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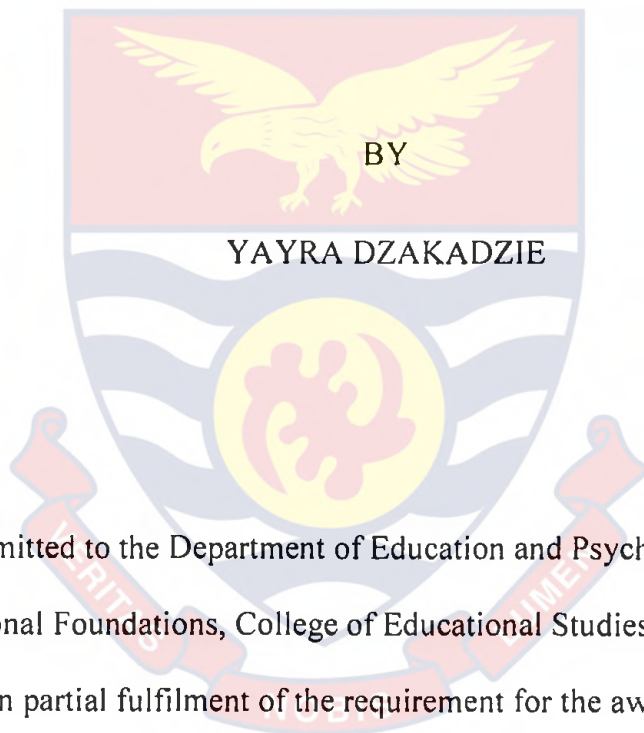
UNIVERSITY OF CAPE COAST

PREVALENCE AND PREDICTORS OF ACADEMIC DISHONESTY AMONG

UNDERGRADUATE STUDENTS IN PUBLIC UNIVERSITIES IN GHANA

BY

YAYRA DZAKADZIE

Thesis submitted to the Department of Education and Psychology of the Faculty

of Educational Foundations, College of Educational Studies, University of Cape

Coast in partial fulfilment of the requirement for the award of Doctor of
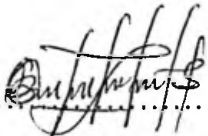
Philosophy degree in Measurement and Evaluation

FEBRUARY 2018

DECLARATION

Candidates declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature……………………………Date…02 - 09 - 2018

Name: ……YAYRA DZAKABZIE…………………………………………

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature………………………date …02-09-2018

Name: PROF. F.K. AMEDAHE……………………………………

Co-Supervisor's Signature……………………date 02/09/2018

Name: PROF. Y.K.A. ETSEY……………………………………

ABSTRACT

This study, which was a cross-sectional survey, was designed to determine the prevalence and predictors of academic dishonesty among undergraduate students in public universities in Ghana. A sample of 1,200 undergraduate students and 144 lecturers were drawn from three public universities in Ghana using simple random, multistage, purposive and convenience sampling techniques. The study used prevalence and predictors of Academic Dishonesty Instrument for Students (PPADIS) and prevalence and predictors of Academic Dishonesty Instrument for Lecturers (PPADL) to collect data from students and lecturers respectively. The results of the study indicated that the students reported a prevalence rate of 48% among themselves with the most prevalent academic dishonest behaviour reported by students being "seeing another student copying in a quiz/examination but failing to report them to authorities". Lecturers reported a prevalence rate of 90% and they noticed "copying another student" as the most prevailing academic dishonest behaviour. The proposed academic dishonesty predictive model was tested using structural equation model (SEM). Results showed that attitude, goal, subjective norms, cost and self-efficacy accounted for a significant variance in academic dishonest behaviour among students using intention as mediator. Similarly, moral obligation was significant moderator of the relationship between intention and academic dishonesty. It is therefore, concluded that the model offers a useful conceptual framework about the effects of attitude. goal, cost, self-efficacy and subjective norms as predictors of academic dishonesty among undergraduate students. It is recommended that university authorities should institute and enforce examination codes of conduct to make academic dishonest behaviours unattractive to students.

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I am again thankful to my late mother for her unflinching support during the initial stages of my higher education. Finally, I wish to thank my family and friends for their support, especially my wife Nutifafa Kwawukume, my father, Daniel Yao Dzakadzie, and not forgetting my sisters and brothers.
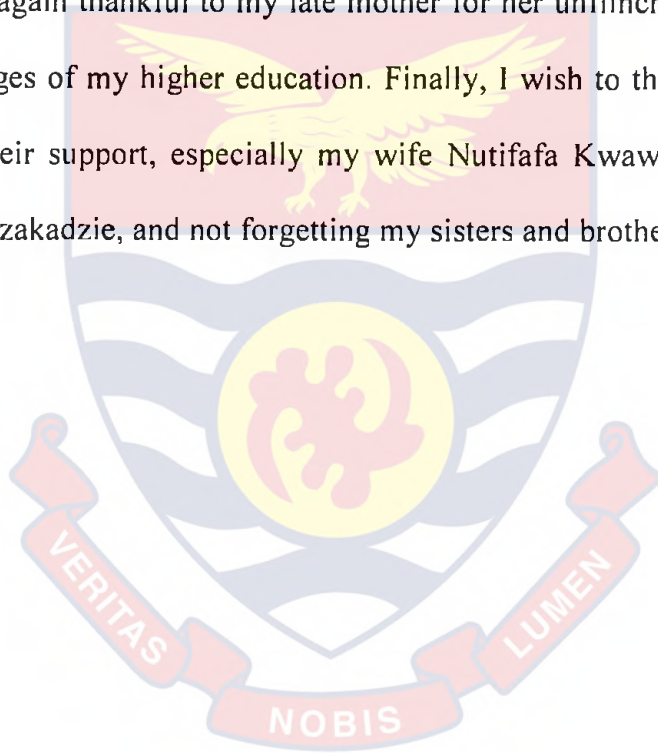
DEDICATION

To my family and in loving memory of my mother

TABLE OF CONTENTS

LIST OF TABLES

Table   Page

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

Assessing learning over the years has become one of the basic features of the educational system. Thus, it is used as one of the important indices to generate data for decision making about the learner, the teacher and the school among others. However, it seems that the execution of this function in the universities is critically challenged by academic dishonesty which perhaps, is considered a global phenomenon. Academic dishonesty negatively affects instructional measurement as well as learning (Bramble & Stevenson-Clarke, 2005), leading to the production of half-baked graduates (Harding, Carpenter, Finelli & Passow, 2004). Due to its prevalence among students, academic dishonesty is said to have reached "epidemic levels" in colleges in United States of America (USA) (Hutton, 2006; McCabe, Trevino & Butterfield, 2006).

Studies conducted among undergraduates in the USA, Korea, Ethiopia, Nigeria among others, found that undergraduates cheat occasionally (Wowra, 2007; Ledesma, 2011, Tadesse & Getachew, 2010). In Ghana, though evidence abounds, it looks as if the phenomenon is yet to attract sufficient scholarly attention of educational researchers. Consequently, this study, concentrating on examination malpractice and plagiarism, will inform rigorous policy formulation to deal with academic dishonesty in the universities in Ghana. The study was underpinned by classical test theory (Spearman, 1904) and Theory of planned behaviour (Ajzen, 1991)

1

Background to the Study

There seems to be the perception that there is an upsurge in the prevalence of academic dishonesty among the players in the education enterprise, particularly students. As to what constitutes academic dishonesty, Jones, Taylor, Irvin, and Faircloth (2001, p.1) state that "academic dishonesty includes cheating and plagiarism, the theft of ideas and other forms of intellectual property whether they are published or not". They further report that at the Florida Institute of Technology, academic dishonesty includes "cheating, fabrication, facilitating academic dishonesty and plagiarism".

