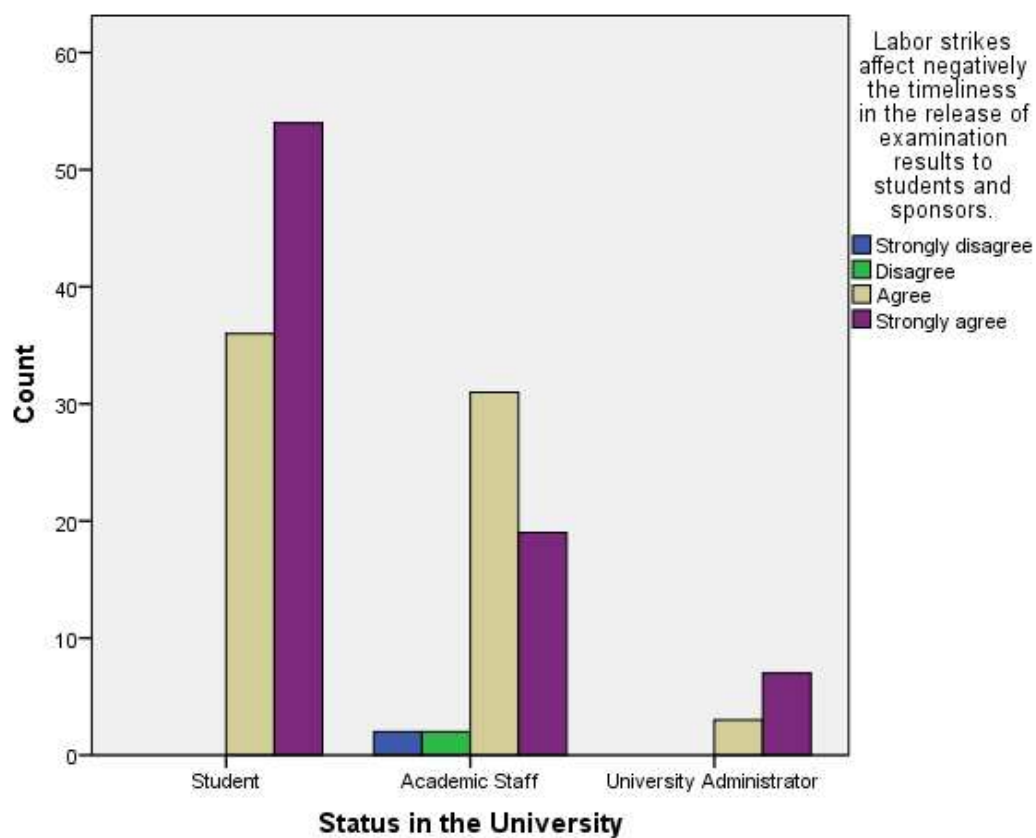


Figure 11. Labor Strikes and Timeliness in the release of Examination Results to Students and Sponsors in Nigerian Universities by Respondent Status.

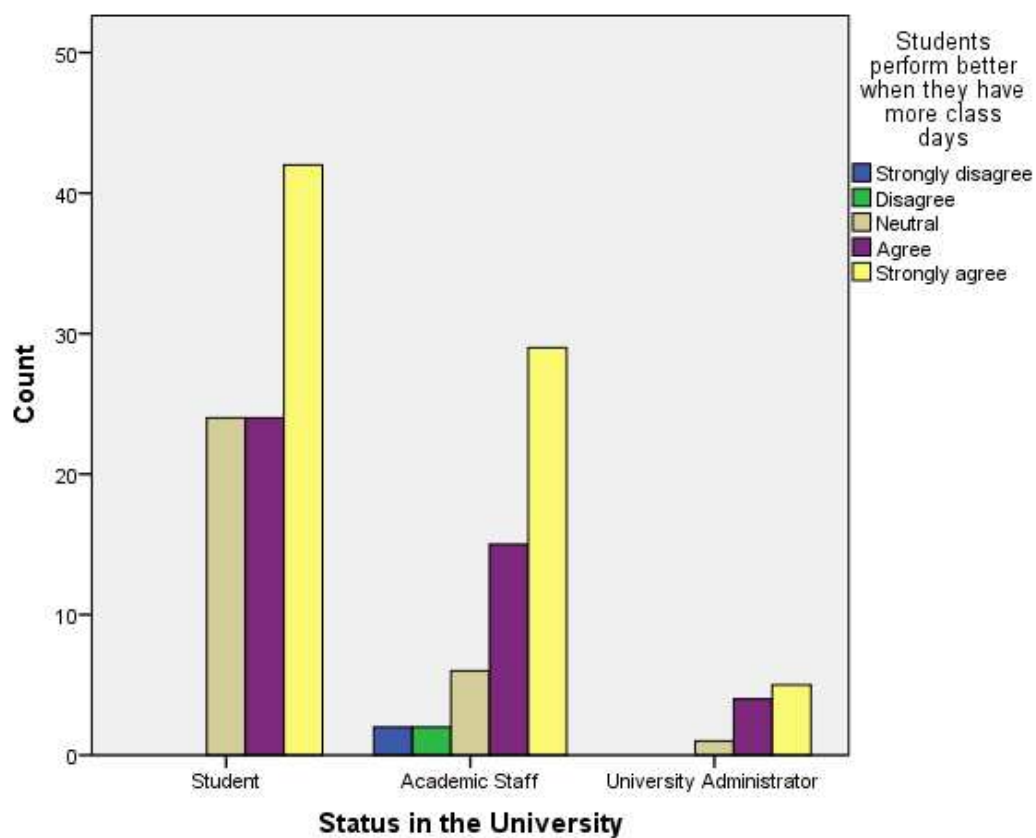


Figure 12. Performance of Students when they have more Class Days in Nigerian Universities by Respondent Status.

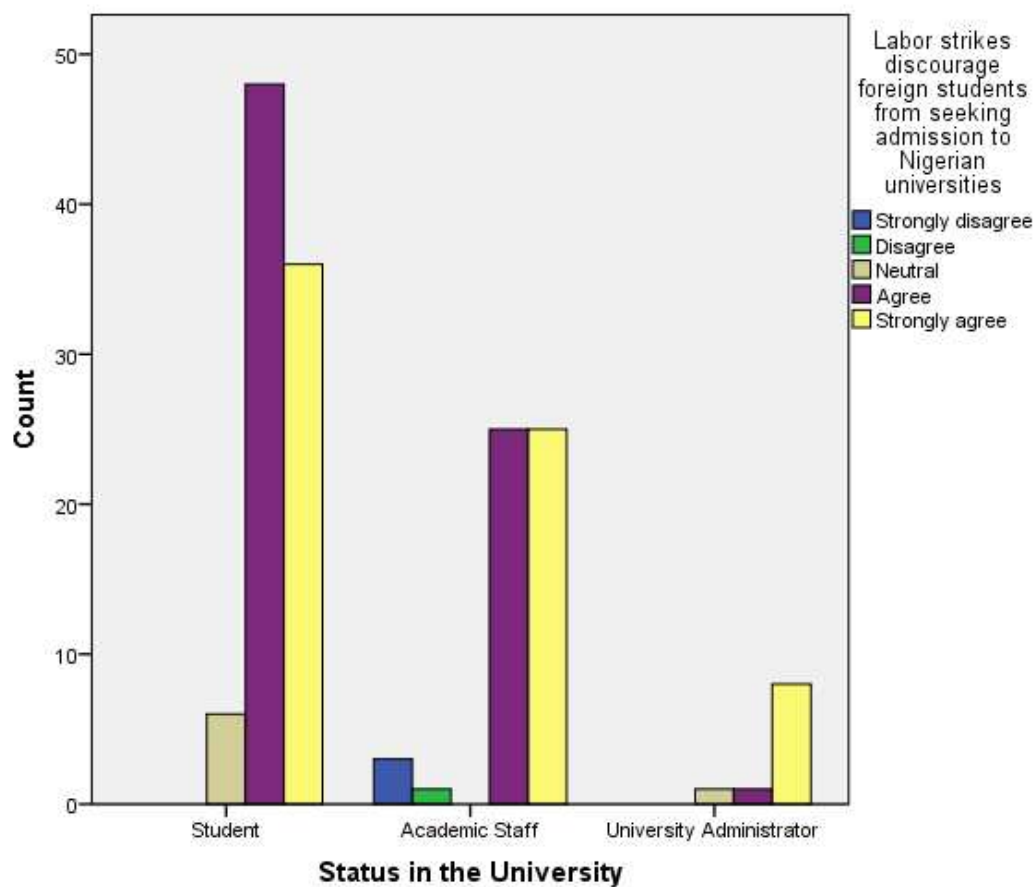


Figure 13. Labor Strikes and Discouragement of Foreign Students from seeking Admission to Nigerian Universities by Respondent Status.

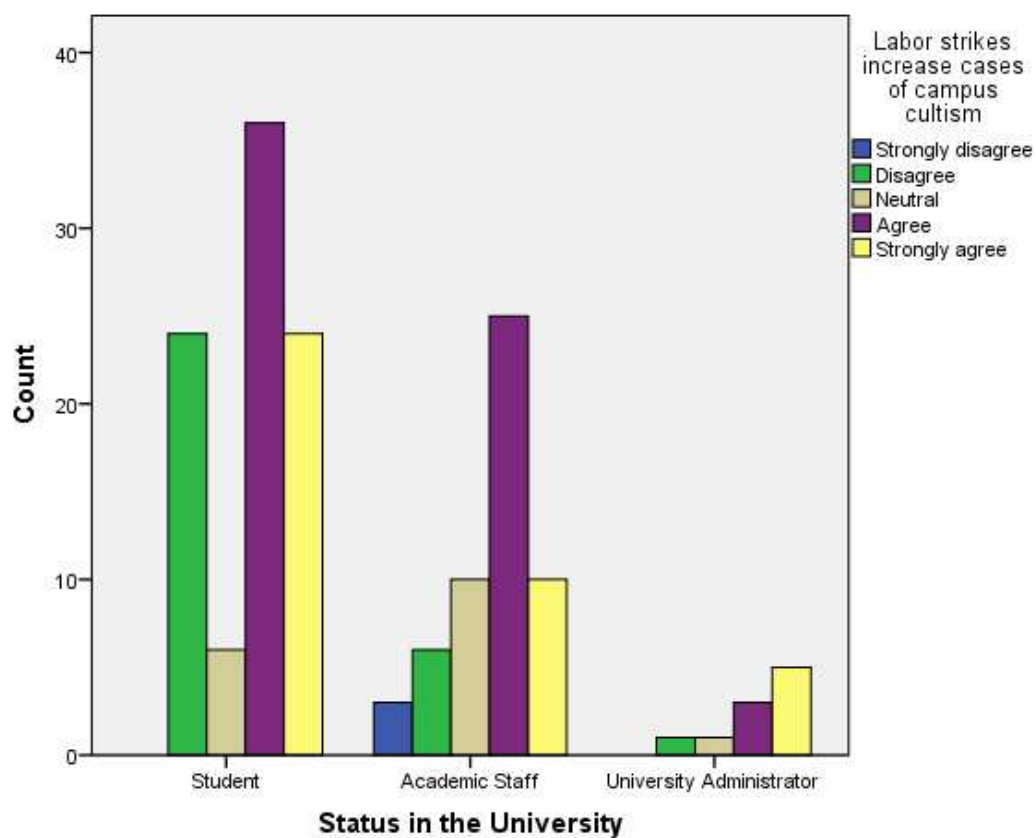


Figure 14. Labor Strikes and Cases of Campus Cultism in Nigerian Universities by Respondent Status.

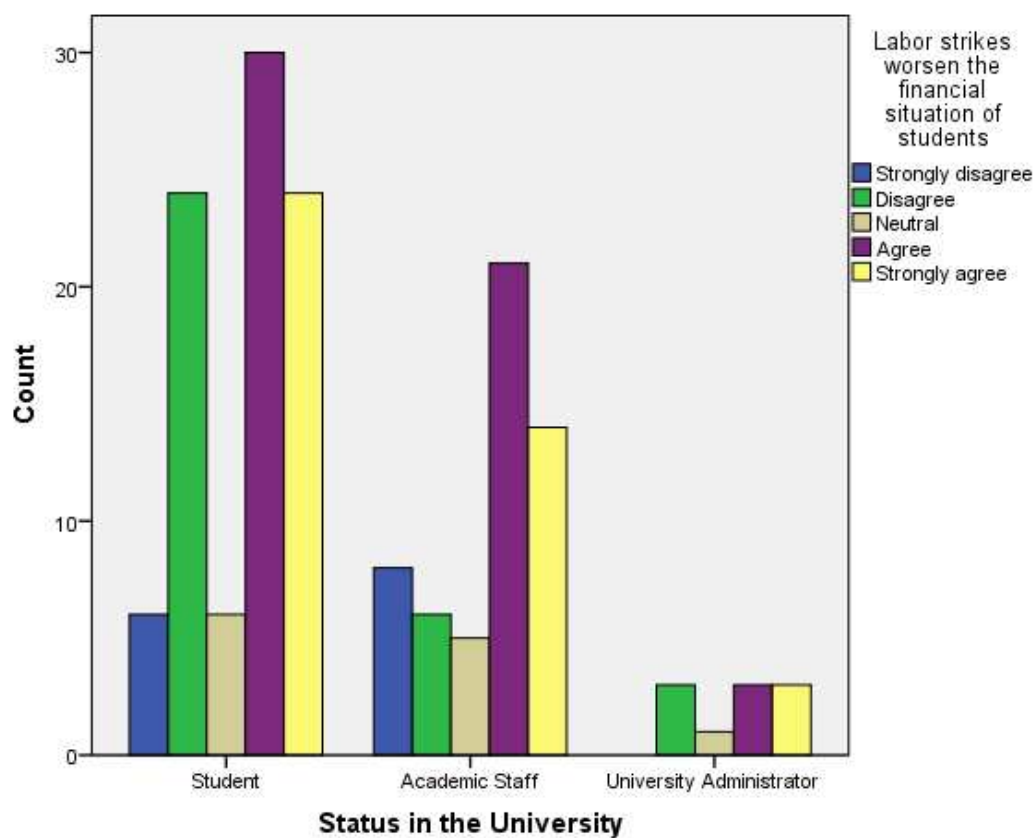


Figure 15. Labor Strikes and Financial Situation of Students in Classroom in Nigerian Universities by Respondent Status.

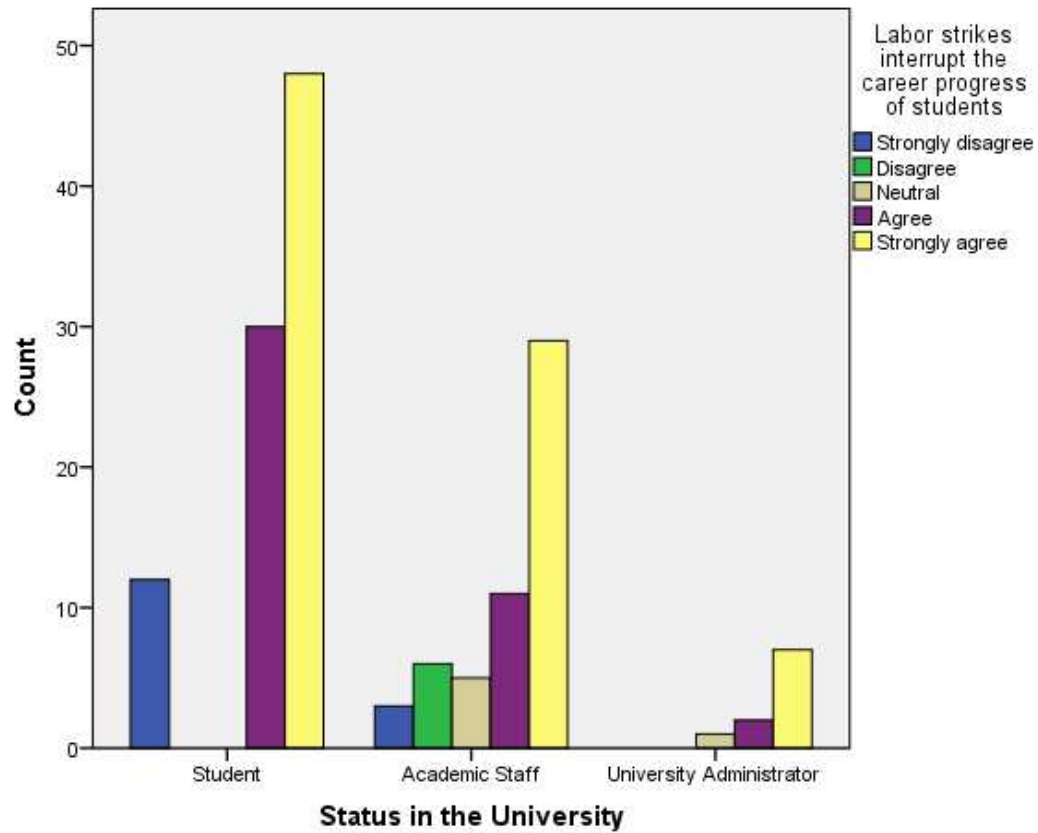


Figure 16. Labor Strikes and Career Progress of Students in Nigerian Universities by Respondent Status.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of the status of the respondents in the university on the fourteen dependent variables on the labor strikes and student learning and performance subscale. This was to evaluate whether there is significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities. The following statistical assumptions applied in conducting the analysis of variance: the observations within each sample were

independent and none of the scores in either of the categorical groups were related to each other; the populations from which the samples are selected were normal, that is, the dependent variables were normally distributed for each of the populations as defined by the different levels (groups) of the factor; and the populations from which the samples are selected must have equal variances, that is the variance must be homogenous (Green & Salkind, 2011). The results of the overall MANOVA are shown in Table 9. The multivariate test for homogeneity of dispersion matrices, Box's Test, evaluates whether the variances and covariance among the dependent variables are the same for all levels of the independent variable.