Storch and Storch (2002) on their part, have defined academic dishonesty as the act of giving or receiving unauthorized assistance in an academic task or submitting plagiarized work for credit. Symaco and Marcelo (2003) also define academic dishonesty as a contravention of assessment rules and regulations among most tertiary education institutions. They suggest that academic dishonesty is a serious disorder that has no lasting solution, no matter how hard or how much effort the institutions try to eradicate it. Furthermore, they argue that nowadays students perceive academic dishonesty as a norm that is common practice among their peers. Similarly, Finn and Frone (2004), in their study, define academic dishonesty as the violation of enfranchised rules or standard requirements for completion of school home works and examination. Such violation includes cheating in examination, plagiarising, free-riding and copying of assignments. People nauseate it, yet most have compromised it once or several times in their academic study lives. Academic dishonesty is further defined as an action that involves unethical behaviour, such as

2
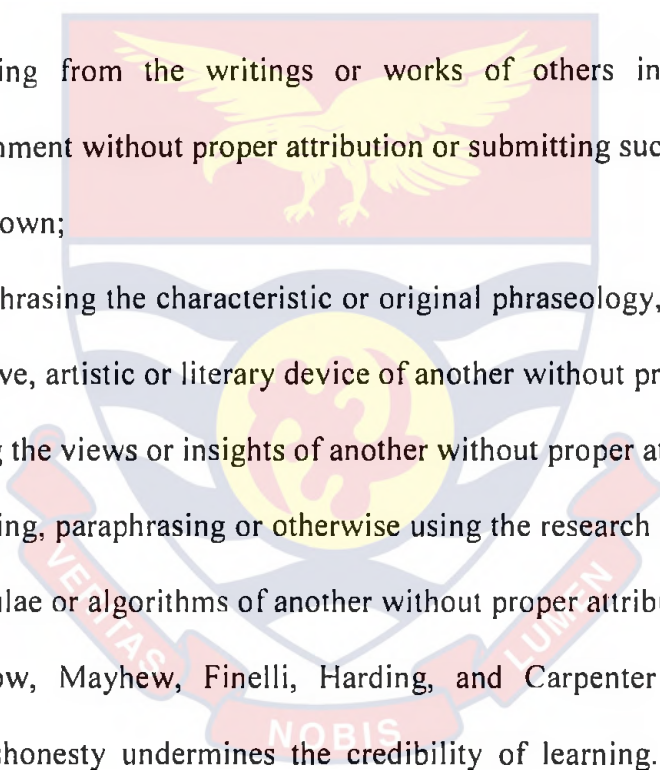
behaving in a manner that opposes examination rules and arrangements, cheating, exchanging examination papers, stealing answer keys, modifying results and assaulting examination administrators verbally or physically for vigilance during an examination (Faucher & Caves, 2009; Eminoglu & Nartgun, 2009).

Honesty is the crux of integrity. Furthermore, honesty is seen as a moral imperative (Turiel, 2006). The Center for Academic Integrity [CAI] (2005) has been championing the course for academic integrity and it seems appropriate to include CAI's statement on what constitutes academic honesty, especially as it contains the five values akin to character education. The statement in summation draws a dichotomy between academic honesty and dishonesty.

Academic honesty is a commitment, even in the face of adversity, to five fundamental values: honesty, trust, fairness, respect, and responsibility. From these values flow the principles of behaviour that enable academic communities to translate ideals into action. An academic community will flourish when its members are committed to the five fundamental values. Integrity is built upon continuous conversations about how these values are or are not embodied in institutional life (p.4).

Petress (2003) notes that there are many forms of academic dishonesty. These range from copying test answers from friends, taking an examination on behalf of friends (impersonation), failure to cite other people's work (plagiarism), taking examination questions home, faking research papers and pretending they are one's own work, breaking into the examination office or lecturers' files to access the tests or answer keys, sabotaging peers' work or gaining illegal access into

3

school computers to change official grades. In a related development, Roberts (2002) alleges that plagiarism is another form of academic dishonesty whereby authors tend to manipulate the information in favour of what they want to gain. Berkeley Code of Student Conduct (2004) defines plagiarism as the use of intellectual material produced by another person without acknowledging its source in the submission of formal or informal academic assignments. According to the Code this includes, but is not limited to:

a. Copying from the writings or works of others into one's academic assignment without proper attribution or submitting such work as if it were one's own;

b. Paraphrasing the characteristic or original phraseology, metaphor, or other creative, artistic or literary device of another without proper attribution;

c. Using the views or insights of another without proper attribution; or

d. Copying, paraphrasing or otherwise using the research data, results, codes, formulae or algorithms of another without proper attribution.

Passow, Mayhew, Finelli, Harding, and Carpenter (2006) posit that academic dishonesty undermines the credibility of learning. It also puts one's integrity at stake.

Staats, Hupp, Wallace and Gresley (2009) look at academic dishonesty as a type of deviant behaviour that impacts harmfully on the development of character, hurt others and jeopardise the academic integrity of the particular institution. Students who engage in such deviant behaviour place their individual benefit over that of others and put the institution's integrity at risk. Dichtl (2003) suggests that

4

academic dishonesty emanates from peers (learning), and this unethical behaviour establishes a culture whereby those honest students feel at a disadvantage. Lecturers or instructors fail to evaluate what the students do not understand if cheating occurs among them. Furthermore, it also makes it more difficult for the lecturers/instructors to regulate their approaches as they will make wild guesses that students are all doing well (Dichtl, 2003).

Without honesty, integrity is not possible. Moreover, central to the mission of higher academic institutions is to instill good moral values in its graduates (Kibler & Kibler, 1993). Unfortunately, academic dishonesty threatens this mission by undermining the value of learning (Bertram, 2008).

In this era of dramatic change, the problem of ignoring ethics or values to achieve short-term goals arises. Educational institutions are affected by this problem, as well. It is already known that moral values begin to develop in the family and in the institutions in which formal education is provided (Arslantas & Acar, 2008). Educational institutions have important duties and responsibilities to help form an honest society and to raise individuals with ethical principles (Levy & Rakovski, 2006). Yet, academic dishonesty is becoming more and more common at every stage of education (Broekelman-Post, 2008). The problem originally worsened with the introduction of information technologies (e.g., the internet, sophisticated cell phones, and wireless) into the education field, which witnessed 'academic dishonesty' to grow more easily and begin to affect every stage of education (Wowra, 2007). Studies on the motives behind academic dishonesty have shown that academic dishonesty is motivated by ambition for high marks, time

5

pressure, excitement of violating the rules, lack of self-confidence, low self-control, gender issues, social issues and adaptation disorder, to name but a few (Eminoglu & Nartgun, 2009; Harding, Carpenter, Montgomeng & Steneck, 2001; Wendy & Bates, 2003).

Academic dishonesty interferes with what is supposed to be a cooperative effort among students, faculty, and administration to achieve basic educational goals (Bowers, 1964, Keith-Spiegel & Whitley, 2001). In particular, within the immediate campus community, distrust develops among all parties in terms of blame, threats, lawsuits, suicides, murders among others, when academic dishonesty occurs. Keith-Spiegel and Whitley (2001) offer seven ramifications of student academic dishonesty.

First, students who cheat on examinations and assignments are more likely to receive higher grades than students who do not cheat. Therefore, honest students are placed at a disadvantage when their scores are compared to the grade point averages and examination scores of dishonest students. Such scores or grades will not be valid and consequently, they cannot be reliable (i.e., dependable). Second, when students see others cheating and when the institution does not act to punish the offenders, students are left to believe that such behaviour is acceptable. Third, students who cheat do not learn. This situation opposes the mission of education since cheating devalues the worth of a college degree. Fourth, observing cheating promotes demoralization of students who do not cheat. In other words, students who do not engage in dishonesty may begin to believe that hard work does not lead to academic success and that dishonesty is the best way to be successful in college.