Significant differences were found in the perceptions of the three categorical groups on the dependent measures, Wilks's $\Lambda = 0.14$, $F(28, 276) = 16.09$, $p < 0.01$ (see Table 9). I therefore reject the null hypothesis that there are no significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on student learning and performance in Nigerian universities. The multivariate Partial Eta Squared η^2 (Effect size) based on Wilks's $\Lambda = 0.62$. The value of the effect sizes ranges from 0 to 1, 0 indicated no relationship between the factor (independent variables) and dependent variable; a value of 1 indicated the strongest possible relationship (Green & Salkind, 2011). The 0.62 indicated that 62% of multivariate variance of the dependent variables was associated with the group factor. The means and standard deviations on the dependent variables for the three groups are shown in Table 9.

Table 9

Results of the One-Way MANOVA conducted on the Relationship between Serial Labor Strikes and Student learning and Performance in Nigerian Universities

Multivariate Tests^a							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.979	454.914 ^b	14.000	138.000	.000	.979
	Wilks'	.021	454.914 ^b	14.000	138.000	.000	.979
	Lambda						
	Hotelling's Trace	46.151	454.914 ^b	14.000	138.000	.000	.979
	Roy's Largest Root	46.151	454.914 ^b	14.000	138.000	.000	.979
	Pillai's Trace	1.014	10.220	28.000	278.000	.000	.507
Question_01	Wilks'	.144	16.086 ^b	28.000	276.000	.000	.620
	Lambda						
	Hotelling's Trace	4.827	23.617	28.000	274.000	.000	.707
	Roy's Largest Root	4.587	45.543 ^c	14.000	139.000	.000	.821

a. Design: Intercept + Question_01
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Descriptive Statistics				
	Status in the University	Mean	Std. Deviation	N
Students make less progress in their academic plans as a result of labor strikes	Student	4.47	.502	90
	Academic Staff	4.46	1.023	54
	University Administrator	4.80	.422	10
	Total	4.49	.725	154

	Student	4.60	.614	90
Labor strikes				
destabilize students and	Academic Staff	3.98	1.157	54
decrease their eagerness	University	4.60	.516	10
to learn	Administrator			
	Total	4.38	.887	154
	Student	3.93	1.130	90
Learning environment	Academic Staff	4.13	.825	54
is less conducive during	University	4.20	.632	10
a labor strike	Administrator			
	Total	4.02	1.006	154
	Student	4.60	.493	90
Labor strikes have	Academic Staff	4.24	.799	54
strong and negative	University	4.70	.483	10
effects on student	Administrator			
learning	Total	4.48	.639	154
	Student	3.93	1.068	90
Labor strikes allow less	Academic Staff	3.91	.937	54
time for faculty to	University	4.40	.843	10
prepare and teach	Administrator			
	Total	3.95	1.012	154
	Student	3.87	1.093	90
Labor strikes reduce the	Academic Staff	3.70	1.327	54
level of student	University	4.50	.527	10
participation in the	Administrator			
classroom.	Total	3.85	1.165	154
	Student	4.73	.445	90
Labor strikes hinder the	Academic Staff	3.89	1.110	54
progress to the next	University	4.70	.483	10
level of a degree	Administrator			
program annually	Total	4.44	.847	154
	Student	4.73	.445	90
Labor strikes interfere	Academic Staff	4.44	1.022	54
with students' ability to	University	4.30	1.059	10
graduate at the same	Administrator			
time as their entering	Total	4.60	.753	154
cohort	Student	4.60	.493	90
Labor strikes affect				

negatively the	Academic Staff	4.17	.906	54
timeliness in the release	University	4.70	.483	10
of examination results	Administrator			
to students and	Total	4.45	.696	154
sponsors.	Student	4.20	.837	90
Students perform better	Academic Staff	4.24	1.045	54
when they have more	University	4.40	.699	10
class days	Administrator			
	Total	4.23	.904	154
Labor strikes	Student	4.33	.600	90
discourage foreign	Academic Staff	4.26	.994	54
students from seeking	University	4.70	.675	10
admission to Nigerian	Administrator			
universities	Total	4.33	.767	154
	Student	3.67	1.142	90
	Academic Staff	3.61	1.089	54
Labor strikes increase	University	4.20	1.033	10
cases of campus cultism	Administrator			
	Total	3.68	1.118	154
	Student	3.47	1.317	90
Labor strikes worsen	Academic Staff	3.50	1.384	54
the financial situation	University	3.60	1.265	10
of students	Administrator			
	Total	3.49	1.330	154
	Student	4.13	1.317	90
Labor strikes interrupt	Academic Staff	4.06	1.265	54
the career progress of	University	4.60	.699	10
students	Administrator			
	Total	4.14	1.268	154

**Box's Test of Equality
of Covariance
Matrices^a**

Box's M	1747.032
F	14.748
df1	105

df2	39802.938
Sig.	.000

Tests the null hypothesis
that the observed
covariance matrices of
the dependent variables
are equal across groups.

a. Design: Intercept +
Question_01

ANOVA on the dependent variables were conducted as follow-up tests to the MANOVA (see Table 10). Using a Bonferroni method, the significance level was set at 0.004. This was 0.05 divided by 14, the number of dependent variables (Green & Salkind, 2011). The ANOVAs were nonsignificant for all the dependent variables scores except the following variables which were significant ($p < 0.01$): labor strikes destabilize students and decrease their eagerness to learn, $p = 0.000$, effect size $\eta^2 = 0.11$; labor strikes have strong and negative effects on student learning, $p = 0.002$, effect size $\eta^2 = 0.08$; labor strikes hinder the progress to the next level of a degree program annually, $p = 0.00$, effect size $\eta^2 = 0.23$; and labor strikes affect negatively the timeliness in the release of examination results to students and sponsors, $p = 0.001$, effect size $\eta^2 = 0.09$ (see Table 10). The effect sizes were reported as Partial Eta Squared in Table 10.

Table 10

Results of Univariate ANOVAs on the Relationship between Serial Labor Strikes and Student Learning and Performance in Nigerian universities

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Students make less progress in their academic plans as a result of labor strikes	1.048 ^a	2	.524	.996	.372	.013
	Labor strikes destabilize students and decrease their eagerness to learn	13.415 ^b	2	6.707	9.467	.000	.111
	Learning environment is less conducive during a labor strike	1.649 ^c	2	.824	.812	.446	.011
	Labor strikes have strong and negative effects on student learning	4.871 ^d	2	2.436	6.388	.002	.078
	Labor strikes allow less time for faculty to prepare and teach	2.145 ^e	2	1.072	1.048	.353	.014
	Labor strikes reduce the level of student participation in the classroom.	5.406 ^f	2	2.703	2.019	.136	.026

Labor strikes hinder the progress to the next level of a degree program annually	24.817 ^g	2	12.409	22.035	.000	.226
Labor strikes interfere with students' ability to graduate at the same time as their entering cohort	3.804 ^h	2	1.902	3.459	.034	.044
Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.	6.982 ⁱ	2	3.491	7.844	.001	.094
Students perform better when they have more class days	.375 ^j	2	.188	.227	.797	.003
Labor strikes discourage foreign students from seeking admission to Nigerian universities	1.640 ^k	2	.820	1.400	.250	.018
Labor strikes increase cases of campus cultism	2.976 ^l	2	1.488	1.192	.306	.016

Intercept	Labor strikes worsen the financial situation of students	.174 ^m	2	.087	.049	.953	.001
	Labor strikes interrupt the career progress of students	2.503 ⁿ	2	1.252	.776	.462	.010
	Students make less progress in their academic plans as a result of labor strikes	1454.164	1	1454.164	2764.573	.000	.948
	Labor strikes destabilize students and decrease their eagerness to learn	1340.368	1	1340.368	1891.875	.000	.926
	Learning environment is less conducive during a labor strike	1160.076	1	1160.076	1142.727	.000	.883
	Labor strikes have strong and negative effects on student learning	1414.427	1	1414.427	3709.868	.000	.961
	Labor strikes allow less time for faculty to prepare and teach	1155.876	1	1155.876	1129.420	.000	.882

Labor strikes reduce the level of student participation in the classroom.	1123.924	1	1123.924	839.499	.000	.848
Labor strikes hinder the progress to the next level of a degree program annually	1369.144	1	1369.144	2431.290	.000	.942
Labor strikes interfere with students' ability to graduate at the same time as their entering cohort	1401.304	1	1401.304	2548.337	.000	.944
Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.	1398.994	1	1398.994	3143.573	.000	.954
Students perform better when they have more class days	1271.967	1	1271.967	1540.599	.000	.911
Labor strikes discourage foreign students from seeking admission to Nigerian universities	1363.060	1	1363.060	2326.453	.000	.939

	Labor strikes increase cases of campus cultism	1016.275	1	1016.275	814.386	.000	.844
	Labor strikes worsen the financial situation of students	861.334	1	861.334	481.175	.000	.761
	Labor strikes interrupt the career progress of students	1261.715	1	1261.715	781.991	.000	.838
	Students make less progress in their academic plans as a result of labor strikes	1.048	2	.524	.996	.372	.013
	Labor strikes destabilize students and decrease their eagerness to learn	13.415	2	6.707	9.467	.000	.111
Question_01	Learning environment is less conducive during a labor strike	1.649	2	.824	.812	.446	.011
	Labor strikes have strong and negative effects on student learning	4.871	2	2.436	6.388	.002	.078

Labor strikes allow less time for faculty to prepare and teach	2.145	2	1.072	1.048	.353	.014
Labor strikes reduce the level of student participation in the classroom.	5.406	2	2.703	2.019	.136	.026
Labor strikes hinder the progress to the next level of a degree program annually	24.817	2	12.409	22.035	.000	.226
Labor strikes interfere with students' ability to graduate at the same time as their entering cohort	3.804	2	1.902	3.459	.034	.044
Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.	6.982	2	3.491	7.844	.001	.094
Students perform better when they have more class days	.375	2	.188	.227	.797	.003

Error	Labor strikes discourage foreign students from seeking admission to Nigerian universities	1.640	2	.820	1.400	.250	.018
	Labor strikes increase cases of campus cultism	2.976	2	1.488	1.192	.306	.016
	Labor strikes worsen the financial situation of students	.174	2	.087	.049	.953	.001
	Labor strikes interrupt the career progress of students	2.503	2	1.252	.776	.462	.010
	Students make less progress in their academic plans as a result of labor strikes	79.426	151	.526			
	Labor strikes destabilize students and decrease their eagerness to learn	106.981	151	.708			
	Learning environment is less conducive during a labor strike	153.293	151	1.015			

Labor strikes have strong and negative effects on student learning	57.570	151	.381
Labor strikes allow less time for faculty to prepare and teach	154.537	151	1.023
Labor strikes reduce the level of student participation in the classroom.	202.159	151	1.339
Labor strikes hinder the progress to the next level of a degree program annually	85.033	151	.563
Labor strikes interfere with students' ability to graduate at the same time as their entering cohort	83.033	151	.550
Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.	67.200	151	.445

	Students perform better when they have more class days	124.670	151	.826
	Labor strikes discourage foreign students from seeking admission to Nigerian universities	88.470	151	.586
	Labor strikes increase cases of campus cultism	188.433	151	1.248
	Labor strikes worsen the financial situation of students	270.300	151	1.790
	Labor strikes interrupt the career progress of students	243.633	151	1.613
	Students make less progress in their academic plans as a result of labor strikes	3181.000	154	
Total	Labor strikes destabilize students and decrease their eagerness to learn	3079.000	154	

Learning environment is less conducive during a labor strike	2643.000	154
Labor strikes have strong and negative effects on student learning	3154.000	154
Labor strikes allow less time for faculty to prepare and teach	2565.000	154
Labor strikes reduce the level of student participation in the classroom.	2491.000	154
Labor strikes hinder the progress to the next level of a degree program annually	3139.000	154
Labor strikes interfere with students' ability to graduate at the same time as their entering cohort	3351.000	154

	Labor strikes	3130.000	154
	affect negatively the timeliness in the release of examination results to students and sponsors.		
	Students perform	2877.000	154
	better when they have more class days		
	Labor strikes	2979.000	154
	discourage foreign students from seeking admission to Nigerian universities		
	Labor strikes	2279.000	154
	increase cases of campus cultism		
	Labor strikes	2143.000	154
	worsen the financial situation of students		
	Labor strikes	2881.000	154
	interrupt the career progress of students		
	Students make	80.474	153
Corrected Total	less progress in their academic plans as a result of labor strikes		

Labor strikes destabilize students and decrease their eagerness to learn	120.396	153
Learning environment is less conducive during a labor strike	154.942	153
Labor strikes have strong and negative effects on student learning	62.442	153
Labor strikes allow less time for faculty to prepare and teach	156.682	153
Labor strikes reduce the level of student participation in the classroom.	207.565	153
Labor strikes hinder the progress to the next level of a degree program annually	109.851	153

Labor strikes interfere with students' ability to graduate at the same time as their entering cohort	86.838	153
Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.	74.182	153
Students perform better when they have more class days	125.045	153
Labor strikes discourage foreign students from seeking admission to Nigerian universities	90.110	153
Labor strikes increase cases of campus cultism	191.409	153
Labor strikes worsen the financial situation of students	270.474	153

Labor strikes interrupt the career progress of students	246.136	153
a. R Squared = .013 (Adjusted R Squared = .000)		
b. R Squared = .111 (Adjusted R Squared = .100)		
c. R Squared = .011 (Adjusted R Squared = -.002)		
d. R Squared = .078 (Adjusted R Squared = .066)		
e. R Squared = .014 (Adjusted R Squared = .001)		
f. R Squared = .026 (Adjusted R Squared = .013)		
g. R Squared = .226 (Adjusted R Squared = .216)		
h. R Squared = .044 (Adjusted R Squared = .031)		
i. R Squared = .094 (Adjusted R Squared = .082)		
j. R Squared = .003 (Adjusted R Squared = -.010)		
k. R Squared = .018 (Adjusted R Squared = .005)		
l. R Squared = .016 (Adjusted R Squared = .003)		
m. R Squared = .001 (Adjusted R Squared = -.013)		
n. R Squared = .010 (Adjusted R Squared = -.003)		

Post Hoc statistical tests that assume equal variances (Bonferroni) were also conducted to ascertain where the group differences are in the analyses. I also conducted another Post Hoc Test (Dunnett's C test) assuming the variances are unequal to control for Type 1 error across the multiple pairwise comparisons. Each pairwise comparison was tested at the alpha level for the ANOVA divided by the number of comparisons (0.004 divided by 3 or 0.001 level) and confidence interval 99.6%. The results of the Post Hoc Tests of the categorical groups in the study were showed in Table 11. The results indicated that the significant difference were between students and academic staff for: labor strikes destabilize students and decrease their eagerness to learn, $p = 0.000$, mean difference = 0.62; labor strikes have strong and negative effects on student learning, $p = 0.003$, mean difference = 0.36; labor strikes hinder the progress to the next level of a

degree program annually, $p = 0.00$, mean difference = 0.84; and labor strikes affect negatively the timeliness in the release of examination results to students and sponsors, $p = 0.001$, mean difference = 0.43 (see Table 11). The mean differences between students and university administrators and between university administrators and academic staff were not significant. The results were the same for the Dunnett's C method. The 99.6% confidence intervals for the pair-wise differences, as well as the Standard Error were shown in Table 11.

Table 11

The Results of the Post Hoc Statistics tests on the Relationship between Serial Labor Strikes and Students learning and Performance in Nigerian universities

Multiple Comparisons							
Dependent Variable	(I) Status in the University	(J) Status in the University	Mean Difference (I-J)	Std. Error	Sig.	99.6% Confidence Interval	
						Lower Bound	Upper Bound
Students make less progress in their academic plans as a result of labor strikes	Student	Academic Staff	.00	.125	1.000	-.40	.41
		University Administrator	-.33	.242	.510	-1.12	.46
	Academic Staff	Student	.00	.125	1.000	-.41	.40
		University Administrator	-.34	.250	.537	-1.15	.48
	University	Student	.33	.242	.510	-.46	1.12
		Academic Staff	.00	.125	1.000	-.40	.41

Labor strikes destabilize students and decrease their eagerness to learn	Dunnett C	Administrat or	Academic Staff	.34	.250	.537	-.48	1.15
			Academic Staff	.00	.149		-.50	.50
		Student	University Administrat or	-.33	.143		-.95	.28
			Student	.00	.149		-.50	.50
		Academic Staff	University Administrat or	-.34	.193		-1.09	.41
			Student	.33	.143		-.28	.95
		University Administrat or	Academic Staff	.34	.193		-.41	1.09
			Academic Staff	.62*	.145	.000	.14	1.09
		Student	University Administrat or	.00	.281	1.000	-.92	.92
			Student	-.62*	.145	.000	-1.09	-.14
Labor strikes destabilize students and decrease their eagerness to learn	Bonferro ni	Academic Staff	University Administrat or	-.62	.290	.103	-1.57	.33
			Student	.00	.281	1.000	-.92	.92
		University Administrat or	Academic Staff	.62	.290	.103	-.33	1.57
			Academic Staff	.62*	.170		.05	1.19
		Student	University Administrat or	.00	.176		-.76	.76
			Student	-.62*	.170		-1.19	-.05
		Academic Staff	University Administrat or	-.62	.227		-1.51	.27
			Student	.00	.176		-.76	.76
	Dunnett C		Student	-.62*	.170		-1.19	-.05
		Academic Staff	University Administrat or	-.62	.227		-1.51	.27
		University	Student	.00	.176		-.76	.76

Learning environment is less conducive during a labor strike	Bonferro ni	Administrat or	Academic Staff	.62	.227		-.27	1.51
			Academic Staff	-.20	.173	.779	-.76	.37
		Student	University Administrat or	-.27	.336	1.00 0	-1.36	.83
			Student	.20	.173	.779	-.37	.76
		Academic Staff	University Administrat or	-.07	.347	1.00 0	-1.20	1.06
			Student	.27	.336	1.00 0	-.83	1.36
	Dunnett C	University Administrat or	Academic Staff	.07	.347	1.00 0	-1.06	1.20
			Academic Staff	-.20	.164		-.74	.35
		Student	University Administrat or	-.27	.233		-1.23	.70
			Student	.20	.164		-.35	.74
		Academic Staff	University Administrat or	-.07	.229		-1.03	.89
			Student	.27	.233		-.70	1.23
Labor strikes have strong and negative effects on student learning	Bonferro ni	University Administrat or	Academic Staff	.07	.229		-.89	1.03
			Academic Staff	.36 [*]	.106	.003	.01	.71
		Student	University Administrat or	-.10	.206	1.00 0	-.77	.57
			Student	-.36 [*]	.106	.003	-.71	-.01
		Academic Staff	University Administrat or	-.46	.213	.097	-1.15	.24