6

Fifth, students who cheat in school tend to cheat in their careers. If cheating is left unchecked, cheating becomes part of a functional work skill set. Sixth, the publicity about cheating can hurt a college's reputation. Seventh, persistence of cheating can ultimately lead to lack of confidence in education and the entire higher education system could lose support from the public. These seven ramifications outlined by Keith-Spiegel and Whitley illustrate that all people in the education community are unpleasantly affected by academic dishonesty in one way or another. The issue, therefore, needs to be addressed.

Statement of the Problem

Academic dishonesty occurs at both pre-tertiary and tertiary levels. This may take the form of bringing foreign materials into examination hall (cheat sheet), collusion by examination supervisors, impersonation, foreknowledge about the examination items, use of mobile phones in examination halls and plagiarism, among others.

Academic dishonesty at the pre-tertiary level institutions is mostly examination malpractices. The persistent occurrence of examination malpractices at the pre-tertiary level appears to be a major concern to stakeholders in the education enterprise because of the higher premium placed on examination for selection and placement. In Ghana, the higher stake examinations at the pre-tertiary level are handled by the West African Examinations Council (WAEC). These include Basic Education Certificate Examination (BECE) and West African Senior Secondary School Certificate Examination (WASSCE). It is on record that WAEC,

7

the custodian of these important (transitional) certificates does not condone examination malpractices.

In 2012, WAEC noted with concern that examination malpractices among students were increasing at an alarming rate at the pre-tertiary level and called for a joint effort among stakeholders in education to help tackle the menace since the Council could not single-handedly deal with the problem (Ghana News Agency, 2015). The prevalence and magnitude of the problem have also attracted lots of concern from the majority of stakeholders. At the National Association of Graduate Teachers' (NAGRAT) Eleventh National Delegates Conference held in Bolgatanga in September 2015, the participants devoted much of the four-day conference to deliberate on how to help address the issue. Befittingly, the meeting was held under the theme "Protecting the Integrity of Examinations: If not Us, then Who?"

Available evidence shows that since 2010, the incidence of examination malpractices has been a substantial issue, as a sizeable number of students, especially, in the Basic Education Certificate Examination (BECE) and in the Senior Secondary School Certificate Examination (WASSCE) indulged in it. Table 1 depicts the report of irregularity cases recorded in the BECE and WASSCE from 2010 to 2015.

8

Table 1: Number of Cases of Examination Malpractices in Basic Education Certificate (BECE) and West African Senior Secondary School Certificate Examination (WASSCE)

Year	BECE			WASSCE		
	Total No. Cand.	No. Cand. Reported	% of Total.	Total No. Cand.	No. Cand. Reported	% of Total
2010	349,355	1,083	0.31	134,854	1,443	1.07
2011	368,065	1,141	0.31	148,445	4,201	2.83
2012	378,572	795	0.21	173,687	3,439	1.98
2013	378,000	378	0.10	409,638	5,653	1.38
2014	368,064	1,141	0.31	240,328	8,051	3.35
2015	520,000	159	0.03	267, 941	12,754	4.76

Source: WAEC, (2015)
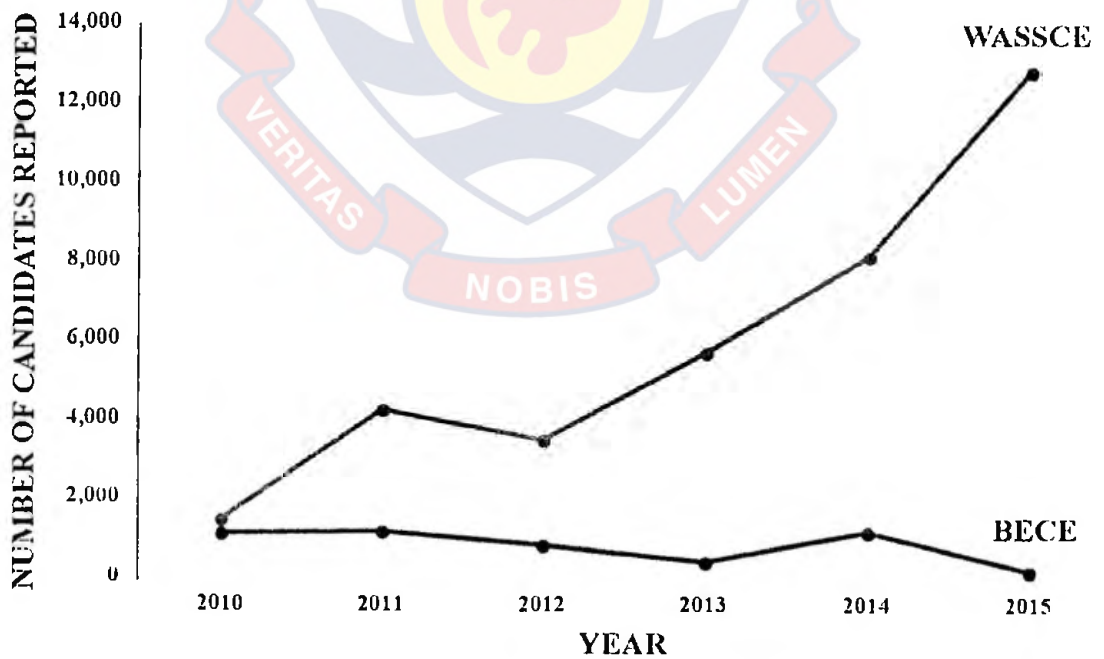
Figure 1: BECE and WASSCE Examination Malpractice in Ghana

9

Figure 1 depicts the trend of the number of cases of examination malpractices. A critical examination of Table 1 and the line-graph in Figure 1 depicts that in the BECE, the number of cases of examination malpractices is under control and there appears to be a decline over the years except in 2014. It is worthy to note that in 2014 the number of candidates involved in BECE examination malpractices increased from 378 (.10%) in 2013 to 1141 (0.31%), which indeed, recorded the highest number of candidates engaged in examination malpractices considering the years under review. However, in the WASSCE, there was an upsurge in the number of malpractices from 2012 to 2015. The 2015 recorded one-third increase of 2014. It could be seen that the malpractices during WASSCE seem to be on the increase; perhaps because the WASSCE is of a relatively higher stake than the BECE.

As a result of the examination malpractices, the West African Examinations Council (WAEC) cancelled the entire results of 453 students who took part in the 2015 May/June, West African Senior School Certificate Examination (WASSCE). The entire results of candidates from 185 schools were withheld pending the conclusion of investigations (WAEC, 2015). This number included 119 schools which were involved in mass cheating in the objective tests (all the subjects) and were identified with the aid of the new anti-malpractice software which is known as Item Deferential Profile (IDP).

A release by WAEC (2015) indicates that following the conclusion of investigations of cases of examination malpractices detected during the conduct of the examination, 1,859 candidates had their subject results cancelled and 453

10

candidates had their entire results cancelled while eight candidates, who had their entire results cancelled, have been barred from taking any of WAEC's exams for two years. The malpractices recorded were exposed by the introduction of innovative measures like the anti-malpractice software.

Also, it was reported that the West African Examinations Council withheld over 6,000 BECE results in 2015. According to WAEC, the malpractices included bringing foreign material to the examination hall (cheat sheet), collusion reported by supervisors/inspectors, impersonations, foreknowledge about the paper, and bringing a mobile phone into the examination hall. The students who were caught had various degrees of punishment but those that might have got away with it obtained good grades and gained admissions into tertiary institutions, and may continue with the dishonest behaviour.