Labor strikes allow less time for faculty to prepare and teach	Dunnett C	University Administrator	Student	.10	.206	1.000	-.57	.77
			Academic Staff	.46	.213	.097	-.24	1.15
			Academic Staff	.36	.121		-.04	.76
		Student	University Administrator	-.10	.161		-.80	.60
			Student	-.36	.121		-.76	.04
			Academic Staff	-.46	.188		-1.23	.31
	Bonferro ni	University Administrator	Student	.10	.161		-.60	.80
			Academic Staff	.46	.188		-.31	1.23
			Academic Staff	.03	.174	1.000	-.54	.60
		Student	University Administrator	-.47	.337	.505	-1.57	.64
			Student	-.03	.174	1.000	-.60	.54
			Academic Staff	-.49	.348	.478	-1.63	.65
	Dunnett C	University Administrator	Student	.47	.337	.505	-.64	1.57
			Academic Staff	.49	.348	.478	-.65	1.63
			Academic Staff	.03	.170		-.54	.59
		Student	University Administrator	-.47	.289		-1.71	.77
			Academic Staff					
			Academic Staff	-.03	.170		-.59	.54

Labor strikes reduce the level of student participation in the classroom.	Bonferro ni	Staff	University Administrat or	-.49	.296		-1.75	.77
		University Administrat or	Student Academic Staff	.47	.289		-.77	1.71
			Academic Staff	.49	.296		-.77	1.75
				.16	.199	1.00 0	-.49	.81
		Student	University Administrat or	-.63	.386	.308	-1.89	.63
			Student	-.16	.199	1.00 0	-.81	.49
		Academic Staff	University Administrat or	-.80	.398	.142	-2.10	.51
			Student	.63	.386	.308	-.63	1.89
		University Administrat or	Academic Staff	.80	.398	.142	-.51	2.10
			Academic Staff	.16	.214		-.55	.88
		Student	University Administrat or	-.63	.203		-1.46	.19
			Student	-.16	.214		-.88	.55
Labor strikes hinder the progress to the next level of a	Dunnett C	Academic Staff	University Administrat or	-.80	.246		-1.75	.16
			Student	.63	.203		-.19	1.46
		University Administrat or	Academic Staff	.80	.246		-.16	1.75
			Academic Staff	.84*	.129	.000	.42	1.27
		Student	University Administrat or	.03	.250	1.00 0	-.78	.85
		Academic	Student	-.84*	.129	.000	-1.27	-.42

degree program annually	Dunnett C	Staff	University Administrat or	-.81	.258	.006	-1.66	.03
		University Administrat or	Student	-.03	.250	1.00 0	-.85	.78
			Academic Staff	.81	.258	.006	-.03	1.66
			Academic Staff	.84*	.158		.31	1.38
		Student	University Administrat or	.03	.160		-.66	.73
			Student	-.84*	.158		-1.38	-.31
			Academic Staff	-.81	.215		-1.65	.03
		University Administrat or	Student	-.03	.160		-.73	.66
			Academic Staff	.81	.215		-.03	1.65
			Academic Staff	.29	.128	.075	-.13	.71
		Student	University Administrat or	.43	.247	.245	-.37	1.24
			Student	-.29	.128	.075	-.71	.13
			Academic Staff	.14	.255	1.00 0	-.69	.98
		University Administrat or	Student	-.43	.247	.245	-1.24	.37
			Academic Staff	-.14	.255	1.00 0	-.98	.69
			Academic Staff	.29	.147		-.20	.78
Labor strikes interfere with students' ability to graduate at the same time as their entering cohort	Dunnett C	Student	University Administrat or	.43	.338		-1.07	1.94
		Academic	Student	-.29	.147		-.78	.20

Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.	Bonferro ni	Staff	University Administrat or	.14	.363		-1.42	1.71
		University Administrat or	Student Academic Staff	-.43	.338		-1.94	1.07
			Academic Staff	.43*	.115	.001	.06	.81
		Student	University Administrat or	-.10	.222	1.00 0	-.83	.63
			Student	-.43*	.115	.001	-.81	-.06
		Academic Staff	University Administrat or	-.53	.230	.065	-1.28	.22
		University Administrat or	Student	.10	.222	1.00 0	-.63	.83
			Academic Staff	.53	.230	.065	-.22	1.28
			Academic Staff	.43	.134		-.02	.88
		Student	University Administrat or	-.10	.161		-.80	.60
			Student	-.43	.134		-.88	.02
		Academic Staff	University Administrat or	-.53	.196		-1.32	.26
		University Administrat or	Student	.10	.161		-.60	.80
			Academic Staff	.53	.196		-.26	1.32
Students perform better when they have more class	Bonferro ni		Academic Staff	-.04	.156	1.00 0	-.55	.47
		Student	University Administrat or	-.20	.303	1.00 0	-1.19	.79

days			Student	.04	.156	1.00	-.47	.55
		Academic	University	-.16	.313	1.00	-1.18	.86
		Staff	Administrat			0		
			or					
		University	Student	.20	.303	1.00	-.79	1.19
		Administrat				0		
		or	Academic	.16	.313	1.00	-.86	1.18
			Staff			0		
			Academic	-.04	.167		-.60	.52
			Staff					
		Student	University	-.20	.238		-1.23	.83
			Administrat					
			or					
	Dunnett		Student	.04	.167		-.52	.60
	C	Academic	University	-.16	.263		-1.25	.93
		Staff	Administrat					
			or					
		University	Student	.20	.238		-.83	1.23
		Administrat						
		or	Academic	.16	.263		-.93	1.25
			Staff					
			Academic	.07	.132	1.00	-.36	.50
			Staff			0		
		Student	University	-.37	.255	.458	-1.20	.47
			Administrat					
			or					
			Student	-.07	.132	1.00	-.50	.36
						0		
	Bonferro	Academic	University	-.44	.264	.289	-1.30	.42
	ni	Staff	Administrat					
			or					
		University	Student	.37	.255	.458	-.47	1.20
		Administrat						
		or	Academic	.44	.264	.289	-.42	1.30
			Staff					
	Dunnett	Student	Academic	.07	.149		-.43	.57
	C		Staff					

Labor strikes increase cases of campus cultism	Bonferro ni	Academic Staff	University Administrat	-.37	.223		-1.34	.61
			or Student	-.07	.149		-.57	.43
			University Administrat	-.44	.253		-1.49	.61
			or Student	.37	.223		-.61	1.34
		Student	Academic Staff	.44	.253		-.61	1.49
			Academic Staff	.06	.192	1.00	-.57	.68
			University Administrat	-.53	.372	.462	-1.75	.68
			or Student	-.06	.192	1.00	-.68	.57
	Dunnett C	Academic Staff	University Administrat	-.59	.385	.383	-1.85	.67
			or Student	.53	.372	.462	-.68	1.75
			Academic Staff	.59	.385	.383	-.67	1.85
			Academic Staff	.06	.191		-.58	.69
		Student	University Administrat	-.53	.348		-2.04	.97
			or Student	-.06	.191		-.69	.58
			University Administrat	-.59	.359		-2.12	.95
			or Student	.53	.348		-.97	2.04
Labor strikes	Bonferro ni	Student	Academic Staff	.59	.359		-.95	2.12
			Academic Staff	-.03	.230	1.00	-.79	.72

worsen the financial situation of students		University Administrat or	-.13	.446	1.00	-1.59	1.32
		Student	.03	.230	1.00	-.72	.79
	Academic Staff	University Administrat or	-.10	.461	1.00	-1.61	1.41
	University Administrat or	Student	.13	.446	1.00	-1.32	1.59
		Academic Staff	.10	.461	1.00	-1.41	1.61
		Academic Staff	-.03	.234		-.82	.75
	Student	University Administrat or	-.13	.423		-1.97	1.70
	Dunnett C	Student	.03	.234		-.75	.82
	Academic Staff	University Administrat or	-.10	.442		-1.99	1.79
	University Administrat or	Student	.13	.423		-1.70	1.97
		Academic Staff	.10	.442		-1.79	1.99
		Academic Staff	.08	.219	1.00	-.64	.79
	Student	University Administrat or	-.47	.423	.816	-1.85	.92
Labor strikes interrupt the career progress of students	Bonferro ni	Student	-.08	.219	1.00	-.79	.64
	Academic Staff	University Administrat or	-.54	.437	.645	-1.97	.89
	University Administrat or	Student	.47	.423	.816	-.92	1.85
		Academic Staff	.54	.437	.645	-.89	1.97

Dunnett C	Student	Academic Staff	.08	.221	-.66	.82
		University Administrat	-.47	.261	-1.55	.61
		or				
	Academic Staff	Student	-.08	.221	-.82	.66
		University Administrat	-.54	.280	-1.68	.59
		or				
	University Administrat	Student Academic	.47	.261	-.61	1.55
	or	Staff	.54	.280	-.59	1.68

Based on observed means.

The error term is Mean Square (Error) = 1.613.

*. The mean difference is significant at the .004 level.

Research Subquestion 2: Relationship between Serial Labor Strikes and Research Outputs

This question focused on the perceptions of serial labor strikes among university administrators, academic staff, and students on the research output of Nigerian universities? The question was tested with the null hypothesis that there is no significant difference in the perceptions of serial labor strikes among university administrators, academic staff, and students on the research output of Nigerian universities. The perceptions were measured based on the level of agreement or disagreement with the following statement: serial strikes decrease faculty publication of articles for reputable local and international journals, serial strikes decrease the time available for lecturers' research, serial strikes decrease faculty time working with students on research projects, serial strikes reduce the faculty access to recent literature, serial strikes decrease faculty

research grant opportunities and international academic prizes, serial strikes decrease collaborative/trans-disciplinary research at the university, and serial labor strikes negatively affect the quality of national manpower planning. Figures 17-23 showed detailed analyses of the perceptions of the roles of labor strikes on research outputs in Nigerian universities by status of respondents in the university. The statuses were categorized as student, academic staff, and university administrator.

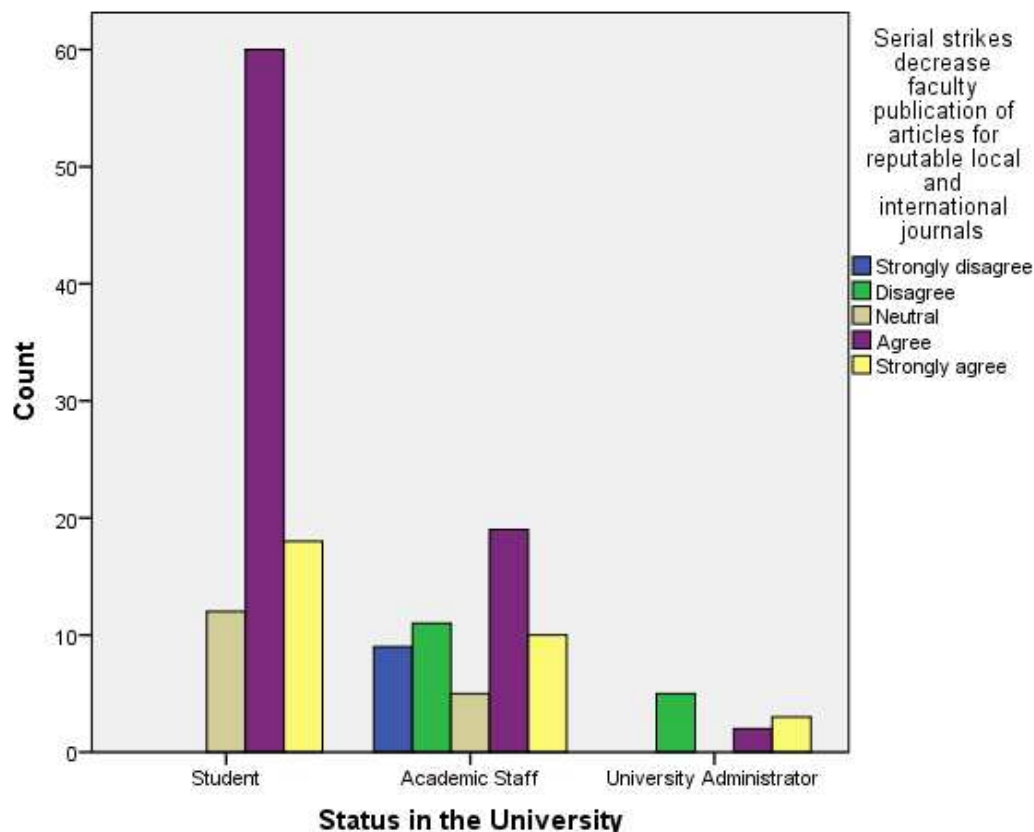


Figure 17. Labor Strikes and Faculty Publication of Articles for reputable Local and International Journals in Nigerian Universities by Respondent Status.

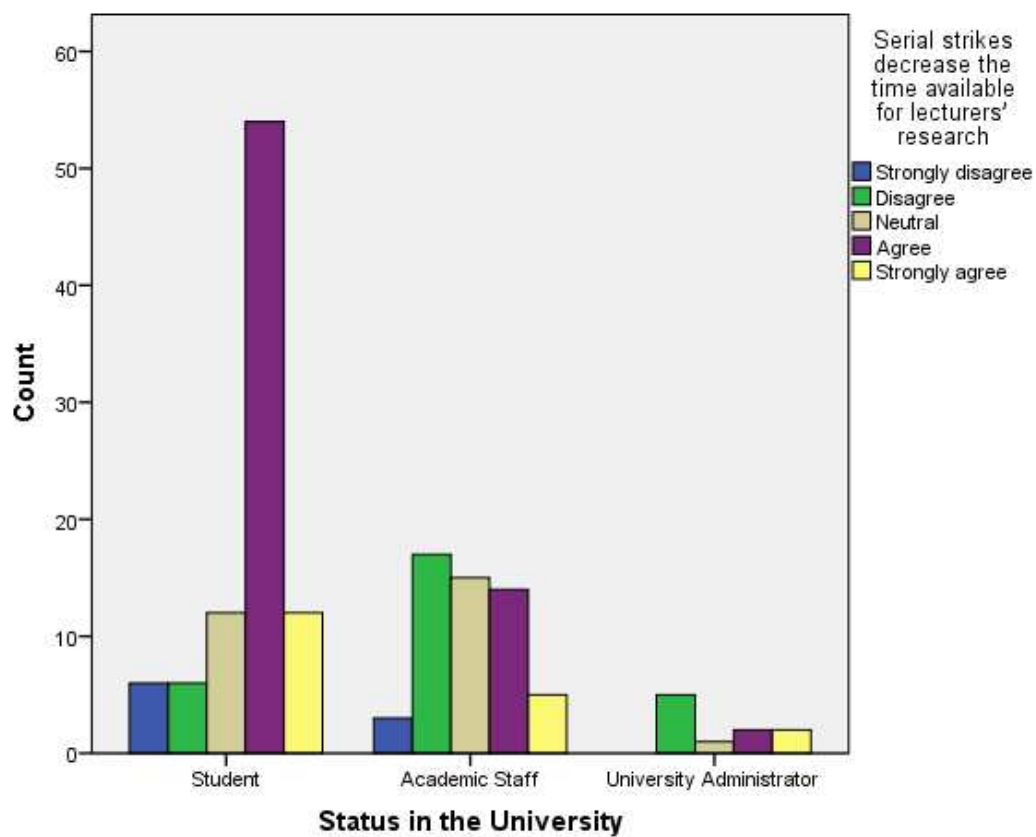


Figure 18. Labor Strikes and Time available for Lectures' Research in Nigerian Universities by Respondent Status.

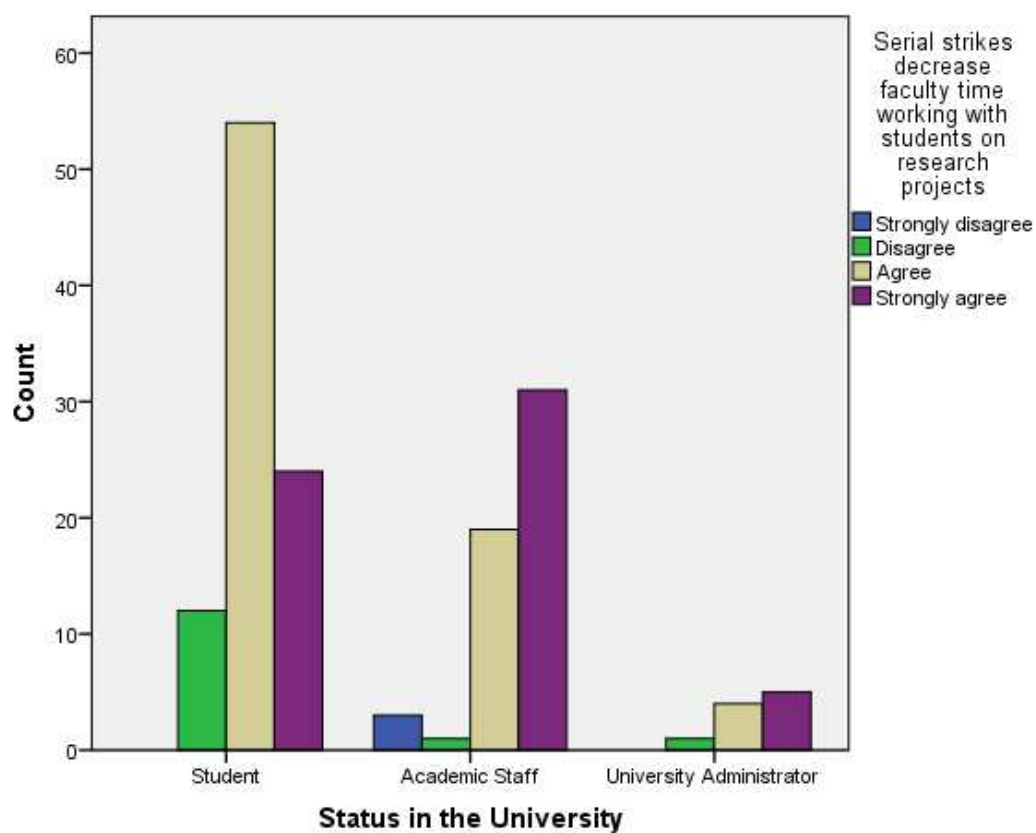


Figure 19. Labor Strikes and Time available for Faculty to work with Students on Research Projects in Nigerian Universities by Respondent Status.