At the tertiary level, academic dishonesty has been known to exist in the form of examination malpractices and plagiarism. In the United Kingdom, 50,000 university students were caught perpetuating one kind of academic dishonesty or another (guardian.com, 2016). *The Guardian* maintains that among the five universities who were caught, the highest number of cheats were from Kent (1, 947); Westminster (1, 933); East London (1, 828); Sheffield Hallam (1,740) and Oxford Brookes (1, 711) in that order.

Universities in Ghana are no exception as far as academic dishonesty is concerned. Statistics available indicate that occurrence of examination malpractices has been an issue as a number of students indulge in it at the university level. Table

11

2 shows the reported irregularity cases from the four public universities in Ghana selected for the study from 2013 to 2015.

Table 2: Number of Cases of Examination Malpractices Reported in Four Public Universities in Ghana

Institution	No of Cases of reported examination malpractices		
	2013	2014	2015
UG	42	30	67
KNUST	25	19	32
UCC	36	42	38
UEW	29	32	35

Source: Academic affairs of the respective Universities (2016)

In Table 2, the absolute number of the students involved in the examination malpractices might appear not to be significant taking into consideration the population of the institutions which were in thousands. However, it is likely that many cases might have gone unnoticed. That gives cause for concern because a single case of academic dishonesty (examination malpractice or plagiarism) could derail the entire educational system and bring the system into disrepute.

In recent times, the University of Ghana (UG), has recorded a wide spread examination malpractice. Mr. Kwadzo Tibri Asenso -Okyere, the son of the then Vice-Chancellor, Professor, Kwadzo Asenso- Okyere, was alleged to be the principal architect. The University was plugged into crisis as the Vice-Chancellor was asked to step aside until the committee finished its work. The Mfodwo

Committee set up to investigate the malpractices, indicted some senior members of the University (GNA, 2006).

At the undergraduate and graduate levels in the universities in Ghana, though not documented, there is the observation that some students plagiarise academic work while writing their assignments, project works and theses. In 2006, the Academic Board of UG revoked a Master of Philosophy degree in Sociology it awarded Honourable Harruna Iddrisu after traces of plagiarism were allegedly found in Harruna Iddrisu's thesis which gave him a degree in 2000 (Modernghana.com, 18th October 2006).

It is not surprising to come across almost the same theses (except changes in the settings), from different universities submitted for different degrees in other universities. An instance of substantiation is two similar abstracts with only the difference in the settings submitted for Doctor of Philosophy Degree (Ph.D.) by Baabereyir Anthony at Nottingham University in the United Kingdom in 2009 and the second is for a thesis submitted for Master of Science Degree (M. Sc) by Mohammed Zakaria Asakia at Kwame Nkrumah University of Science and Technology, Ghana in 2014 (See Appendix M).

The question is who is the original owner of this thesis? Perhaps, this compelled Burnett, Rudolph and Clifford (1998) to make this statement:

There is a problem festering within our institutions of higher education that threatens to weaken their very foundations. The problem is more threatening than faculty-administration disputes; more costly than the recent and pervasive funding cutbacks; and has

13

a greater potential of eroding the core of the teaching-learning process than under prepared students or over populated classrooms. The problem is academic dishonesty, and the need to address the problem is paramount (p. vii).

This statement is just as true today in the Ghanaian education system, especially in the universities, as it was when it was first made. Academic dishonesty is also evidenced by the number of large-scale cheating/malpractice scandals in examinations reported in the Ghanaian national press, most often, especially during public examination periods.

The pertinent issue is that academic dishonesty produces scores which are not the precise measure of the true ability of the student. This makes the scores not consistent and dependable, therefore, may not result in any meaningful interpretation and decision making regarding the student.

The West African Examinations Council (WAEC) started to name and shame candidates who are caught cheating during the Council's exams. From 2009 to 2014, WAEC published names and photographs of candidates involved in examination malpractices in the newspapers (Ghana News Agency [GNA], 2014). The move was to address the increasing incidence of examination malpractices and also to deter future candidates from the malpractice in the country.

The universities, on the other hand, have policy and regulation documents on academic dishonesty which clearly spelt out penalties, ranging from cancellation of papers through rustication to dismissal. These documents are distributed to students on the day of orientation into the universities. The Government of the

14

Republic of Ghana has also amended the Provisional National Defence Council (PNDC) Law 255 and enacted an act of parliament, Act 719 which calls for stiffer punishment for the perpetrators of academic dishonesty and its related activities. Softwares are procured by some of the institutions to deal with the issues of plagiarism and other forms of academic dishonesty. Yet, the situation does not seem to change.

It could be seen that efforts being made to curb academic dishonesty in the country appear not to be yielding appreciable results. Could it be that factors such as expectation (goal), cost (consequences), attitude, subjective norms, moral obligation, self-efficacy and the demographic variables in the Ghanaian school system play a role in sustaining or encouraging this social menace? What really is the contribution of expectation (goal), perception, cost (consequences), moral obligation, self-efficacy and demographic variables to academic dishonesty in the universities? How do the key players intend dealing with future occurrences of academic dishonest behaviours? Answers to these questions were not readily available in the Ghanaian school system. Finding empirically supported answers to these questions constituted the problem that this study was designed to address.

Purpose of the Study

The main purpose of the study was to determine the prevalence and predictors of academic dishonesty among students in public universities in Ghana taking into consideration goal, cost involved, attitude, subjective norms and self-efficacy. The specific research objectives were to:

15

i. Examine the prevalence of academic dishonesty (examination malpractices and plagiarism) among university students.

ii. Ascertain the reaction of lecturers to academic dishonest behaviour in assignments and examinations.

iii. Ascertain the measures taken by lecturers of universities to prevent academic dishonest behaviours in assignments or examinations.

iv. Find out the influence of gender on students self-reported academic dishonest behaviour.

v. Determine the influence of age on academic dishonesty among university students.

vi. Ascertain the influence of programme on undergraduates' academic dishonesty.

vii. Investigate interactive effects of gender, age and programme as significant predictors of academic dishonesty.

viii. Find out the relationship between students' attitude towards academic dishonesty and their real academic dishonest behaviour.

ix. Ascertain how well does the proposed model fit the observed data.

Research Questions

The following research questions were posed to guide the study:

1. What is the prevalence of students' academic dishonesty among undergraduate university students?

2. How do lecturers respond to academic dishonest behaviours in assignments or in examinations?

3. What measures were taken by lecturers of the universities to prevent academic dishonest behaviours in assignments or the examinations?

16

Hypotheses

The following hypotheses were generated to guide the study:

1. H$_0$: There is no statistically significant difference in academic dishonesty (self-reported) when students are classified according to gender.

    H$_1$: There is a statistically significant difference in academic dishonesty (self-reported) when students are classified according to their gender.

2. H$_0$: There is no statistically significant difference in academic dishonesty (self-reported) when students are classified according to their age grroup.

    H$_1$: There is a statistically significant difference in academic dishonesty (self-reported) when students are classified according to their age groups.

3. H$_0$: There is no statistically significant difference in academic dishonesty (self-reported) when undergraduates are classified according to their programmes.

    H$_1$: There is a statistically significant difference in academic dishonesty (self-reported) when undergraduates are classified according to their programmes.

4. H$_0$: Gender, age, and programme are not statistically significant predictors of academic dishonesty (self-reported).

    H$_1$: Gender, age, and programme are the significant predictors of academic dishonesty (self-reported).

5. H$_0$: There is no statistically significant relationship between students' attitude towards academic dishonesty and their actual academic dishonest behaviour (self-reported).

    H$_1$: There is a significant relationship between students' attitude towards academic dishonesty and their actual dishonesty behaviour (self-reported).