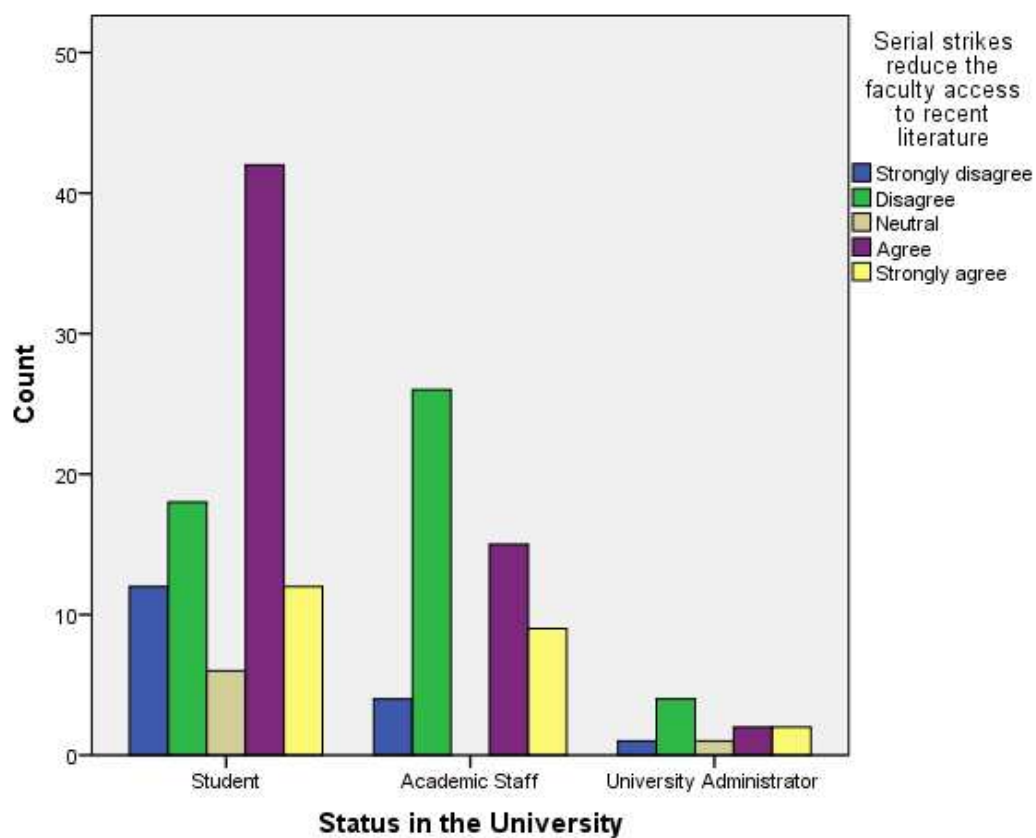


Figure 20. Labor Strikes and Faculty Access to recent Literature in Nigerian Universities by Respondent Status.

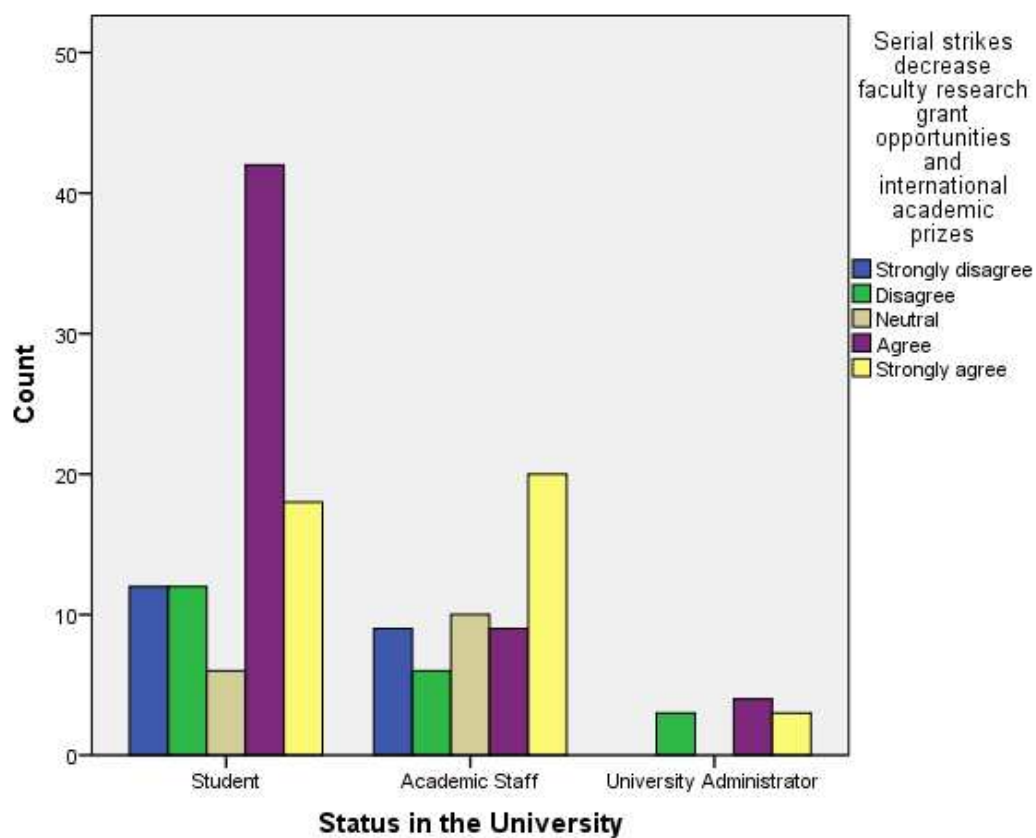


Figure 21. Labor Strikes and Faculty Research Grant Opportunities and International Academic Prizes in Nigerian Universities by Respondent Status.

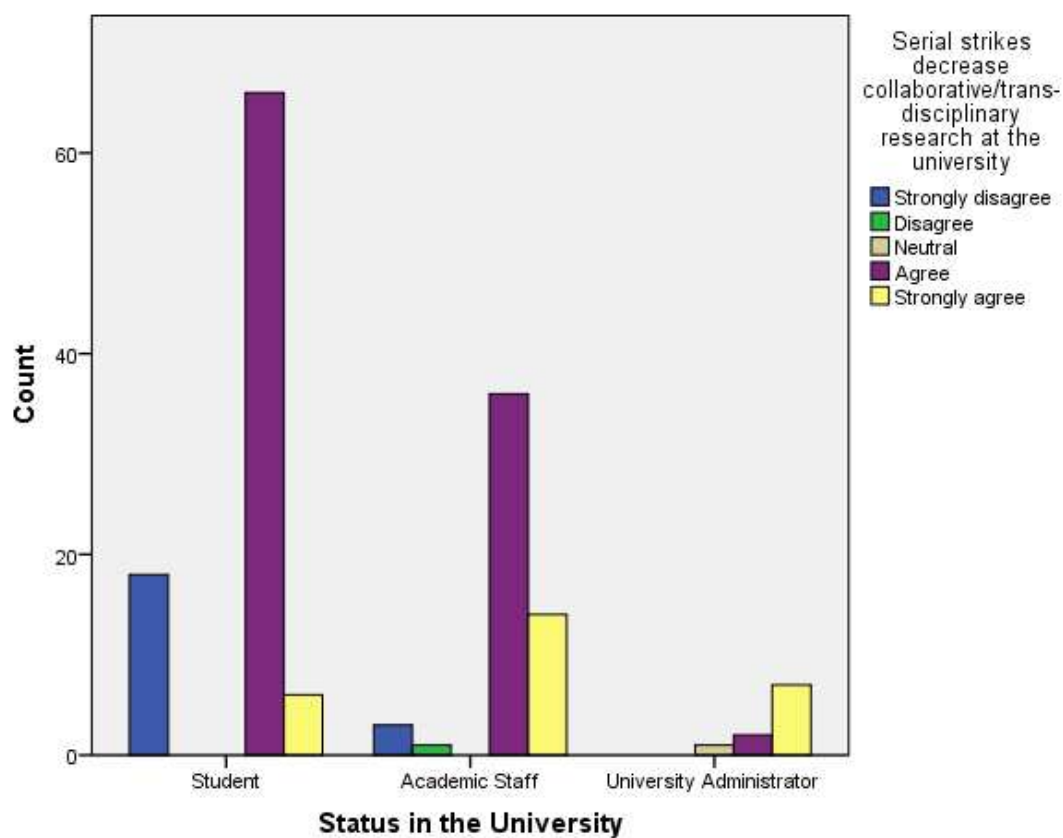


Figure 22. Labor Strikes and Collaborative/Tran-disciplinary Research in Nigerian Universities by Respondent Status.

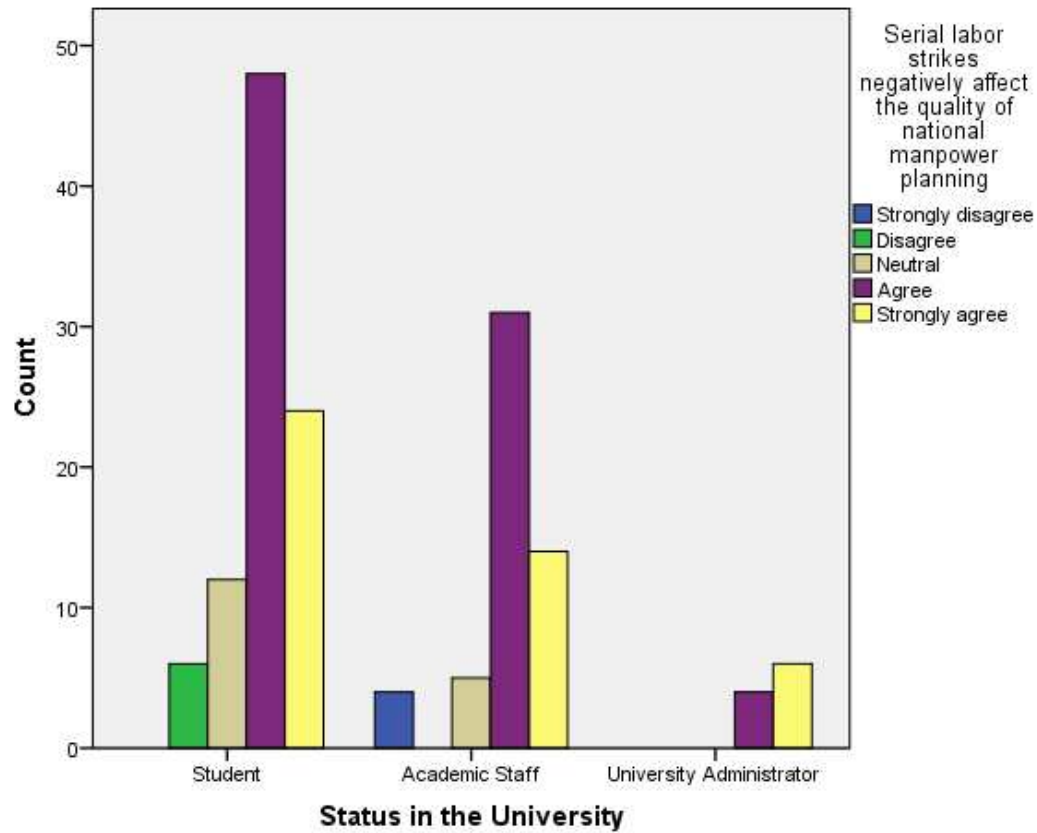


Figure 23. Labor Strikes and Quality of National Manpower Planning by Respondent Status.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of the status of the respondents in the university on the seven dependent variables on labor strikes and research outputs sub-scale. This was to evaluate whether there is significant difference in the perceptions of serial labor strikes among university administrators, lecturers and students on research outputs in Nigerian universities. The results of the overall MANOVA are shown in Table 12. The

multivariate test for homogeneity of dispersion matrices, Box's Test, evaluates whether the variances and covariance among the dependent variables are the same for all levels of the independent variable.

Significant differences were found in the perceptions of the three categorical groups on the dependent measures, Wilks's $\Lambda = 0.57$, $F(14, 290) = 6.67$, $p < 0.01$ (see Table 12). I therefore reject the null hypothesis that there are no significant difference in the perceptions of serial labor strikes among university administrators, academic staff and students on research outputs in Nigerian universities. The multivariate Partial Eta Squared η^2 (Effect size) based on Wilks's $\Lambda = 0.24$. The 0.24 indicated that 24% of multivariate variance of the dependent variables was associated with the group factor. The means and standard deviations on the dependent variables for the three groups are shown in Table 12.

Table 12

The Results of the One-Way MANOVA on the Relationship between Serial Labor Strikes Research Outputs in Nigerian universities

Multivariate Tests ^a							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.951	403.687 ^b	7.000	145.000	.000	.951
	Wilks'	.049	403.687 ^b	7.000	145.000	.000	.951
	Lambda						
	Hotelling's	19.488	403.687 ^b	7.000	145.000	.000	.951
	Trace						
	Roy's Largest Root	19.488	403.687 ^b	7.000	145.000	.000	.951

	Pillai's Trace	.455	6.151	14.000	292.000	.000	.228
	Wilks'	.572	6.668 ^b	14.000	290.000	.000	.244
	Lambda						
Question_01	Hotelling's	.699	7.189	14.000	288.000	.000	.259
	Trace						
	Roy's Largest	.621	12.949 ^c	7.000	146.000	.000	.383
	Root						

a. Design: Intercept + Question_01

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Descriptive Statistics				
	Status in the University	Mean	Std. Deviation	N
Serial strikes decrease faculty publication of articles for reputable local and international journals	Student	4.07	.577	90
	Academic Staff	3.19	1.402	54
	University	3.30	1.418	10
	Administrator			
	Total	3.71	1.084	154
	Student	3.67	1.017	90
Serial strikes decrease the time available for lecturers' research	Academic Staff	3.02	1.090	54
	University	3.10	1.287	10
	Administrator			
	Total	3.40	1.100	154
	Student	4.00	.899	90
Serial strikes decrease faculty time working with students on research projects	Academic Staff	4.37	1.015	54
	University	4.30	.949	10
	Administrator			
	Total	4.15	.955	154
	Student	3.27	1.296	90
Serial strikes reduce the faculty access to recent literature	Academic Staff	2.98	1.325	54
	University	3.00	1.414	10
	Administrator			
	Total	3.15	1.312	154
	Student	3.47	1.317	90
Serial strikes decrease faculty research grant	Academic Staff	3.46	1.501	54

opportunities and international academic prizes	University	3.70	1.252	10
	Administrator			
Serial strikes decrease collaborative/trans-disciplinary research at the university	Total	3.48	1.373	154
	Student	3.47	1.265	90
Serial labor strikes negatively affect the quality of national manpower planning	Academic Staff	4.06	.920	54
	University	4.60	.699	10
	Administrator			
	Total	3.75	1.175	154
	Student	4.00	.821	90
	Academic Staff	3.94	1.017	54
	University	4.60	.516	10
	Administrator			
	Total	4.02	.889	154

**Box's Test of
Equality of
Covariance
Matrices^a**

Box's M	392.744
F	5.649
df1	56
df2	1923.138
Sig.	.000

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept
+ Question_01

ANOVA on the dependent variables were conducted as follow-up tests to the

MANOVA (see Table 13). Using a Bonferroni method, the significance level was set at

0.007 (0.05 divided by 7, the number of dependent variables). The ANOVAs were nonsignificant for all the dependent variables scores except the following variables which were significant ($p < 0.01$): serial strikes decrease faculty publication of articles for reputable local and international journals, $F(2, 151) = 13.92$, $p = 0.000$, effect size $\eta^2 = 0.16$; serial strikes decrease the time available for lecturers' research, $F(2, 151) = 6.74$, $p = 0.002$, effect size $\eta^2 = 0.08$; and serial strikes decrease collaborative/trans-disciplinary research at the university, $F(2, 151) = 7.68$, $p = 0.001$, effect size $\eta^2 = 0.09$ (see Table 13).

Table 13

The Results of Univariate ANOVAs on the Relationship between Serial Labor Strikes Research Outputs in Nigerian universities

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Serial strikes decrease faculty publication of articles for reputable local and international journals	28.003 ^a	2	14.001	13.923	.000	.156
	Serial strikes decrease the time available for lecturers' research	15.157 ^b	2	7.579	6.736	.002	.082

Intercept	Serial strikes decrease faculty time working with students on research projects	4.872 ^c	2	2.436	2.731	.068	.035
	Serial strikes reduce the faculty access to recent literature	2.983 ^d	2	1.492	.864	.423	.011
	Serial strikes decrease faculty research grant opportunities and international academic prizes	.516 ^e	2	.258	.135	.874	.002
	Serial strikes decrease collaborative/trans-disciplinary research at the university	19.490 ^f	2	9.745	7.679	.001	.092
	Serial labor strikes negatively affect the quality of national manpower planning	3.708 ^g	2	1.854	2.388	.095	.031
	Serial strikes decrease faculty publication of articles for reputable local and international journals	858.921	1	858.921	854.123	.000	.850
	Serial strikes decrease the time available for lecturers' research	738.642	1	738.642	656.545	.000	.813

Question_01	Serial strikes decrease faculty time working with students on research projects	1238.438	1	1238.438	1388.378	.000	.902
	Serial strikes reduce the faculty access to recent literature	659.789	1	659.789	382.330	.000	.717
	Serial strikes decrease faculty research grant opportunities and international academic prizes	871.630	1	871.630	457.118	.000	.752
	Serial strikes decrease collaborative/trans- disciplinary research at the university	1133.601	1	1133.601	893.236	.000	.855
	Serial labor strikes negatively affect the quality of national manpower planning	1213.944	1	1213.944	1563.596	.000	.912
	Serial strikes decrease faculty publication of articles for reputable local and international journals	28.003	2	14.001	13.923	.000	.156
	Serial strikes decrease the time available for lecturers' research	15.157	2	7.579	6.736	.002	.082

Error	Serial strikes decrease faculty time working with students on research projects	4.872	2	2.436	2.731	.068	.035
	Serial strikes reduce the faculty access to recent literature	2.983	2	1.492	.864	.423	.011
	Serial strikes decrease faculty research grant opportunities and international academic prizes	.516	2	.258	.135	.874	.002
	Serial strikes decrease collaborative/trans- disciplinary research at the university	19.490	2	9.745	7.679	.001	.092
	Serial labor strikes negatively affect the quality of national manpower planning	3.708	2	1.854	2.388	.095	.031
	Serial strikes decrease faculty publication of articles for reputable local and international journals	151.848	151	1.006			
	Serial strikes decrease the time available for lecturers' research	169.881	151	1.125			

	Serial strikes	134.693	151	.892
	decrease faculty			
	time working with			
	students on			
	research projects			
	Serial strikes	260.581	151	1.726
	reduce the faculty			
	access to recent			
	literature			
	Serial strikes	287.926	151	1.907
	decrease faculty			
	research grant			
	opportunities and			
	international			
	academic prizes			
	Serial strikes	191.633	151	1.269
	decrease			
	collaborative/trans-			
	disciplinary			
	research at the			
	university			
	Serial labor strikes	117.233	151	.776
	negatively affect			
	the quality of			
	national manpower			
	planning			
	Serial strikes	2297.000	154	
	decrease faculty			
	publication of			
	articles for			
	reputable local and			
Total	international			
	journals			
	Serial strikes	1968.000	154	
	decrease the time			
	available for			
	lecturers' research			

Corrected Total	Serial strikes	2791.000	154
	decrease faculty		
	time working with		
	students on		
	research projects		
	Serial strikes	1791.000	154
	reduce the faculty		
	access to recent		
	literature		
	Serial strikes	2154.000	154
	decrease faculty		
	research grant		
	opportunities and		
	international		
	academic prizes		
	Serial strikes	2373.000	154
	decrease		
	collaborative/trans-		
	disciplinary		
	research at the		
	university		
	Serial labor strikes	2609.000	154
	negatively affect		
	the quality of		
	national manpower		
	planning		
	Serial strikes	179.851	153
	decrease faculty		
	publication of		
	articles for		
	reputable local and		
	international		
	journals		
	Serial strikes	185.039	153
	decrease the time		
	available for		
	lecturers' research		

Serial strikes decrease faculty time working with students on research projects	139.565	153
Serial strikes reduce the faculty access to recent literature	263.565	153
Serial strikes decrease faculty research grant opportunities and international academic prizes	288.442	153
Serial strikes decrease collaborative/trans- disciplinary research at the university	211.123	153
Serial labor strikes negatively affect the quality of national manpower planning	120.942	153

a. R Squared = .156 (Adjusted R Squared = .145)

b. R Squared = .082 (Adjusted R Squared = .070)

c. R Squared = .035 (Adjusted R Squared = .022)

d. R Squared = .011 (Adjusted R Squared = -.002)

e. R Squared = .002 (Adjusted R Squared = -.011)

f. R Squared = .092 (Adjusted R Squared = .080)

g. R Squared = .031 (Adjusted R Squared = .018)

Post Hoc statistical tests that assume equal variances (Bonferroni) were also conducted to ascertain where the group differences are in the analyses. I also conducted another Post Hoc Test (Dunnett's C test) assuming the variances are unequal to control for Type 1 error across the multiple pairwise comparisons. Each pairwise comparison was tested at the alpha level for the ANOVA divided by the number of comparisons (0.007 divided by 3 or 0.002 level) and confidence interval 99.3%. The results of the Post Hoc Tests of the categorical groups in the study were showed in Table 14. The results indicated that the significant differences were between students and academic staff for: serial strikes decrease faculty publication of articles for reputable local and international journals, $p = 0.000$, mean difference = 0.88; and serial strikes decrease the time available for lecturers' research, $p = 0.002$, mean difference = 0.65. The mean differences between students and university administrators and between university administrators and academic staff were not significant. For serial strikes decrease collaborative/trans-disciplinary research at the university, there were significant differences in the perceptions of academic staff and students, $p = 0.008$, mean difference = 0.59 and between students and university administrators, $p = 0.009$, mean difference = 1.13 (see Table 14). The mean difference between academic staff and university administrators was not significant for this variable. The results were the same for the Dunnett's C method. The 99.3% confidence intervals for the pair-wise differences, as well as the Standard Error were shown in Table 14.

Table 14

The Results of the Post Hoc Statistical tests on the Relationship between Serial Labor Strikes and Research Outputs in Nigerian Universities.

Multiple Comparisons							
Dependent Variable	(I) Status in the University	(J) Status in the University	Mean Difference (I-J)	Std. Error	Sig.	99.3% Confidence Interval	
						Lower Bound	Upper Bound
Serial strikes decrease faculty publication of articles for reputable local and international journals	Bonferroni	Academic Staff	.88 [*]	.173	.000	.35	1.42
		Student University Administrator	.77	.334	.070	-.27	1.80
		Student	-.88 [*]	.173	.000	-1.42	-.35
		Academic Staff	-.11	.345	1.000	-1.18	.95
		University Administrator			0		
		University Administrator	-.77	.334	.070	-1.80	.27
	Dunnett C	Academic Staff	.11	.345	1.000	-.95	1.18
		Academic Staff	.88 [*]	.200		.25	1.52
		Student University Administrator	.77	.453		-1.07	2.60
		Student	-.88 [*]	.200		-1.52	-.25
		Academic Staff	-.11	.487		-2.03	1.81
		University Administrator					
		University Administrator	-.77	.453		-2.60	1.07
		Academic Staff	.11	.487		-1.81	2.03

Serial strikes decrease the time available for lecturers' research	Bonferro ni	Student	Academic Staff	.65*	.183	.002	.08	1.21
			University Administrat or	.57	.354	.333	-.53	1.66
			Student	-.65*	.183	.002	-1.21	-.08
		Academic Staff	University Administrat or	-.08	.365	1.00	-1.21	1.05
			University Administrat or					
			Student	-.57	.354	.333	-1.66	.53
	Dunnett C	University Administrat or	Academic Staff	.08	.365	1.00	-1.05	1.21
			Academic Staff					
			Academic Staff	.65*	.183		.07	1.22
		Student	University Administrat or	.57	.421		-1.12	2.26
			Student					
			Student	-.65*	.183		-1.22	-.07
Serial strikes decrease faculty time working with students on research projects	Bonferro ni	Academic Staff	University Administrat or	-.08	.433		-1.80	1.64
			University Administrat or					
			Student	-.57	.421		-2.26	1.12
		University Administrat or	Academic Staff	.08	.433		-1.64	1.80
			Academic Staff					
			Academic Staff	-.37	.163	.072	-.87	.13
	Bonferro ni	Academic Staff	University Administrat or	-.30	.315	1.00	-1.27	.67
			University Administrat or					
			Student	.37	.163	.072	-.13	.87
		University Administrat or	Academic Staff	.07	.325	1.00	-.94	1.08
			University Administrat or					
			Academic Staff	-.07	.325	1.00	-1.08	.94

Serial strikes reduce the faculty access to recent literature	Dunnett C	Student	Academic Staff	-.37	.168		-.90	.16
			University Administrator	-.30	.315		-1.56	.96
			Student	.37	.168		-.16	.90
			University Administrator	.07	.330		-1.22	1.37
		University Administrator	Student	.30	.315		-.96	1.56
			Academic Staff	-.07	.330		-1.37	1.22
			Academic Staff	.29	.226	.628	-.42	.99
			Student	.27	.438	1.00 0	-1.09	1.62
	Bonferro ni	Academic Staff	Student	-.29	.226	.628	-.99	.42
			University Administrator	-.02	.452	1.00 0	-1.42	1.38
			Student	-.27	.438	1.00 0	-1.62	1.09
			Academic Staff	.02	.452	1.00 0	-1.38	1.42
		Student	Academic Staff	.29	.226		-.43	1.00
			University Administrator	.27	.468		-1.60	2.14
			Student	-.29	.226		-1.00	.43
			University Administrator	-.02	.482		-1.92	1.89
	Dunnett C	University Administrator	Student	-.27	.468		-2.14	1.60
			Academic Staff	.02	.482		-1.89	1.92

Serial strikes decrease faculty research grant opportunities and international academic prizes	Bonferro ni	Student	Academic Staff	.00	.238	1.00 0	-.73	.74
			University Administrat or	-.23	.460	1.00 0	-1.66	1.19
		Academic Staff	Student	.00	.238	1.00 0	-.74	.73
			University Administrat or	-.24	.475	1.00 0	-1.71	1.24
		University Administrat or	Student	.23	.460	1.00 0	-1.19	1.66
			Academic Staff	.24	.475	1.00 0	-1.24	1.71
	Dunnett C	Student	Academic Staff	.00	.247		-.77	.78
			University Administrat or	-.23	.419		-1.90	1.43
		Academic Staff	Student	.00	.247		-.78	.77
			University Administrat or	-.24	.445		-1.97	1.49
		University Administrat or	Student	.23	.419		-1.43	1.90
			Academic Staff	.24	.445		-1.49	1.97
Serial strikes decrease collaborative/trans-disciplinary research at the university	Bonferro ni	Student	Academic Staff	-.59	.194	.008	-1.19	.01
			University Administrat or	-1.13	.376	.009	-2.30	.03
		Academic Staff	Student	.59	.194	.008	-.01	1.19
			University Administrat or	-.54	.388	.487	-1.75	.66
		University	Student	1.13	.376	.009	-.03	2.30

Serial labor strikes negatively affect the quality of national manpower planning	Dunnett C	Administrator	Academic Staff	.54	.388	.487	-.66	1.75
			Academic Staff	-.59*	.183		-1.16	-.01
		Student	University Administrator	-1.13*	.258		-2.12	-.15
			Student	.59*	.183		.01	1.16
		Academic Staff	University Administrator	-.54	.254		-1.52	.44
			University Student	1.13*	.258		.15	2.12
		Administrator	Academic Staff	.54	.254		-.44	1.52
			Academic Staff	.06	.152	1.000	-.41	.53
		Student	University Administrator	-.60	.294	.128	-1.51	.31
			Student	-.06	.152	1.000	-.53	.41
	Bonferro ni	Academic Staff	University Administrator	-.66	.303	.097	-1.59	.28
			University Student	.60	.294	.128	-.31	1.51
		Administrator	Academic Staff	.66	.303	.097	-.28	1.59
			Academic Staff	.06	.163		-.46	.57
		Student	University Administrator	-.60	.185		-1.31	.11
			Student	-.06	.163		-.57	.46
		Academic Staff	University Administrator	-.66	.214		-1.45	.14
			University Student	.60	.185		-.11	1.31
	Dunnett C	Administrator	Student					
			Academic Staff					

	Administrat or	Academic Staff	.66	.214	-.14	1.45
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Based on observed means.

The error term is Mean Square (Error) = .776.

*. The mean difference is significant at the .007 level.

Serial Labor Strikes and Other Quality Indicators

This section focused on the perception of the respondents about the role of labor strikes on other quality indicators in Nigerian universities. This constituted the control dependent variables of the study. It examined their level of agreement or disagreement with the two statements that labor strikes are instruments for improving working conditions of university staff and labor strikes draw attention to faculty needs for teaching/research. Figure 24 and 25 showed detailed analyses of the perceptions of the roles of labor strikes on these indicators in Nigerian universities by status of respondents in the university.

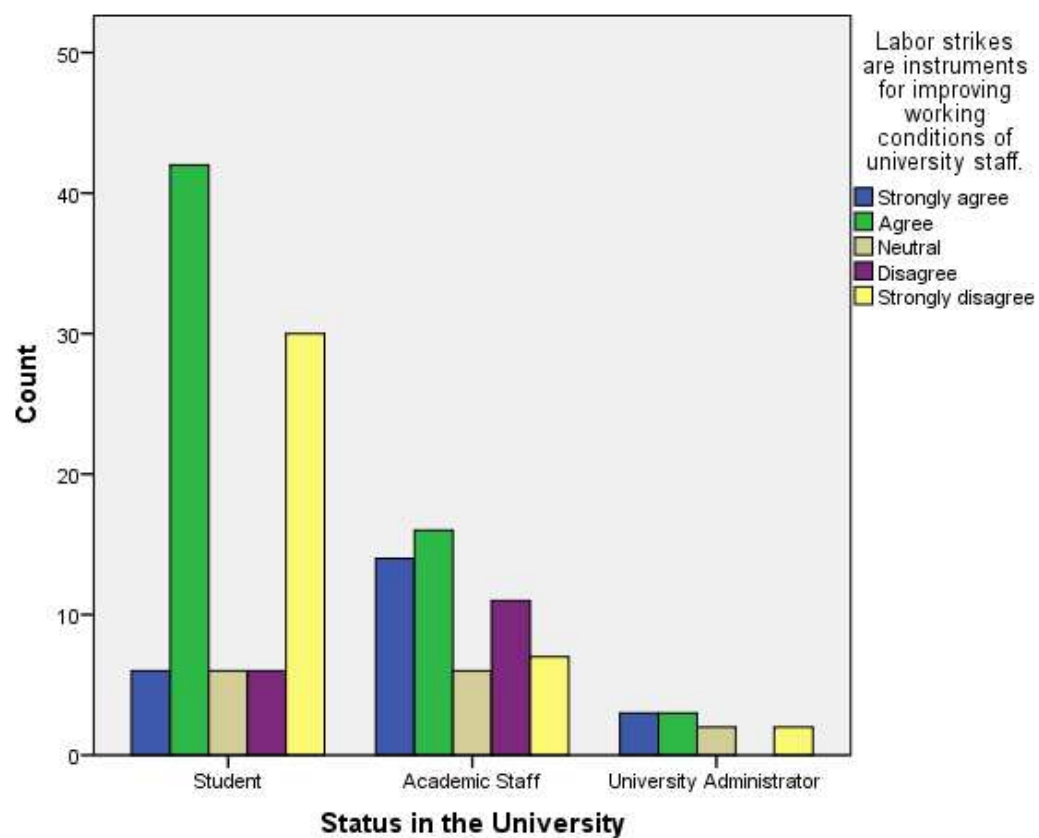


Figure 24. Labor Strikes as Instruments for improving Working Conditions of university staff in Nigerian Universities by Respondent Status.

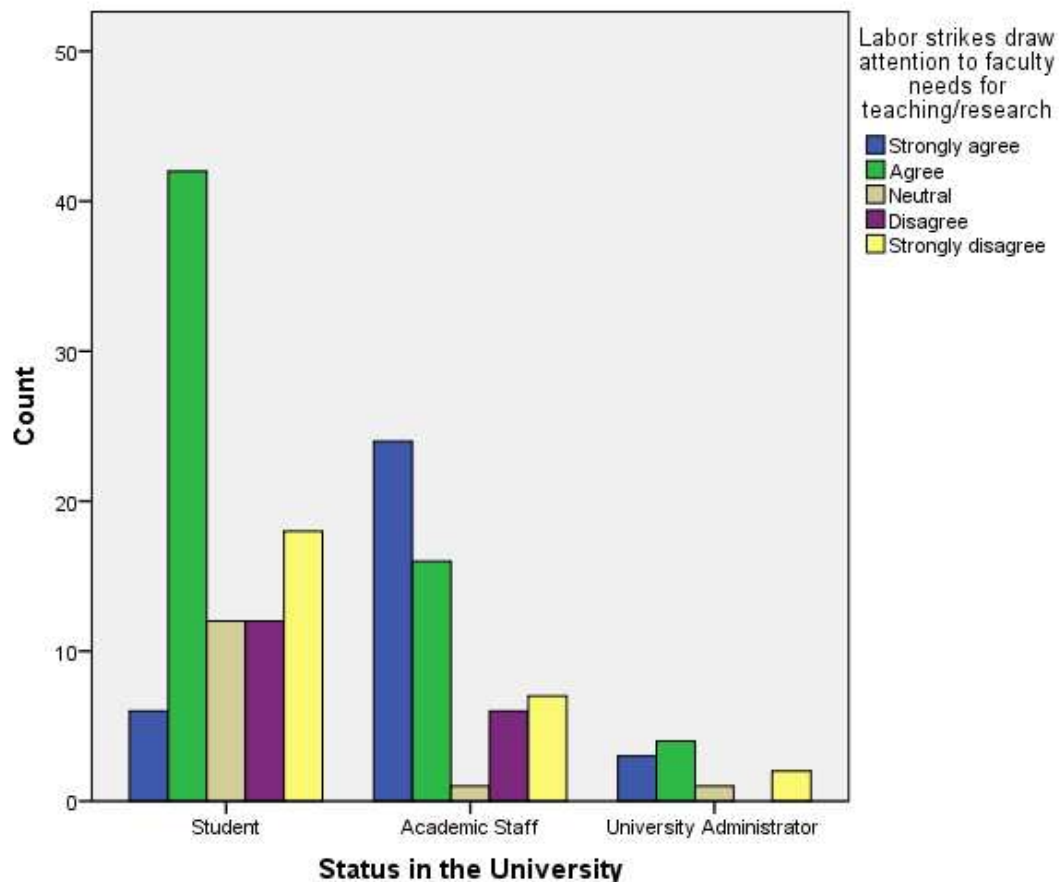


Figure 25. Labor Strikes as instrument for drawing attention to Faculty needs for Teaching and Research in Nigerian Universities by Respondent Status.

A one-way MANOVA was conducted to evaluate whether there is significant difference in the perceptions of serial labor strikes among university administrators, lecturers and students on the other quality indicators in Nigerian universities. The results of the overall MANOVA are shown in Table 15. The multivariate test for homogeneity of dispersion matrices, Box's Test, evaluates whether the variances and covariance among the dependent variables are the same for all levels of the independent variable.

Significant differences were also found in the perceptions of the three categorical groups on these control dependent variables measures, Wilks's $\Lambda = 0.92$, $F(4, 300) = 3.12$, $p = 0.015$ (see Table 15). The multivariate Partial Eta Squared η^2 (Effect size) based on Wilks's $\Lambda = 0.04$. The 0.04 indicated that 4% of multivariate variance of the dependent variables was associated with the group factor. The means and standard deviations on the dependent variables for the three groups are shown in Table 15.