17

6. H_0: The proposed model does not statistically and significantly fit the data.

    H_1: The proposed model statistically and significantly fit the data.

Conceptual Framework

Academic dishonesty is a behaviour. To understand this behaviour (academic dishonesty), Murdock and Andeman (2006) proposed a theoretically-based conceptual framework for exploring the predictors of academically dishonest behaviour. This model, which was not empirically tested, was developed based on a review of academic cheating literature and was framed using concepts from achievement motivation theory. Whitley (1998) proposed another model which was based on Ajzen's (1991) theory of planned behaviour and it was tested by Harding and his colleagues. This model explored the factors that students consider as they weigh the costs associated with academic cheating.

These two models use an expectancy-value framework to frame students' decision to engage in academic dishonesty. In an effort to develop a more comprehensive model of the predictors of students' academic dishonesty, this study combined the Murdock and Anderman (2006) and Harding et al. (2007) models to create a new model of student academic dishonesty. Figure 2 presents the proposed model for the study.
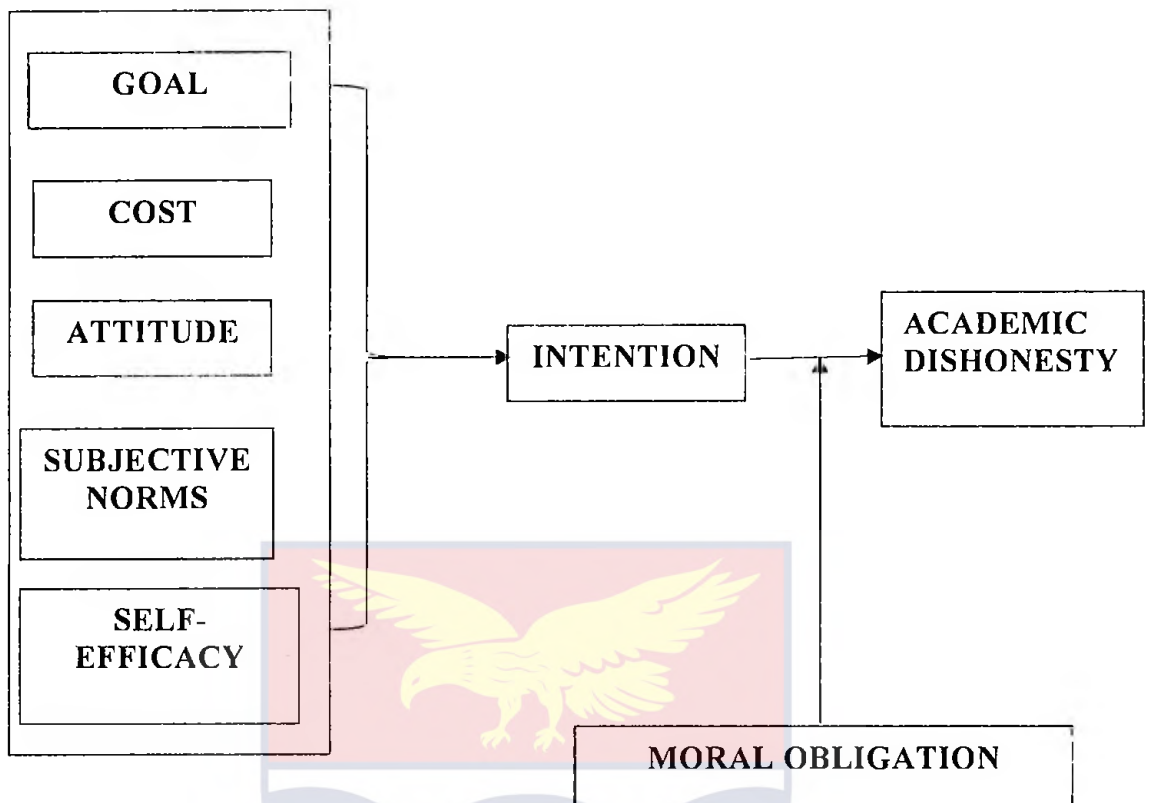
Figure 2: **Proposed model of academic dishonesty**

The new model was designed to address limitations identified in both Murdock and Anderman's (2006) and Harding et al.'s (2007) models. Additionally, the new model was designed to provide an overarching, theoretically-based, conceptual framework for predicting academic dishonesty among final year undergraduate students. The model identified some factors such as expectation (goal), cost (consequences), attitude, subjective norms, moral obligation and self-efficacy as influencing undergraduate students' academic dishonesty.

Assumptions of the Study

The study was carried out based on the following assumptions:

1. Students who are driven by performance goals are likely to get involved in academic dishonest behaviour(s) than students driven by achievement goals.

19

2. Faculty members or invigilators who were involved in academic dishonesty during their schooling days are likely to condone and connive the practice.

3. The scores obtained from the respondents from the questionnaire are relatively valid measures of their perspective on prevalence rate and predictors of academic dishonesty.

Significance of the Study

The information gleaned from this study was to further the body of knowledge regarding academic honesty on university campuses. This study provided guidance on how demographic and academic dishonesty variables could be combined to create new investigations of academic dishonesty.

The results of this study could be used to further our understanding of lecturers' and students' attitude towards academic integrity. The results of the research were to provide faculty members with strategies that could help them foster an environment of high standards and honesty in their lecture rooms.

The findings of the research were to provide university administrators with quantified data concerning students' perceptions of academic dishonesty and experiences with academic dishonesty to enable them to adopt strategies against the canker.

University administrators and faculty members who faced decisions about instituting a code of ethics, developing a code of conduct for students, evaluating a system of penalties for academic dishonesty, or constructing or reviewing a handbook for students would find the findings of this study useful.

The results of the study provide information would be of use in making decisions for education in the future. The information gathered during the course of this study might be most relevant to Deans of Students' Affairs who are responsible for students' handbook as well as the academic board of the universities who are responsible for decisions that determine local policy as it is related to students' codes of ethics and to enforce these policies.

Delimitations

The study focused on the prevalence and predictors of academic dishonesty-examination malpractices and plagiarism among students in public universities in Ghana. The study was also delimited to final year undergraduate students. The finding in this study could not extend to private universities in Ghana.

Also, the study was delimited to gender, age, attitude towards cheating and actual cheating behaviour as well as the goal, cost, attitude and self-efficacy with moral obligation as moderating variable and intention as a mediator variable to predict academic dishonest behaviour formed part of the delimitation.

Limitations

As with any study on academic dishonesty, there were certain factors associated with this study that were inherently limiting. First, academic dishonesty is a highly sensitive topic that is not often openly discussed. The sensitive nature of the problem did not permit much gathering of primary data and literature in Ghanaian settings to make a case for the study of the problem (Statement of the Problem) in the universities, though some authorities in the universities. As a result of the sensitive nature of the problem, some students were not willing to participate

21

in this study. Additionally, those students who actually participated might not have been willing to provide honest responses and might have underreported their academically dishonest behaviours since the study rely on one-time data collection, using self-report instrument. The effect of underreporting could result in weaker observed relationships, thereby making the results derived from this study conservative (Finn & Frone, 2004). Prior research, however, has supported the use of self-reports when collecting sensitive information, specifically information related to academic cheating (Cizek, 2003).

Again, this study was conducted using one grade level. Thus, final year undergraduate (regular students). Hence, the results of this study could not be generalised to other grade levels as well as distance and sandwich students. Further, the study did not attempt to measure other types of academically dishonest behaviours such as fabrication and falsification, among others. The limitations, however, do not negate the findings of the study.