Table 15

The Results of the One-Way MANOVA on the Relationship between Serial Labor Strikes and other Quality Indicators in Nigerian universities

		Multivariate Tests^a					
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.640	133.119 ^b	2.000	150.000	.000	.640
	Wilks'	.360	133.119 ^b	2.000	150.000	.000	.640
	Lambda						
	Hotelling's Trace	1.775	133.119 ^b	2.000	150.000	.000	.640
	Roy's Largest Root	1.775	133.119 ^b	2.000	150.000	.000	.640
Question_01	Pillai's Trace	.079	3.107	4.000	302.000	.016	.040
	Wilks'	.921	3.132 ^b	4.000	300.000	.015	.040
	Lambda						
	Hotelling's Trace	.085	3.156	4.000	298.000	.015	.041
	Roy's Largest Root	.078	5.886 ^c	2.000	151.000	.003	.072

a. Design: Intercept + Question_01

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Descriptive Statistics				
	Status in the University	Mean	Std. Deviation	N
Labor strikes are instruments for improving working conditions of university staff.	Student	3.13	1.463	90
	Academic Staff	2.65	1.403	54
	University Administrator	2.50	1.509	10
	Total	2.92	1.458	154
	Student	2.93	1.296	90
Labor strikes draw attention to faculty needs for teaching/research	Academic Staff	2.19	1.442	54
	University Administrator	2.40	1.506	10
	Total	2.64	1.399	154

ANOVA on the control dependent variables were conducted as follow-up tests to the MANOVA (see Table 16). Using a Bonferroni method, the significance level was set at 0.025 (0.05 divided by 2, the number of dependent variables). The ANOVA on the scores for labor strikes are instruments for improving working conditions of university staff was not significant, $F(2, 151) = 2.36, p = 0.098$, effect size $\eta^2 = 0.03$ while the ANOVA on the scores for labor strikes draw attention to faculty needs for teaching/research was significant, $F(2, 151) = 5.25, p = 0.006$, effect size $\eta^2 = 0.065$ (see Table 16).

Table 16

The Results of Univariate ANOVAs on the Relationship between Serial Labor Strikes and other Quality Indicators in Nigerian universities

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Labor strikes are instruments for improving working conditions of university staff.	9.850 ^a	2	4.925	2.359	.098	.030
	Labor strikes draw attention to faculty needs for teaching/research	19.488 ^b	2	9.744	5.252	.006	.065
	Labor strikes are instruments for improving working conditions of university staff.	529.068	1	529.068	253.444	.000	.627
Intercept	Labor strikes draw attention to faculty needs for teaching/research	436.074	1	436.074	235.044	.000	.609
	Labor strikes are instruments for improving working conditions of university staff.	9.850	2	4.925	2.359	.098	.030
	Labor strikes draw attention to faculty needs for teaching/research	19.488	2	9.744	5.252	.006	.065
Question_01	Labor strikes are instruments for improving working conditions of university staff.	315.215	151	2.088			
	Labor strikes draw attention to faculty needs for teaching/research	280.148	151	1.855			
	Labor strikes are instruments for improving working conditions of university staff.						
Error	Labor strikes draw attention to faculty needs for teaching/research						
	Labor strikes are instruments for improving working conditions of university staff.						
	Labor strikes draw attention to faculty needs for teaching/research						

Total	Labor strikes are instruments for improving working conditions of university staff.	1640.000	154
	Labor strikes draw attention to faculty needs for teaching/research	1370.000	154
Corrected Total	Labor strikes are instruments for improving working conditions of university staff.	325.065	153
	Labor strikes draw attention to faculty needs for teaching/research	299.636	153
<hr/>			
a. R Squared = .030 (Adjusted R Squared = .017)			
b. R Squared = .065 (Adjusted R Squared = .053)			

Post Hoc statistical tests that assume equal variances (Bonferroni) were also conducted to ascertain where the group differences were in the scores for labor strikes draw attention to faculty needs for teaching/research analysis. I also conducted another Post Hoc Test (Dunnett's C test) assuming the variances were unequal to control for Type 1 error across the multiple pairwise comparisons. Each pairwise comparison was tested at the alpha level for the ANOVA divided by the number of comparisons (0.025 divided by 3 or 0.008 level) and at confidence interval 97.5%. The results of the Post Hoc Tests of the categorical groups in the study were showed in Table 17. The results indicated that the significant difference was only between students and academic staff, $p = 0.005$, mean difference = 0.75. The results were the same for the Dunnett's C method. The 97.5%

confidence intervals for the pair-wise differences, as well as the Standard Error were shown in Table 17.

Table 17

The Results of the Post Hoc Statistical tests on the Relationship between Serial Labor Strikes and other Quality Indicators in Nigerian Universities.

Multiple Comparisons							
Dependent Variable	(I) Status in the University	(J) Status in the University	Mean Difference (I-J)	Std. Error	Sig.	97.5% Confidence Interval	
						Lower Bound	Upper Bound
Labor strikes are instruments for improving working conditions of university staff.	Bonferroni	Academic Staff	.49	.249	.159	-.18	1.15
		Student University Administrator	.63	.482	.571	-.65	1.92
		Student	-.49	.249	.159	-1.15	.18
		Academic Staff Administrator	.15	.497	1.000	-1.18	1.48
		University Administrator	-.63	.482	.571	-1.92	.65
		Academic Staff	-.15	.497	1.000	-1.48	1.18
	Dunnett C	Academic Staff	.49	.245		-.17	1.14
		Student University Administrator	.63	.502		-.96	2.23
		Student	-.49	.245		-1.14	.17
		Academic Staff Administrator	.15	.514		-1.48	1.77

Labor strikes draw attention to faculty needs for teaching/research	Bonferroni	University Administrator	Student Academic Staff	-.63	.502		-2.23	.96
			Academic Staff	-.15	.514		-1.77	1.48
			Academic Staff	.75*	.234	.005	.12	1.37
		Student	University Administrator	.53	.454	.726	-.68	1.75
			Student	-.75*	.234	.005	-1.37	-.12
		Academic Staff	University Administrator	-.21	.469	1.00	-1.47	1.04
	Dunnett C		Academic Staff				0	
		University Administrator	Student Academic Staff	-.53	.454	.726	-1.75	.68
			Academic Staff	.21	.469	1.00	-1.04	1.47
			Academic Staff	.75*	.239		.11	1.39
		Student	University Administrator	.53	.495		-1.05	2.11
			Student	-.75*	.239		-1.39	-.11
		Academic Staff	University Administrator	-.21	.515		-1.84	1.41
			Academic Staff					
		University Administrator	Student Academic Staff	-.53	.495		-2.11	1.05
			Academic Staff	.21	.515		-1.41	1.84
			Academic Staff					

Based on observed means.

The error term is Mean Square (Error) = 1.855.

*. The mean difference is significant at the .025 level.

Labor Strikes and the Quality of University Education in Nigeria

Quality of university education for this study was measured in term of students' performance and learning, and research outputs of the universities. As discussed above, there were significant differences in the perceptions among university administrators,

academic staff, and students on the relationship between serial labor strikes and students' learning/performances and research outputs in Nigerian universities. A one-way MANOVA was conducted by combining the entire dependent variables on both the students' learning/performances and research outputs sub-scales. The independent variable, which was the status of participants in the university, was categorized as student, academic staff, and university administrator.

As shown in Table 18, significant differences were also found in the perceptions of the three categorical groups on the dependent variables measures, Wilks's $\Lambda = 0.07$, $F(42, 262) = 17.84$, $p = 0.000$. The multivariate Partial Eta Squared η^2 (Effect size) based on Wilks's $\Lambda = 0.74$. The 0.74 indicated that 74% of multivariate variance of the dependent variables was associated with the group factor. Therefore, the study null hypothesis that there is no significant difference in the perception among university administrators, academic staff, and students on the effects of serial labor strikes on the quality of university education in Nigeria was rejected. The Univariate ANOVAs and Post hoc Statistical tests results were not different from those obtained for the relationship between serial labor strikes and students' learning/performances, and between serial labor strikes and research outputs.

Table 18

Results of One-Way MANOVA on the Relationship between Serial Labor Strikes and the Quality of University Education in Nigerian Universities

Multivariate Tests ^a						
Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared

Intercept	Pillai's Trace	.981	324.371 ^b	21.000	131.000	.000	.981
	Wilks'	.019	324.371 ^b	21.000	131.000	.000	.981
	Lambda						
	Hotelling's	51.998	324.371 ^b	21.000	131.000	.000	.981
	Trace						
	Roy's Largest	51.998	324.371 ^b	21.000	131.000	.000	.981
Question_01	Root						
	Pillai's Trace	1.372	13.740	42.000	264.000	.000	.686
	Wilks'	.067	17.843 ^b	42.000	262.000	.000	.741
	Lambda						
	Hotelling's	7.355	22.766	42.000	260.000	.000	.786
	Trace						
	Roy's Largest	6.319	39.719 ^c	21.000	132.000	.000	.863
	Root						

a. Design: Intercept + Question_01

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Summary

This chapter dealt with data collection instrument and procedure, pilot study, sample description, and levels of knowledge of participants to assess quality of a world-class university. The research findings were presented based on the research questions and hypotheses. The study suggested a basic research null hypothesis that there is no significant difference in the perceptions among university administrators, academic staff, and students on the effects of serial labor strikes on the quality of university education in Nigeria. This hypothesis was guided by two other hypotheses (H_01) there is no significant difference in the perceptions of serial labor strikes among university administrators, lecturers and students on student learning and performance in Nigerian universities; and, (H_02) there is no significant difference in the perceptions of serial labor strikes among

university administrators, lecturers and students on the research output of Nigerian universities.

Based on the one-way MANOVA statistical analyses, the findings showed significant means differences in the perceptions of serial labor strikes among university administrators, academic staff, and students on students' learning/performances and research outputs of Nigerian universities. Therefore, the two null hypotheses were rejected in favor of the alternative hypotheses at 99.6% and 99.3% confidence intervals for the relationship between serial labor strikes and student learning/performances and research outputs respectively.

In addition, based on one-way MANOVA statistical analysis, significant means difference was also found to be in the perceptions of labor strikes among the three categorical groups as instruments for improving working conditions of university staff, and for drawing attention to faculty needs for teaching/research in Nigerian universities.

In Chapter 5, I presented interpretation of the findings and limitations of the study. Recommendations for future studies and necessary action to be taken by stakeholders and policy makers in the Nigerian university system were also presented. Implications for positive social change and research conclusions are also discussed in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The previous chapter presented the results and findings based on research questions and hypotheses. This chapter summarizes the major findings based on the analysis of the study. Relevant implications for positive change, conclusions, and recommendations based on the findings are also addressed.

This research study examined the perceptions of the university administrators, academic staff, and students on the effects of serial labor strikes on the quality of university education in Nigeria. The literature review established the need for continued research on the quality of higher education in Nigeria, especially the quality of Nigerian universities. Several studies in Nigeria have been done on admission policies, collective bargaining process, quality of higher education and funding of the university system (Anugwom, 2002; Odebiyi & Aina, 1993; Okoroma, 2008; Oni, 2000; Ramon-Yusuf, 2003; Saint et al., 2003; Timilehin et al., 2010), but little research has been carried out on the perceptions of actors in the system on the effects of serial labor strikes on the quality of university education in Nigeria, hence the justification for this study. Quality of university education for this study was measured in term of students' performance and learning, and research outputs of the universities (Coates, 2005; Dill & Soo, 2005; Kuh, 2003). The following research questions derived from existing literature guided the research:

1. Is there a significant difference in the perceptions of serial labor strikes among university administrators, lecturers, and students on the quality of university education in Nigeria?
2. Is there a significant difference in the perceptions of serial labor strikes among university administrators, lecturers and students on student learning and performance in Nigerian universities?
3. Is there a significant difference in the perceptions of serial labor strikes among university administrators, lecturers and students on the research outputs of Nigerian universities?

One Nigerian university was selected for the research study as representative of all the universities in Nigeria based on the theory of proximal similarity (Campbell as cited in Trochim & Cook, 1992). Ex post facto design was used for the study (Tuckman (1999). Data was collected through self-administered questionnaires from three categorical groups from the selected university. These were the university administrators, academics staff, and students. Vice Chancellors, Deputy-Vice Chancellor, Deans, and Heads of Departments were classified as university administrators while Senior lecturers and Professors were regarded as academic staff (Okoroma, 2008). Selected final year undergraduate students represented the student population. This method explored the relationships and correlations that existed in the data from the different actors in the system. A total of 154 participants returned the completed questionnaires that consisted of three subscales, labor strikes and students' learning and performances, labor strikes and research outputs, and labor strikes and other quality indicators. As indicated in the

results, more than 70% were knowledgeable enough to assess the quality of a world-class university. Only 10 (6.5%) out of the 154 participants indicated that they were not very knowledgeable to assess the quality of a world-class university. The responses to the assessment question were therefore considered valid.

The theoretical framework of this study was rooted in Craig's model of industrial relations. The model was used to test whether the withinputs (goals, values, and power of the actors) and the outputs of the IRS which have shown to have an impact on the environmental inputs (economies, social, political, and legal) through feedback mechanisms affect their perceptions (Brown, 2003; Chaulk & Brown, 2008; Craig, 1975; Hammed, 1982). The actors in the Nigerian university system as an IR system have different perceptions of the effects of labor strikes (as a conversion mechanism and output of IR to achieve union goals) on the quality of university education in Nigeria as shown in this study. Studies have shown that strikes had a negative effect on workers' job satisfaction, work climate satisfaction, management satisfaction, organizational commitment, and union commitment (Chaulk & Brown, 2008). Research on labor strikes in the university environment supported its negative effects on academic activities in the university (Grayson as cited in Day et al., 2006; Greenglass et al., 2002; Murillo et al., 2002; Okuwa & Campbell, 2011; Wickens et al., 2006).

Discussions and Interpretation of Findings

Based on the collected data and analysis, there was a significant difference in the perceptions of serial labor strikes between university administrators, academic staff, and students on the quality of university education in Nigeria. Thus, the null hypothesis that

indicated a no significant difference in the perceptions of the categorical groups examined was rejected. In fact, all the three subscales in the analysis indicated significant differences in the perceptions of the three categorical groups as discussed below. In addition, the study validated and confirmed the effects of labor strikes on student learning and performances in higher institutions and also presented new insight into effects of labor strike on research output in Nigerian universities.

Labor Strikes and Students Learning and Performances

The research question in this section examined the relationship between labor strikes and students learning and performance. Participants responded to this question by indicating their level of agreement or disagreement with the following statements: students make less progress in their academic plans as a result of labor strikes; labor strikes destabilize students and decrease their eagerness to learn; learning environment is less conducive during a labor strike; labor strikes have strong and negative effects on student learning; labor strikes allow less time for faculty to prepare and teach; labor strikes reduce the level of student participation in the classroom; labor strikes hinder the progress to the next level of a degree program annually; labor strikes interfere with students' ability to graduate at the same time as their entering cohort; labor strikes affect negatively the timeliness in the release of examination results to students and sponsors; students perform better when they have more class days; labor strikes discourage foreign students from seeking admission to Nigerian universities; labor strikes increase cases of campus cultism; labor strikes worsen the financial situation of students; and labor strikes interrupt the career progress of students.

Based on the data collected and analysis, the results showed a significant mean difference in the perceptions of university administrators, academic staff, and students on the effects serial labor strikes on student learning and performance. Thus, the null hypothesis was rejected. Generally, the study showed that majority of the respondents perceive that labor strikes have negative effects on student learning and performance in Nigerian universities as shown in Table 5 and Figures 3-16. These findings were consistent with the finding of Murillo et al. (2002) that strikes, which are the means unions use to obtain their demands, have strong and negative effects on student learning. Further analysis indicated that the mean difference was significant between academic staff and students in four out of the 14 statements in the subscale. As showed in Figures 4, 6, 9, and 11, the level of agreement of students was higher than the level of agreement of academic staff on the statements that: labor strikes destabilize students and decrease their eagerness to learn; labor strikes have strong and negative effects on student learning; labor strikes hinder the progress to the next level of a degree program annually; and, labor strikes affect negatively the timeliness in the release of examination results to students and sponsors respectively.

The strong agreement of students with these negative effects of labor strikes on their learning and performance were consistent with the findings of Greenglass et al. (2002) that used hierarchical multiple regression to examine the stressful effects of a university faculty strike on students. Greenglass et al. found that the more unfairly students felt that they were treated during the strike and the more their plans had been affected by the strike, the greater were their negative feelings about the strike. Also, the

study findings were consistent with the studies of Day et al. (2006) and Wickens et al. (2006). Day et al. argued that students posit that increased disruptions in the academic work had decreased perceived control over their tasks and they experienced higher levels of stress. Wickens et al. posited that students were not satisfied with their academic program at the university due to a lecturers' strike. In their research on the relationship among students' emotions, attitudes, and coping ability, they argued that strike had worsened their financial situation, affected graduation, travel, employment, and interrupted their career progress (Wickens et al., 2006). The responses of all the participants (53.2% agreed and 31.8% strongly agreed) that the learning environment is less conducive during a labor strike was also consistent with the finding of Chaulk and Brown (2008) that strike had a negative impacts on work climate satisfaction. In addition, participants agreements with the negative effects of labor strike was also in consistent with the position of Okuwa and Campbell (2011) that students lost focus and lacked motivation for studies as a result of strike interruptions. They posited that education interruptions increased anti-social practices such as crime and unwanted pregnancy, and prevented students from being able to finish their degree in a timely manner (Okuwa & Campbell, 2011). There was less agreement about the negative effects of a labor strike on student learning and performance by academic staff (in contrast to students and university administrators), which may be due to academic staff perceptions that a strike is a human right and a legal means to obtain labor demands (United Nations, 1948; Worugji & Archibong, 2009). The responses of all the actors were consistent with the feedback loops of the Craig model. Students reported greater disruption in their learning and

performance due to labor strike than did academic staff and university administrators. It should be noted that this study may not be consistent with the conclusion of Schmidt and Berri (2004), which indicated that a strike may not necessarily have a direct impact on the consumers in term of costs, but it imposes a cost on the firm. Perceived costs may not necessarily align with actual costs; a gap that might be explored in future studies. This study indicated perceived consequences of strikes on students, students being the consumers in a university system.

Labor Strikes and Research Outputs in Nigerian Universities

Research has previously addressed some of the factors that affect research output in Nigerian universities (Akpochafo, 2009; Chudnovsky et al., 2008; Ogbogu, 2009; Okafor & Dike, 2010). Akpochafo (2009) attributed poor quality supervision of doctoral theses to the low research output in Nigeria universities. Chudnovsky et al. (2008) attributed low research output to the lack of adequate public funding of scientific research programs in developing countries. Okafor and Dike (2010) found that the lack of essential research resources and inadequate research environments have had a negative effect on the research output of Nigerian academics. Religious practices have also hindered the research output of female academics in Northern Nigerian universities (Ogbogu, 2009).

This section examined the relationship between labor strikes and research outputs of Nigerian universities. Participants responded to this question by indicating their level of agreement or disagreement with the following statements: serial strikes decrease faculty publication of articles for reputable local and international journals, serial strikes

decrease the time available for lecturers' research; serial strikes decrease faculty time working with students on research projects; serial strikes reduce the faculty access to recent literature; serial strikes decrease faculty research grant opportunities and international academic prizes; serial strikes decrease collaborative/trans-disciplinary research at the university; and serial labor strikes negatively affect the quality of national manpower planning. Based on the data collected and analysis the results revealed a significant mean difference in the perceptions of university administrators, academic staff, and students on the effects serial labor strikes on research outputs in Nigerian universities. Thus, the null hypothesis was rejected because there was significant means difference in the perceptions of the three groups. Although the study indicated diverse opinions, there were no significant mean differences in the perceptions of the three groups on four out of the seven items in the subscale. The study showed that the significant differences were between the perceptions of students and academic staff for the two statements that: (a) serial strikes decrease faculty publication of articles for reputable local and international journals, and (b) serial strikes decrease the time available for lecturers' research. The means differences between students and university administrators and between university administrators and academic staff were not significant.

For the question whether serial strikes decrease collaborative/trans-disciplinary research at the university, there were significant differences in the perceptions of academic staff and students, and between students and university administrators. The means difference between academic staff and university administrators were not

significant for this variable. Academic staff disagreed that labor strikes decrease faculty publication of articles for reputable local and international journals and that serial strikes decrease the time available for lecturers' research. Academic staff agreed that labor strikes decrease collaborative/trans-disciplinary research at the university. Participants responses to the statement that serial strikes decrease faculty time working with students on research projects (39.0% indicated that they strongly agreed and 50.0% of participants agreed) was consistent with Akpochafo (2009) who attributed poor quality supervision of doctoral theses to the low research output in Nigeria universities. In addition, this study suggests that labor strikes have effects on the time available for lecturers' research and decreases the available time faculty have working with students on research projects. Notably, findings showed that serial strikes are generally perceived to decrease collaborative/trans-disciplinary research at the university (17.5% indicated that they strongly agreed and 67.5% agreed), and negatively affect the quality of national manpower planning (28.6% indicated that they strongly agreed and 53.9% agreed). National manpower planning is very important for national economic development. Research has shown that importance of university research outcome and learning are imperative to national economic development (Pillay, 2010).

Serial Labor Strikes and Other Quality Indicators

This section examined the relationship between labor strikes and other quality indicators in Nigerian universities. Participants responded to this question by indicating their level of agreement or disagreement with the following statements: labor strikes are instruments for improving working conditions of university staff, and labor strikes draw

attention to faculty needs for teaching/research. These statements were the control variables used to address the internal validity of the study.

Based on the data collected and analysis, the results showed a nonsignificant means difference in the perceptions of university administrators, academic staff, and students on the effects serial labor strikes as instruments for improving working conditions of university staff. Although, the general opinion varies among the participants as shown in Figure 24, in contrast to the negative effects of labor strikes, greater percentage of the participants favored labor strike as instruments for improving working condition of staff. Across all respondents, 23 (14.9%) indicated that they strongly agreed that labor strikes are instruments for improving working conditions of university staff, 61 (39.6%) agreed, 14 (9.1%) were neither agreed nor disagreed, 17 (11.0%) disagreed, and 39 (25.3%) strongly disagreed. The means difference in the perceptions of university administrators, academic staff, and students were found to be significant on whether labor strikes draw attention to faculty needs for teaching/research. The perceptions of university administrators and academic staff were not significant, but that of students and academic staff were significant. As shown in Figure 25, more academic staff and university administrators strongly agreed that labor strikes draw attention to faculty needs for teaching and research in Nigerian universities. The results of this study that labor strike draw attention to faculty needs for teaching and research, and for improving working condition in Nigerian universities was consistent with the study of Isiaka (2001) and Worugji and Archibong (2009). In their separate studies, they

argued that strikes are a very important means of ensuring favorable employment conditions in Nigeria.

Limitations of the Study

The following limitations which may affect the validity and reliability of the research arose during the execution of this study.

1. In order to protect the respondent's anonymity, only questionnaires were used to elicit information from participants, and the actual respondents may not be representative of their category.

2. Parents, whom are important stakeholders in the Nigerian university system, were excluded from the study.

3. Only one university was sampled out of the 40 federal universities in Nigeria (using the theory of proximal similarity).

4. Only the Academic Staff Unions of Universities (ASUU) members were sampled as staff representatives. Excluding other staff members, such as support and custodial staff, limited the scope of this study.

Recommendations for Further Studies

Based on the above limitations of the present study, the following recommendations are proposed for future studies. First, the use of mixed methods approach in future studies may produce better results. According to Onwuegbuzie and Leech (2005), "because both approaches have inherent strengths and weaknesses, researchers should utilize the strengths of both techniques in order to understand better social phenomena" (p. 377). Data collected from the questionnaires are close-ended and

may equally tend to be superficial; combining this method with open-ended interviews to collect detailed views from participants at the research site may likely produce different results.

Second, future studies on this topic should include parents of students in the universities. Parents share with the staff and university authority a common goal of training the students for as responsible citizens and for national building. Comparing their perceptions with university administrators or staff may produce different results for policy makers and government agencies.

Third, future studies could benefit research that involves more than one university. Including one university each from the six geopolitical zones in the country may yield different and better results. Studies that compare how labor strikes affect the quality of a federal, state or private owned university in Nigeria may equally contribute to knowledge in this field.

Finally, it is recommended that future studies should include other union members as part of staff in the universities. These unions were the SSSANU, which represents senior managerial and administrative staff, the NASU, which represents the junior non-teaching staff, and the NAAT. The perceptions of these stakeholder groups may logically have contributed to the general perceptions of the quality of the university system.

Recommendations for Practice

The study has showed that labor strikes have a strong and negative effect on perceptions about student learning and performance, and about research output in Nigerian universities. In contrast, the study also indicated that labor strikes draw attention to faculty needs for teaching and research, and for improved working conditions in the university system. Unionization is inevitable in any industrial organization such as the Nigerian university system. Past research indicated that there was a need for trade unions in the workplace to protect wages and working conditions (Isiaka, 2001; Turner & D'art, 2011); implementation of the following recommendations may lead to greater industrial harmony and consequently lead to improve quality of university education in Nigeria.

Adoption of Industrial Relations Best Practices

For the National Universities Commission to discharge its responsibility efficiently and effectively, the atmosphere in the system should be peaceful and conducive for learning, research and community service. As noted in this study and as posited by past researchers, there is a need for strong trade unions in the workplace to protect wages and working conditions (Isiaka, 2001; Turner & D'art, 2011). The university community is made up of teaching and nonteaching staff, represented by their respective unions. These unions are supposed to be working harmoniously with university management in repositioning the system to attain the objectives for which the institutions were established. Unfortunately, this has not been the situation as the unions, at various times, engaged in industrial disputes with their respective university authorities and/or the federal government over issues that should have been discussed and resolved

amicably. These still happened in spite of the pivotal role played by the NUC, as the regulatory agency, in ensuring hitch-free collective bargaining between the federal government and the university-based unions. It is therefore recommended that the NUC should adopt best practices in the delivery of its mandate with respect to industrial relations matters. Research has shown that strike incidence is higher where two or more unions bargain with an employer than where only one union does (Akkerman, 2008). The four trade unions in the universities should be merged as a collective bargaining unit for proper negotiation with the employer, the government either state or federal as the case may be. When bargaining with multiple unions, unions compete with each other by bidding up bargaining demand (Akkerman, 2008). Although “solidarity and group cohesion are strong determinants of strike duration,” it is also recommended that the collective bargaining process should be at individual university level (Campolieti et al., 2005). The representatives of all the unions as one entity should collectively bargain with the governing council of the university. Small bargaining units were less likely to strike than were larger units (Campolieti et al., 2005).

Effective Communication between University Staff and their Employers

As argued by Wickens (2008), “increases in academic unionization will likely also translate into an increase in labor militancy, including strike action” (p. 560), the NUC administration should advocate any initiative that would improve communication between the unions and their various university governing councils. Such as joint consultations, organizing conferences on collective bargaining process, industrial relations best practices, collaborative funding of the universities, and effects of labor

strikes on the quality of their universities. This approach would “allow faculty to feel that they have some element of influence or control over their working environment and thereby alleviate labor tensions and reduce the likelihood of a strike” (Wickens, 2008, p. 560).

Increase Funding of the Universities

With effective and functional Internet facilities in the universities, the problem associated with lack of adequate physical contact among the faculties for collaborative/trans-disciplinary research may be reduced. Therefore, increase funding especially in the area of information technology services will increase collaborative/trans-disciplinary research and thereby bring improvement to the research outputs of the universities. As recommended by Adeniyi and Taiwo (2011), cost sharing among students, government and other stakeholders as an effective strategy to deal with the problem of underfunding higher education institutions in Nigeria should be adopted in the Nigerian university system. This would reduce the problem of funding of the system, being one of the major causes of strike in the system.

Other recommendations that will establish a constructive relationship of working harmony in the advancement of labor-management peace include: an emphasis upon a problem-solving approach with a de-emphasis upon excessive legalism by union officials and employers; and an awareness of basic obligations to stakeholders, the public and society at large.

These recommendations are based on the findings of this study and supported by past literature, and as such intended to provide policy-makers, stakeholders, and

government agencies actions or guidelines that will reduce strike incidence and improve IR practices for an improved quality of university education in Nigeria.

Implications of the Study for Positive Social Change

In a democratic government, public policy is used to drive social change issues and connects disparate actors in complex power and resource relations and plays a pervasive, though often indirect, role in shaping society and imposes an ideal type of what a normal citizen should be (Wedel et al., 2005, p. 31). In contemporary time, government uses policy to limit the range of reasonable choices that one can make and to normalize particular kinds of action or behavior (p. 38). Education stakeholders in Nigeria have been complaining about the education interruptions occasioned by serial labor strikes over the last two decades, but the perceptions of the actors in the system on this issue were hardly discussed.

The findings of this study that investigated the perceptions of university administrators, lecturers, and students on the effects of serial labor strikes on the quality of university education in Nigeria have many implications for positive social change. The results showed that labor strikes appear to have strong and negative effects on student learning and performance, and decrease collaborative/trans-disciplinary research in Nigerian universities, presuming that perceptions match realities. These findings have provided a better understanding of the industrial conflict management in the Nigerian university system. The findings when shared with educational administrators, policy makers, and stakeholders in education may create greater awareness of the perceptual consequences of labor strikes on the university system. The study hopefully will add to

the voices urging government to invest more in education funding, and to be proactive in the regular adjustment of staff emoluments, and in providing adequate teaching and learning resources to reduce the risks and consequences of strikes. A crisis-free university environment and improvement in the ranking of Nigerian universities may make higher education in Nigeria more attractive. This will improve the employment prospect of graduates from the system and attract international students to Nigerian universities.

The implications for positive social change may also include a better understanding of the effects of non-implementation of collective bargaining agreements, which led to serial labor strikes in Nigerian universities, and thereby improve industrial harmony. Improving the IR practice in the Nigerian university system may not only improve the quality of governance in the university and academic freedom, but also contribute greatly to a positive social change in industrial relations in Nigeria. Results of the study will be disseminated to government officials and union members, which might contribute toward potential positive impacts of effective collective bargaining process in the Nigeria university system. The results of this study may also encourage institutional self-evaluation and reflection. The study will hopefully provide needed information to students as well as to help inform universities and policy makers on areas needing improvement, and provides steps towards improvement of the quality of the Nigerian university system. It may also enable policy makers or university officials to predict performance in the wake of any future industrial disputes.

In an ever-more interconnected world, public policies, whether originating with governments, businesses, supranational entities, nongovernmental organizations, private

actors, or some combination of these, are increasingly central to the organization of society (Wedel, Shore, Feldman, & Lathrop, 2005, p. 31). Society can best advance its long-term goals by focusing only on its near-term needs, because a progression of good short-term choices provides an adequate path to a desirable long-term future (Lempert, Popper, Min, & Dewar, 2009). Education policies are aimed at a desirable long-term future. The outcomes of this study and implementations of recommendations for practice outlined above will encourage government to formulate policies that will create industrial harmony, improve communication, and create funding strategies of the Nigerian universities.

In addition, this research contributes to the knowledge about strikes and how their consequences are perceived and has lent support to the hypothesis that labor strikes have strong and negative effects on student learning (Murillo et al., 2002). The findings of this study also contribute to literature on public perceptions of unions (Boris, 2012; Turner & D'art, 2011). The results of this study equally appear to validate the Craig model of Industrial Relations. The withinputs (goals, values, and power of the actors) introduced in Craig model and the outputs of the IRS which have impacted the environmental inputs (economies, social, political, and legal) through feedback mechanism into the IRS affect the perceptions of the actors.

Conclusion

This study has shown that labor strikes cause a significant means difference in the perception among students, academic staff, and university administrators on the quality of university education in Nigeria. Based on the data collected, perceptions are that labor

strikes negatively affect students learning and performances, and decrease collaborative/trans-disciplinary research in Nigerian universities. In contrast, labor strikes draw attention to faculty needs for teaching and research, and for improving working condition in the universities.

The positive outcomes of labor strikes in terms of improving working conditions of staff in the universities could still have been achieved in a milieu of effective dialogues between the relevant stakeholders. Thus, strikes may instigate positive outcomes but may have adverse impacts that outweigh any benefits. Efficient and effective collective bargaining should be the framework within which unions and employers views of the disputed matters that led to strike, with the aim of eliminating the causes of conflict. In this sense, effective dialogue and collective bargaining are still among the greatest social inventions that lay at the core of institutionalized industrial conflict.

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Appendix A: Review of Strikes in Nigerian universities 2000-2010

Year	Reason for the Strike action	Duration
2000	ASUU strike to compel government to resume negotiation on basic salaries, university funding, and autonomy.	4 Months
2001	ASUU strike over stalemate in the negotiation and agreement signed on June 30, 2001.	3 Months
2002	ASUU strike over perceived non-implementation of the 2001 agreements.	2 Weeks
2003	All the unions in the university system went on strike over the following issues: inadequate funding, on-implementation of agreement, disparity in salary, retirement age of professors, non-implementation of allowances.	3 Months
2004	Unions in Higher Institutions in Nigeria went on strike over the non-implementation of agreements and proper handling of the above issues.	6 Months
2005	Failure of federal government to re-negotiate with ASUU and non-implementation of the agreement reached between the union (ASUU) and the government for improved funding of the institutions.	3 Days warning strike

2006	To compel the federal government to re-negotiate the 2001 collective agreements.	2 Months
	Over non-implementation of collective bargaining agreements with the federal government.	3 Months
2007		
2008	Over improved salary scheme and reinstatement of 49 lecturers of University of Ilorin who were sacked in 2001 following a strike action.	2 Week warning strike
2009	Agitation for increment of lecturer salary by 140% and rising of retirement age of Professor from 65 to 70 years. Continued negligence, failure, and refusal of government to sign the agreement reached with the ASUU.	3 Months
2010	Over the non implementation of the agreement reached with the federal government on harmonized salary, teaching environment, and decay infrastructures	4 Months

Sources: Compiled by author from the National Universities Commission, Nigeria Monday Bulletins (2001-2011); Esenwa (2003)

Appendix B: Letter of Introduction to Conduct Research

Date

The Vice Chancellor
University of Ibadan
Ibadan
Oyo State

Dear Sir,

LETTER OF INTRODUCTION TO CONDUCT RESEARCH

My name is Thomas Olukayode Ige, a PhD student in the School of Public Policy and Administration at Walden University, Baltimore, MD, USA. I have a bachelor's degree in Meteorology and a master's degree in Industrial and Labor Relations. I am interested in pursuing my PhD dissertation on *the effects of serial labor strikes on the quality of university education in Nigeria in the perceptions of University Administrators, Lecturers, and Students*. I have employed both the convenience and the purposive sampling methods of the non-probability sample design to select University of Ibadan, the Nigeria premier university as the research site.

The potential benefit of this study may come in the form of providing awareness for policy makers on how to address the issue of labor strike in the universities, and provide an understanding of the management of the Industrial Relations (IR) practice in the Nigerian university system. Improving the IR practice in the Nigerian university system may not only improve the quality of governance in the university and academic freedom, but may also contribute greatly to a positive social change in the employment relations in Nigeria.

Vice Chancellor, Deputy-Vice Chancellors, Deans and Heads of Departments are classified as university administrators while senior lecturers are referred to as Lecturers. Final year undergraduate students would be conveniently selected from the students' population.

I will appreciate your assistance in this matter and any direction you might offer. The participants are free to choose whether or not to participate and can discontinue participation at any time. Information provided by the participants will be kept strictly confidential.

I would welcome a telephone call from you to discuss any questions you may have concerning this study and your role in identifying research participants. I can be reached at 08154760598 or by email at thomas.ige@waldenu.edu or exclukay@yahoo.com.

Sincerely,

Thomas O. Ige
Doctoral Candidate
Walden University
thomas.ige@waldenu.edu

Appendix C: Questionnaire

Effects of Labor Strikes on the Quality of University Education in Nigeria

(LASQUEN) Questionnaire

Dear Respondent,

You are invited to participate in a research study of the *Effects of Labor Strikes on the Quality of University Education in Nigeria*, study being conducted by Thomas Ige, a doctoral candidate in the School of Public Policy and Administration at Walden University, Baltimore, MD, United States of America. You were selected as a potential participant in this study because you may have experienced the effects of labor union strike actions in the period 2000-2010, and because of your knowledge and ability to assess the quality of a world-class university. Please read this form and ask any questions you may have before agreeing to be in the study.