Definition of Terms

The following terms are operationally defined as they applied to the study: Academic dishonesty: Any illegal act before, during and after examination for a candidate to have undue advantage over the others. It includes copying another student's work and pretending it is one's own or substantial use of other people's work and submitting of it as though it was one's own.

Academic cheating, academic dishonesty, academic misconduct, examination misconducts and examination malpractice, are used synonymously in this work to mean any type of academic dishonest behaviour.

22

Prevalence rate: Self-reported cases of academic dishonest behaviours.

Faculty: A group of university departments concerned with a major division of knowledge. *Faculty, college and school,* are used interchangeably in this study as pertain to each university.

Faculty members: Lecturers of university. *Faculty members, instructors* and lecturers are used interchangeably in this study.

Cost: Is the act of receiving something unpleasant (punishment) as a result of something that one has done wrong. Cost and consequence are used in this study interchangeably.

Organisation of the Rest of the Study

Chapter two discusses the literature related and germane to the study. This discussion has six main sections to coincide with the main delineated sub problems of the study and historical overview.

In chapter three, the methodology of the study, the design of the study, the population and the sample and their characteristics are discussed. Instruments used for the collection of data as well as the process of their development are described. The research design adopted in the study and the procedure used in analysing the data are also discussed.

In chapter four, the results and discussion of the findings are presented, whilst in chapter five, the summary of the study and the conclusions drawn from the study are presented. Recommendations are given in the last but one section of chapter five based upon the findings of the study, which is followed lastly by suggestions for further research.

23

CHAPTER TWO
REVIEW OF RELATED LITERATURE

It should be conceded from the onset that research work on academic dishonesty in Ghana is probably non-existent. This situation made the task of this literature review quite onerous. In most cases, the researcher used works from Nigeria and the United States of America (USA). The literature review has been organised in five main sections. The sections are reviewed under the following themes:

1. Historical development of assessment or examination in formal education.

2. Historical development of academic dishonesty.

3. Concept, prevalence, dimensions and perpetrators of academic dishonesty.

4. The theories and models of academic dishonesty

    i. Classical test theory

    ii. Theory of planned behaviour

    iii. Expectancy and achievement goal theory

    iv. Goal and academic dishonesty.

    v. Cost and academic dishonesty

    vi. Attitude and academic dishonesty.

    vii. Self-efficacy and academic dishonesty.

    viii. Moral obligation and academic dishonesty

    ix. Intention and academic dishonesty

    x. Demographic variables, such as gender, age and programme, and academic dishonesty.

24

The Historical Development of Assessment in Formal Education

The history of assessment for that matter examination is quite long. Probably, certain types of evaluation procedures are older than formal education. For instance, in the Bible, the Gileadites captured the fords of the Jordan leading to Ephraimites and whenever a survivor of Ephraim wished to cross over, the men of Gilead would ask the men of Ephraim who wished to cross over to say 'shibboleth' and if the men of Ephraim said 'sibboleth' because the men of Ephraim could not pronounce the word correctly, men of Gileads seized the men of Ephraim and killed them at the fords of the Jordan. Forty-two thousand Ephraimites were killed at that time (Judges 12: 4-6, The New King James Version)). Obviously, the principles of testing we have today were developed over the years. It has been agreed in the literature that testing in general in terms of written examinations of educational achievement originated from China (DuBois 1970; Ebel, 1972 Lindon & Lindon, 1968). These works succinctly intimated that an extensive system of written tests of educational achievement formed the basis for admission and promotions in the civil service in ancient China. DuBois (1970) put it aptly that the Chinese invented the psychological test and the test was introduced for civil service programmes meant for government officials. He pointed out that after 622 AD, open competitive examinations took place at more or less regular intervals.

In the Western World, examinations were not absent. When universities were established in Europe in the middle ages, tests or examinations were largely oral and frequently took the form of public disputation on controversial questions (Ebel, 1972). These examinations were used for selection and certification. In 1599,

25

a comprehensive statement issued by the Society of Jesus (Jesuits) on the theory and practice of instruction included a detailed set of rules for the conduct of written school examination (Ebel, 1972; Petch, 1960).

In the United States of America (USA) in 1847, Horace Mann, Secretary of the Massachusetts Board of Education saw the need for improvement in the then existing oral examination and worked hard to improve it. His arguments for more adequate and more objective evidence of pupils' achievement, then oral test or examination, were persuasive and this led to a gradual disappearance from the educational scene of oral examinations, being replaced by written examinations (Ebel, 1972). Since then a number of scholars contributed to educational achievement testing principles. For instance, Cattel (1890) undertook a study to measure the ability to learn but had little evidence of general intellectual ability, since the correlations of the various psychophysical tests with each other and with external criteria (e.g., grades) were low. Other scholars like E.L Thorndike and Alfred Binet, contributed immensely in developing present day testing principles. Thorndike (1903) published the first book in educational measurement. In this book, he pointed out that whatever exists at all exists in some amount and therefore could be measured. Alfred Binet on the other hand, in 1905 produced the first practical mental test with the assistance of Theodore Simon. This test came to be known as the first intelligence test.

The period between the two World Wars saw a rapid development in the techniques and uses of educational measurement (Ebel, 1972). In brief, through the restless efforts of the aforementioned scholars and many others, by the end of the

26

Second World War, most of the theories/principles of examinations in education, most of which were psychometric measures, were developed.

In 1952, the West African Examinations Council (WAEC) was established after the acceptance of the Jeffery report by the colonial governments in Ghana, Nigeria, Sierra Leone and the Gambia, to conduct or determine examinations required in the public interest and to award appropriate certificates, provided that the certificates did not represent lower standards of attainment than equivalent certificates of examining authorities in the United Kingdom (WAEC, 2001). Subsequently, WAEC introduced the West African School Certificate Examinations to the secondary school system to replace the Cambridge Intermediate Examinations. Today, WAEC conducts two categories of examinations: (a) National examinations for the specific countries; (b) international examinations for candidates in all the member countries (e.g., West African Senior School Certificate Examinations (WASSCE). According to WAEC report on its examinations, the WASSCE was introduced in 1998 as part of the educational reform programmes of the member countries and it is administered twice a year; in May/June and November/December (WAEC, 2001). The WASSCE replaced the Senior School Certificate Examination SSCE/GCE Ordinary Level, which was phased out in 1999. The WASSCE is expected to combine School-Based Assessment (SBA) results with the Council's own assessment on a ratio of 30:70 (WAEC, 2001). The West African Senior Secondary School Certificate Examinations are usually conducted for students in Senior High School (SHS) Form 3 (final year of senior secondary education). The purpose of the examination is for certification of the students' level of education and also for the selection of

27

those seeking admission into the universities, polytechnics, Colleges of Education and other tertiary institutions in the country. This exam is a high stakes exam and it is characterised by malpractices as noted earlier in the previous chapter.

Historical Developments of Academic Dishonesty

For several decades' researchers, have grappled with the issue of academic dishonesty, sometimes referred to as academic misconduct (Brickman, 1961; Lupton & Chapman, 2002). Academic dishonesty has plagued the education system in many parts of the world, and has caused public alarm in terms of what can be done to remove this malignant disease from education systems (Caruana, Ramaseshan, & Ewing, 2000; Chapman & Lupton, 2004; Desruisseaux, 1999; Haines, Diekhoff, LaBeff, & Clark, 1986; McCabe & Stephens, 2006; McCabe & Trevino, 2002; Newstead, Franklyn-Stokes, & Armstead, 1996; Sheard, Markham, & Dick, 2003).

To put it into perspective, academic dishonesty or misconduct continues to take away the excellence associated with scholarly achievements earned honestly. If nothing else, academic dishonesty has grown in sophistication in that more creative ways are being found to beat the system.