The purpose of this research study is to examine the perceptions of university administrators, lecturers, and students on the effects of serial labor strikes on the quality of university education in Nigeria. Your reading of this document and agreement to participate in this study will comprise your informed consent. The questionnaire consists of a demographic questions section and three other sections, which will take a total of approximately 15-20 minutes to complete. You can complete this survey and return it directly to the Researcher or by mail using the self-addressed stamped envelope included in the packet.

Confidentiality and Anonymity: Any information you provide will be kept anonymous. In any sort of report that might be published, I will not include your name or anything

else that could identify you in the study reports. Data will be kept secure in a locked file for a period of at least 5 years.

Voluntary Nature of the Study: Your participation in this study is strictly voluntary. Your decision whether or not to participate will not affect your current or future relations with the university or the researcher. If you initially decide to participate, you can still stop or withdraw at any time while completing the questionnaire.

Risks and Benefits of being in the Study: There are no known risks associated with participating in this study, and there are no compensations for participating. The potential benefit of participating in this study may come in the form of providing awareness for policy makers on how to address the issue of labor strikes in Nigerian universities, and provide an understanding of the management of the Industrial Relations (IR) practice in the Nigerian university system. Improving the IR practice in the Nigerian University System may not only improve the quality of governance in the university and academic freedom, but may also contribute greatly to a positive social change in the employment relations in Nigeria. Participants are not obligated to complete any parts of the questionnaires with which they are not comfortable.

Contacts and Questions: The researcher conducting this study is Thomas Ige. He can be reached by email at thomas.ige@waldenu.edu or exclukay@yahoo.com. The Researcher's advisor is Professor Christopher Jones who can be reached by email at christopher.jones3@waldenu.edu. Walden University's approval number for this study is **03-18-13-0226213** and it expires on **March 17, 2014**. NHREC approval number is

NHREC/01/01/2007-18/03/2013 and it expires on **March 17, 2014**. If you have any concerns about your rights as a participant in this study you may contact irb@waldenu.edu (Walden University) and/or deskofficer@nhrec.net (Nigeria National Health Research Ethics Committee). Please keep this consent form for your records.

Statement of Consent: I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By returning a completed questionnaire, I understand that I am agreeing to the terms described above, and my signature is not being collected in order to protect my privacy.

Section 2: Demographic Questionnaire

Completion of the demographic questionnaire is significant for determining the influence of the respondents' status in the university on the results of this study. All of these records will remain confidential. Any reports that may be published will not include any identifying information of the participants in this study. Please check the appropriate line.

Status:

1. Student_____
2. Academic Staff_____
3. University Administrator_____

How do you rate your level of knowledge to assess the quality of a world-class university?

Not very knowledgeable	Fairly knowledgeable	Moderately knowledgeable	Knowledgeable	Very knowledgeable
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1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 3:

Labor Strikes and Students' Learning and Performances

The serial labor strikes in this questionnaire refer to the incessant strikes action by the Academic Staff Unions of Universities (ASUU) in the period 2000-2010.

Please indicate your level of agreement or disagreement with the following statements about the role of serial labor strikes on students learning and performance in Nigerian universities.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
(3) Labor strikes discourage students from collaborating with one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(4) Students make less progress in their academic plans as a result of labor strikes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(5) Students are less motivated to learn as a result of labor strikes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(6) Labor strikes destabilize students and decrease their eagerness to learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(7) Learning environment is less conducive during a labor strike.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(8) Labor strikes have strong and negative effects on student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(9) Labor strikes allow less time for faculty to prepare and teach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(10) Labor strikes reduce the level of student participation in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(11) Labor strikes hinder the progress to the next level of a degree program annually.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(12) Labor strikes interfere with students' ability to graduate at the same time as their entering cohort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(13) Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(14) Students perform better when they have more class days.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(15) Labor strikes discourage foreign students from seeking admission to Nigerian universities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(16) Labor strikes increase cases of campus cultism.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(17) Labor strikes worsen the financial situation of students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(18) Labor strikes interrupt the career progress of students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 4:

Serial Labor Strikes and Research Outputs

Please indicate your level of agreement or disagreement with the following statements about the role of serial labor strikes on the research output of Nigerian universities.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
(19) Serial strikes decrease research output from Nigerian universities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(20) Serial strikes decrease faculty publication of articles for reputable local and international journals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(21) Serial strikes decrease the time available for lecturers' research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(22) Serial strikes decrease faculty time working with students on research projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(23) Serial strikes reduce the faculty access to recent literature.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(24) Serial strikes decrease faculty research grant opportunities and international academic prizes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(25) Serial strikes decrease collaborative/trans-disciplinary research at the university.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(26) I am not satisfied with the research output of my university.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(27) Serial labor strikes negatively affect the quality of national manpower planning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5:

Serial Labor Strikes and Other Quality Indicators

Please indicate your level of agreement or disagreement with the following statements about the role of serial labor strikes as indicated in the statements.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	1	2	3	4	5
(28) Labor strikes are instruments for improving working conditions of university staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(29) Labor strikes are instruments for increasing education budgets and consequently improving education outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(30) Labor strikes draw attention to faculty needs for teaching/research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(31) Labor strikes improve governance conditions in universities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Revised Questionnaire

Effects of Labor Strikes on the Quality of University Education in Nigeria

(LASQUEN) Questionnaire

Dear Respondent,

You are invited to participate in a research study of the *Effects of Labor Strikes on the Quality of University Education in Nigeria*, study being conducted by Thomas Ige, a doctoral candidate in the School of Public Policy and Administration at Walden University, Baltimore, MD, United States of America. You were selected as a potential participant in this study because you may have experienced the effects of labor union strike actions in the period 2000-2010, and because of your knowledge and ability to assess the quality of a world-class university. Please read this form and ask any questions you may have before agreeing to be in the study.

The purpose of this research study is to examine the perceptions of university administrators, lecturers, and students on the effects of serial labor strikes on the quality of university education in Nigeria. Your reading of this document and agreement to participate in this study will comprise your informed consent. The questionnaire consists of a demographic questions section and three other sections, which will take a total of approximately 15-20 minutes to complete. You can complete this survey and return it directly to the Researcher or by mail using the self-addressed stamped envelope included in the packet.

Confidentiality and Anonymity: Any information you provide will be kept anonymous.

In any sort of report that might be published, I will not include your name or anything else that could identify you in the study reports. Data will be kept secure in a locked file for a period of at least 5 years.

Voluntary Nature of the Study: Your participation in this study is strictly voluntary.

Your decision whether or not to participate will not affect your current or future relations with the university or the researcher. If you initially decide to participate, you can still stop or withdraw at any time while completing the questionnaire.

Risks and Benefits of being in the Study: There are no known risks associated with participating in this study, and there are no compensations for participating. The potential benefit of participating in this study may come in the form of providing awareness for policy makers on how to address the issue of labor strikes in Nigerian universities, and provide an understanding of the management of the Industrial Relations (IR) practice in the Nigerian university system. Improving the IR practice in the Nigerian University System may not only improve the quality of governance in the university and academic freedom, but may also contribute greatly to a positive social change in the employment relations in Nigeria. Participants are not obligated to complete any parts of the questionnaires with which they are not comfortable.

Contacts and Questions: The researcher conducting this study is Thomas Ige. He can be reached by email at thomas.ige@waldenu.edu or exclukay@yahoo.com. The Researcher's advisor is Professor Christopher Jones who can be reached by email at christopher.jones3@waldenu.edu. Walden University's approval number for this study is

03-18-13-0226213 and it expires on **March 17, 2014**. NHREC approval number is **NHREC/01/01/2007-18/03/2013** and it expires on **March 17, 2014**. If you have any concerns about your rights as a participant in this study you may contact irb@waldenu.edu (Walden University) and/or deskofficer@nhrec.net (Nigeria National Health Research Ethics Committee). Please keep this consent form for your records.

Statement of Consent: I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By returning a completed questionnaire, I understand that I am agreeing to the terms described above, and my signature is not being collected in order to protect my privacy.

Section 2: Demographic Questionnaire

Completion of the demographic questionnaire is significant for determining the influence of the respondents' status in the university on the results of this study. All of these records will remain confidential. Any reports that may be published will not include any identifying information of the participants in this study. Please check the appropriate line.

Status:

1. Student_____
2. Academic Staff_____
3. University Administrator_____

How do you rate your level of knowledge to assess the quality of a world-class university?

Not very knowledgeable	Fairly knowledgeable	Moderately knowledgeable	Knowledgeable	Very knowledgeable
1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 3:

Labor Strikes and Students' Learning and Performances

The serial labor strikes in this questionnaire refer to the incessant strikes action by the Academic Staff Unions of Universities (ASUU) in the period 2000-2010.

Please indicate your level of agreement or disagreement with the following statements about the role of serial labor strikes on students learning and performance in Nigerian universities.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
(3) Students make less progress in their academic plans as a result of labor strikes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(4) Labor strikes destabilize students and decrease their eagerness to learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(5) Learning environment is less conducive during a labor strike.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(6) Labor strikes have strong and negative effects on student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(7) Labor strikes allow less time for faculty to prepare and teach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(8) Labor strikes reduce the level of student participation in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(9) Labor strikes hinder the progress to the next level of a degree program annually.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(10) Labor strikes interfere with students' ability to graduate at the same time as their entering cohort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(11) Labor strikes affect negatively the timeliness in the release of examination results to students and sponsors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(12) Students perform better when they have more class days.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(13) Labor strikes discourage foreign students from seeking admission to Nigerian universities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(14) Labor strikes increase cases of campus cultism.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(15) Labor strikes worsen the financial situation of students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(16) Labor strikes interrupt the career progress of students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 4:

Serial Labor Strikes and Research Outputs

Please indicate your level of agreement or disagreement with the following statements about the role of serial labor strikes on the research output of Nigerian universities.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
(17) Serial strikes decrease faculty publication of articles for reputable local and international journals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(18) Serial strikes decrease the time available for lecturers' research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(19) Serial strikes decrease faculty time working with students on research projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(20) Serial strikes reduce the faculty access to recent literature.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(21) Serial strikes decrease faculty research grant opportunities and international academic prizes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(22) Serial strikes decrease collaborative/trans-disciplinary research at the university.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(23) Serial labor strikes negatively affect the quality of national manpower planning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5:

Serial Labor Strikes and Other Quality Indicators

Please indicate your level of agreement or disagreement with the following statements about the role of serial labor strikes as indicated in the statements.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	1	2	3	4	5
(24) Labor strikes are instruments for improving working conditions of university staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(25) Labor strikes draw attention to faculty needs for teaching/research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix D: National Health Research Ethics Committee of Nigeria Approval


**National Health Research Ethics Committee
of Nigeria (NHREC)**

Promoting Highest Ethical and Scientific Standards
for Health Research in Nigeria



Federal Ministry of Health

NHREC Protocol Number NHREC/01/01/2007-16/03/2013

NHREC Approval Number NHREC/01/01/2007-18/03/2013

Date: March 21, 2013

Re: The Effects of Labor Strikes on the Quality of University Education in Nigeria

Health Research Ethics Committee (HREC) assigned number: NHREC/01/01/2007

Name of Student Investigator: Thomas O. Ige

Address: Walden University

thomas.ige@waldenu.edu; +23408154760598

Date of receipt of valid application: 16-03-2013

Date when final determination of research was made: 18-03-2013

Notice of Expedited Review and Approval

This is to inform you that the research described in the submitted protocol, questionnaires, the consent forms and other participant information materials have been reviewed and *given expedited committee approval by the National Health Research Ethics Committee.*

This approval dates from 18/03/2013 to 17/03/2014. If there is delay in starting the research, please inform the HREC so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study.* In multiyear research, endeavour to submit your annual report to the HREC early, in order to obtain renewal of your approval and avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the HREC. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visit your research site without previous notification.

Signed

Clement Adebamowo BMChB Hons (Jos), FWACS, FACS, DSc (Harvard)
Honorary Consultant Surgeon, Director, West African Center for Bioethics and
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Appendix E: Letter of Cooperation

UNIVERSITY OF IBADAN**IBADAN, NIGERIA****Research Management Office**

Central Administration Building
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 rmo-office@mail.ui.edu.ng
 Phone: +234(0)22910558
 +234(0)7043886129

25th March, 2013

Thomas O. Ige
 Doctoral Candidate
 Walden University

Dear Mr. Ige,

Thank you for forwarding the NHREC expedited approval of the study titled "*The Effects of Serial Labor Strikes on the Quality of University Education in Nigeria*". I write to inform that you have the permission to commence data collection among the selected participants in the Faculty of the Social Sciences. Kindly note that the participation of the respondents will be entirely voluntary and at their own discretion. Further, Please be reminded that the data collected shall remain entirely confidential -and not se accessible to anyone outside of the research team without permission from the National Health Research Ethics Committee (NHREC) and the Research Management Office (RMO).

Yours Sincerely,

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 Dr. Eme T Owoaje
 Director, RMO

Our Vision

To be a world-class institution for academic excellence geared towards meeting societal needs

Our Mission

To expand the frontiers of knowledge through provision of excellent conditions for learning and research
 To produce graduates who are worthy in character and sound judgement.
 To contribute to the transformation of society through creativity and innovation
 To serve as a dynamic custodian of society's salutary values and thus sustain its integrity

Curriculum Vitae

THOMAS OLUKAYODE IGE

exclukay@yahoo.com

EDUCATION

- **Walden University, School of Public Policy and Administration- Minnesota, MN**

Ph.D. in Public Policy and Administration October, 2013

Concentration: Public Management and Leadership

- **University of Ibadan, Faculty of Social Sciences -Ibadan, Nigeria.**

Master of Industrial and Labor Relations (MILR) August 1998

- **Sencam Computers, UI, Ibadan, Nigeria**

Certificate in Computer Applications and Techniques May, 1995

- **Federal University of Technology, School of Sciences -Akure, Nigeria.**

Bachelor of Technology (Hons.) Meteorology August 1990

PROFESSIONAL QUALITIES AND STRENGTHS

Change Management	Strategic Business Planning	Policy analysis
Visionary Leadership	Staff training	Data/Reporting Analyst
Articulate communicator	Team Building	Proposal writing
Unions' negotiation	Technical Support	Relationship Building

Supplemental Information

Master's Thesis: Industrial Relations and Conflict Management in the Private Sector: A case study of Tower Aluminum, Nigeria PLC, Lagos (Unpublished master's thesis). University of Ibadan, Nigeria.

PhD Dissertation: Effects of Labor Strikes on the Quality of University Education in Nigeria.

SPECIAL SKILLS

- Microsoft Office, Word, PowerPoint, Excel and Access
- SPSS
- Strong Communication Skills- Oral, Written and Presentation
- Excellent Team Skills

PROFESSIONAL EXPERIENCE

Job Title: Chief Personnel Officer (Industrial & Labor Relations): (January 2012-Present).

Employer: National Universities Commission, Abuja, Nigeria

Major Duties and Responsibilities:

Promoting social dialogue and sound industrial relations for the Nigerian University System; developed mechanisms for collective bargaining and institutions of dispute resolution in the universities; involved in collective bargaining and dispute prevention and resolution, and participation in the implementation monitoring committee of past agreements and renegotiation of new one between the Federal Government of Nigeria and university based unions.

Job Title: Volunteer (May 2011-Dec 2011)

Organization: Place of Hope Ministry Inc. (A Non Governmental Organization with a vision to meet needs and empower communities), Lake City, GA 30260 (Food Bank, Awareness centre, Computer training and other after school programs)

Job Title: Direct Care Counselor

Employer: Spectrum for Living Development, Inc, Edison, NJ 08817 (Jan 2009- Oct 2010)

Duties Performed- Cared for people with Developmental and other Disabilities

Job Title: Assistant Chief Personnel Officer January 2007-July 2008)

Employer: National Universities Commission, Abuja, Nigeria

Major Duties and Responsibilities:

- Formulated proposals for staff training policies.
- Studied and reviewed petition and appeal in line with prevailing Government Circular.
- Liaised with the Federal Civil Service Commission, office of Establishment and Management Services and other Government agencies on establishment matters.
- Personnel Officer in charge of Passages and Protocol functions; managed and coordinated visas/ work permit/ residency processes and activities.

Job Title: Principal Personnel Officer (Jan 2004 - Dec 2006)

Employer: National Universities Commission, Abuja, Nigeria

Key Achievements:

- Provided professional, accurate, and immediate responses to questions concerning HR services including benefits compensation, relocation, payroll, policies clarification and interpretation, leaves, career development, referral bonuses, separations and personal information from employees.
- Continually reviewed the reports and other information data to present that will lead to improvement in HR Employee services.
- Processed staff recruitment, appointment and promotion; advised Management on matters of policy and Federal Government Labor regulations in constant liaison with the Federal Civil Services Commission and office of Establishment and Management Services;
- Participated at the Federal Government of Nigeria/ University's Trade Unions negotiation committee as Secretary.

Job Title: Senior Personnel Officer (Nov 2000-Dec 2003)

Employer: National Universities Commission, Abuja, Nigeria

Major Duties and Responsibilities:

- In charge of senior staff matters on discipline and grievances.
- Issuance of query, reprimand, warning, suspension, termination of appointment and dismissal etc to affected staff.
- Studied and reviewed petition and appeal in line with prevailing government circulars.
- Implemented the final decision on discipline related issues.

Job Title: Financial & Administrative Manager (Jan 1997-Oct 2000)

Employer: Aderet Consultancy Limited, Ibadan, Nigeria

Major Duties and Responsibilities:

General Administration; Ensured accurate cash application and proper supporting documents for all business transactions; Maintained Customer relationships and grow revenue from existing accounts; Maintained required record keeping and reporting of all sales and services and responsible for customer service in the general supplies division answering customers queries, problem solving and provide detailed information about monthly account statements.

Job Title: Lagos Area Manager (April 1993-Dec 1996)

Employer: Newtons Communication Limited, Ikeja, Lagos, Nigeria

Major Duties and Responsibilities:

Liaised between the Employer and Employees; Promoted the Company's Image; Managed Administrative and Human Resources of the Company and Responsible to the Board of Directors.

MEMBERSHIP OF PROFESSIONAL BODIES

- Member, Nigerian Meteorological Society (NIMS)
- Member, Nigerian Industrial Relations Association (NIRA)
- Associate Member, Nigerian Institute of Management (NIM)
- Member, American Society for Public Administration (ASPA)
- Member, Society for Human Resource Management (SHRM)