Although the genesis of academic dishonesty dates back thousands of years, there is no documented evidence to authenticate or to invalidate views on it. This section throws some light on the earlier thoughts on academic (i.e., dishonesty during the twentieth century) and why is this important to what happens today.

This study establishes two periods starting with the 1920s through the 1990s. This first period provides an encapsulation of selected studies to determine

28

whether there are lessons to be learned. The second period covers the years 2000 and beyond.

Historical period 1920s through 1990s

Academic dishonesty is not a new phenomenon. Although no one knows for sure the exact date that signifies the start of academic dishonesty, there is some consensus that academic dishonesty is a long-standing problem (Anderson, 1957; Brownell, 1928; Campbell, 1933; Fox, 1988).

Brownell (1928, p. 764) found "cheaters were much more extroverted than the average student, 71% being more extrovert than the campus average". Brownell indicated that there were many instances where students who engaged in academic dishonesty were characterized by a combination of low intelligence and extroversion. Brownell concluded that students who were high achievers had distinct character traits of introversion and high intelligence. However, one of the limitations of Brownell's study was that it included 30 students, which may not be representative of the student population. In any case, according to Brownell the sample had been obtained through underground and unofficial channels. One of the primary criticisms of Brownell's method of selecting his sample as articulated by Kalton (1983, p.91) is that "it is subject to a risk of bias of unknown magnitude". Kalton concluded that the non-probability sampling design used by Brownell lent itself to subjective evaluation. This suggests caution must be taken when interpreting Brownell's findings.

Students' honesty appears to have been a major concern to researchers in the early 1930s. According to Campbell (1933), an extensive study on state universities in the United States of America was conducted to identify personality

29

traits of academic cheats and the extent to which these traits could be measured. The study found students plagiarized and cheated on examinations. Campbell's study appeared to be more sophisticated than other studies because he made extensive use of the "spy system." Essentially, during an examination, he integrated students at varying levels (freshman, sophomore, junior, and senior), and based on pre-assigned seating, infiltrated the group with advanced students who acted as spies (unobtrusive observers). Based on their vantage point, these spies could observe the behaviour of other students. Like Brownell's (1928) study, Campbell found significant differences between cheaters and non-cheaters. He argued that students who cheated possessed personality traits such as 'neurotic tendency', 'dominance submission', 'introversion-extroversion' and 'self-sufficiency' (p. 405). Campbell (1933) concluded that a high percentage (more than 50%) of students surveyed at the USA state universities he investigated admitted being involved in academic dishonesty. He cautioned readers not to hastily classify students as being either honest or dishonest because it may not be justified to do so.

However, the results of the Brownell (1928) and Campbell's (1933) studies contrast sharply with Hartshorne and May (1928) who asserted that certain character traits (e.g., honesty and morality) bore little evidence in terms of how they contributed to academic dishonesty. In this respect, Baird (1980, p.515) theorised "moral conduct was specific to the given situation".

Student misconduct continued to take centre stage in the 1930s and Parr (1936) questioned, among other things, whether the contributing factors included students' mental ability, family conditions, and economic status. He asserted that "any factor which serves as a handicap to an individual or brings pressure to bear

upon him [her] is likely to produce dishonest behaviour" (p. 326). Unlike other studies, Parr (1936) made it clear that students who participate in extra-curricular activities are likely to have less time for studies and by extension would be hard-pressed to keep up with their school work. He implied this could affect their grades. When this happened, these students were likely to resort to any means to help them make better grades even if it meant engaging in behaviours inimical to honourable conduct. Like researchers before him, Parr felt personality affected students' conduct and he advanced the view that a lack of character training played a dominant role in the high incidence of student misconduct, a phenomenon that seemed to be growing out of proportion among students as they sought the easy way out. Parr concluded that teachers need to take greater care to identify students who engage in various forms of academic dishonesty, determine if this is a function of their teaching methods, and with a paradigm shift, create academic programmes that fit the students' needs.

From as early as the 1930s, questions have been raised as to whether teaching method contributed to academic dishonesty. In the USA, Atkins and Atkins (1936) explored the extent to which teachers' honesty impacted students' behaviour. They acknowledged that character education was important especially when emphasizing honesty. The study revealed that prospective teachers were a party to academic dishonesty, particularly the manner in which some teachers prepared students for their examinations. Atkins and Atkins suggested this impacted several factors such as "intelligence," "overstatement," "achievement," "effort," "fear of failure," and "the effect of ethical instruction" (Atkins & Atkins, 1936). They further reiterate that when instructors give the same examinations

repeatedly over the years (although to different students) without modifications, such action encourages academic dishonesty among students. Recycled examinations provide opportunities for students to cheat in their examinations because students completing the examinations in the current semester may be able to obtain the examinations used in the previous semester.

Atkins and Atkins (1936) drew a parallel between effort and honesty. They argued that there was a common myth among teachers that students who exerted effort, whether they were bright students or not, were unlikely to engage in academic dishonesty. Their study reveals "there is a positive relationship between honesty and effort" (p. 597). Atkins and Atkins concluded that "intelligent and energetic students tend to be honest" (p. 603) and that less cheating was likely to occur in a well-managed classroom setting. The results of this study also showed that certain interventions can be instituted to prevent academic dishonesty. In any case, it seems teachers do have a role to play in minimizing academic dishonesty.

Earlier studies were pursuing a path embedded in the notion of a pattern among students' character that caused them to cheat (Atkins & Atkins, 1936; Bonjean & McGee, 1965; Bowers, 1964; Brownell, 1928). One can only hypothesis at this point in the history of academic dishonesty (in the 1920s and 1930s), whether there was correlation between character and intelligence. To the extent that this is true, there needed to be an understanding in terms of why it was so. Hence, Drake's (1941) study at the beginning of the 1940s could be viewed as being timely. Given the studies on academic dishonesty before his study, Drake wanted to determine and explore what caused students to engage in acts of academic dishonesty bearing in mind the level of risks involved. After all, if caught it could bring a premature

end to the student's career. Drake argued that there were some teachers who seemed content with the notion that when a student cheats he (she) is hurting no one except himself (herself). Apart from this, Drake asserted there were other teachers "who view cheating as evidence of a basic defect of character … still, others interpret such behaviour as a direct affront to themselves" (p. 418). Teachers falling in the latter group would be vigilant to detect anything that could indicate the presence of academic dishonesty in their own environment.

One of the overriding assumptions underlying academic dishonesty of students is regardless of the efforts made by students, they want to get a passing grade. According to Drake (1941), it is examinations that often prevent this from happening. There is a recognition that students do not want to fail irrespective of their efforts, and therefore ingenious ways are often explored to prevent failure. Often times, students' actions lead to academic dishonesty.

The search to find clues to students' attitudes toward cheating has been around for a long time. Anderson (1957) explained that students might become more defensive when they have to provide an opinion on the subject of cheating. Anderson stated his conclusion that:

> In the rating of twenty-eight situations originally labelled as cheating, university students expressed attitudes that certain ways of behaving are definitely cheating and that certain other ways of behaving are but slightly better on a moral basis. But not all situations were considered cheating; certain ways of behaving are thought of as being desirable. Thus, a hierarchy of what constitutes good and poor study and test behaviour does exist (p. 587).

However, the single most important criticism of Anderson's (1957) study is that it did not indicate how he arrived at his conclusion, nor did he address the basis upon which the sample was selected. In relation to sample selection methods, Kalton (1983) points out that the use of probability sampling over non-probability does provide varying degrees of analysis and interpretation.

The 1960s brought their own set of problems without discarding the lessons learned in the previous decades. With academic dishonesty not relenting to good order and academic honesty, various researchers attempted to come to terms with issues such as falsification of examination marks (Black, 1962), an exploration of the sub-cultural influence on academic behaviour (Ramsey, 1962), college cheating in terms of situational variables (Hetherington & Feldman, 1964), scholastic dishonesty (Bonjean & McGee, 1965), and academic integrity and its impact on social structure (Harp & Taietz, 1966). A repeated conclusion of these studies shows that students do think that it is acceptable to cheat under certain circumstances.

What is unclear from the studies identified in the preceding paragraph is whether exposure to ethics would provide students with a clearer understanding of contradictions as articulated by Steininger, Johnson, and Kirts (1964, p.323) who wrote:

> In view of the interpretation that students are basically aware that they are doing wrong, it may seem puzzling that Guilt does not increase as Copying and Letting others copy increase. To feel and admit guilt, however, would be to say that one's behaviour is not justified, which would contradict the

subjects' view that cheating is justified under certain conditions, precisely those in which they say they would cheat most.

One of the criticisms of the Steininger et al.'s (1964) and Steininger (1968) findings is that the study was done at a university that did not have an honour code system. Therefore, one would not know whether those conclusions were generalizable to universities that have an honour code system. Another criticism is that although their study (Steininger et al., 1964, p.324) concludes "grades achieved with cheating may lower self-esteem", there was no earlier reference to this variable (self-esteem). The suggestion was not supported in their findings. This, notwithstanding, a positive attribute of the Steininger et al. (1964) study is it demonstrates unequivocally that academic dishonesty is a behaviour that some college students exhibit as early as their first year.

In the 1970s, Carbone (1970) provided some perspective to the need to attack this epidemic in the university system before it takes greater root. Carbone stressed the need to start the process of socializing young minds—a process that he argues must begin in the classroom—yet not abandon the older minds, which he argues must be exposed to "critical ethical inquiry" (p. 598). There is a clear indication that Carbone saw the need for an introduction of moral education as part of the curriculum both in school systems and in higher education. One of the problems he stressed, however, is an acknowledgement that character education is long overdue and there is "great difficulty in working it into our education system" (p. 598).

There are contrasting views as some people feel that any training in moral education must begin at home (Carter, 2005) and not be shifted to the teachers.

Carbone concludes that if there is a tacit agreement for teaching moral education, it will have implications for how teachers are trained. He fervently believed that if academic dishonesty was to be eliminated, moral education must be integrated into the school curriculum.

Several researchers (Houston, 1976; Houston & Ziff, 1976; Vitro & Schoer, 1972) have made it abundantly clear that cheating will occur among students depending on the situation present at the specific time. Baird (1980) concluded he was not surprised that cheating had increased. He expressed the view that moral infection was not a significant issue and discounted its importance in his study. Baird was more concerned that cheating had become more contagious as more students appear to be taking this route as the normal way to complete their academic programmes because "college students do not see cheating as unusual … most [students] feel cheating is morally wrong and may feel guilty about it, but they practice it anyway" (p. 520).

Baird (1980) provided some introspection of the patterns applicable to the beginning of the 1980s. He questioned the relationship between character traits and the incidence of academic dishonesty and asserted there was little evidence to support the notion that character is intertwined with student behaviour. In examining patterns among college students, Baird took the position that the extent of academic dishonesty depends on certain situational factors. For example, if students were writing a tough examination, crammed in a small room, with no one to supervise them, this might present an opportunity to cheat.

Midway through the 1980s, the research took a new turn and began to focus on some of the ethical issues of students' academic dishonesty. The scene was

becoming more populated by ethics researchers (Beltramini, Peterson, & Kozmetsky 1984) who attempted to rationalize behaviour in terms of the dilemmas students face as they transition from the college environment to a corporate employee.

The 1990s were ushered in with a continuation of the discussions on academic ethics. The discussions ranged from the legal aspects of academic dishonesty such as the issues of due process and types of sanctions to be imposed (Bricault, 2007) to various dimensions of unethical practices by students such as cheating, plagiarizing, and abusing technology (Fawkner & Keremidchieva, 2004). It became clear that there was an urgent need to arrest this epidemic before it caused further damage to educational institutions, particularly those of higher learning (Buckley, Wiese, & Harvey, 1998).

Historically, researchers looked at the problem of academic dishonesty more from a generic viewpoint (e.g., the frequency of cheating) and appeared to be content with the notion that cheating and plagiarism were indeed on the increase (Thompson, 2006). Daniel and King (1997, p.78) discussed the importance of self-esteem and how it affects students' behaviour. They argued that "reduced self-esteem may inhibit academic achievement, an outcome that has been positively correlated with perceptions of self". Daniel and King concluded that "inclusion programmes may not necessarily help to raise students' self-esteem" (p. 79). Taken as a whole, however, there appears to be some hope that raising students' self-esteem may reduce the possibility of educational failure among students (Mecca, Smelser, & Vasconcellos, 1989). Mecca et al. conclude a connection between self-esteem and behaviour. One of the most thought-provoking arguments was put

forward by Crown and Spiller (1998, p.694), who provided a comprehensive review of cheating in colleges based on 25 years of research. They found issues relating to the quantification of the extent of cheating across studies. Crown and Spiller suggested that because each study provided its own percentage in terms of quantifying academic dishonesty, it was erroneous to give a broad interpretation "without regard for important boundary conditions". They asserted there could be some biases in the accuracy of trying to quantify academic dishonesty and so the issue of the validity of self-reporting may influence the accuracy of any percentage reported. Crown and Spiller (1998, p.696) fervently believe that self-reporting is important to any discussion on validity and stated:

> If behaviours are at higher levels of societal, professional, or institutional acceptability, self-reports may be a fairly accurate appraisal of actual behaviours, which if in error may err on the side of over-reporting. Conversely, if behaviours are at the low end of acceptability, self-reports may under-estimate actual behaviour.

Despite the challenge to the contentious argument on self-reporting, the authors did not provide an alternative in terms of how prevalent behaviours could be recorded. The assumption has to be made that respondents are truthful and that they provide a reasonable measure of each response.

McCabe, Trevino and Butterfield (1999) sounded the alarm that academic dishonesty was increasing and that it had become a worldwide epidemic. Similar views were endorsed by Desruisseaux (1999) who stated cheating and plagiarism were found everywhere, both in the United States and overseas. Yet a slightly

earlier study (Crown & Spiller, 1998) refuted any increase in academic dishonesty. Instead, Crown and Spiller approximated the discrepancy to varying time periods of each study and the methods employed to obtain the data. Crown and Spiller found no argument to substantiate findings such as McCabe et al.'s (1999) claim which purports an increase in academic dishonesty, and what reasons contribute to such increase.

A recapitulation of almost 80 years of literature (1920s through 1990s) on academic student misconduct reveals that academic dishonesty is not a new phenomenon. Essentially, the literature has moved from an examination of the character traits of cheaters as well as potential cheaters to some of the factors associated with academic dishonesty. Likewise, one of the lessons learned in this period is that there are varying thoughts of how widespread academic dishonesty may have been at any time.

The issue of an honour code system, though only infrequently mentioned, represents a way to better understand the relevance of a code on academic integrity. The presence of an honour code system could influence how students behave (Kidwell, 2001; McCabe et al., 1999). However, there is insufficient evidence available to determine the impact that honour code has on academic dishonesty.

Gender, programme, and academic dishonesty between 1920s and 1990s

Anderson (1957) showed that male students were less predictable in their attitudes toward cheating than female students. He further stated that there were variations of responses in terms of academic programmes being pursued by participants in the study. To the extent that this is true, it serves as one example of

the reasons for which arts and science female students would be less tolerant about cheating than female education graduates. In contrast, in a more recent study among college students (N = 380), Al-Qaisy (2008, p.144) found "males use procedures of cheating more than females in examinations, reports and papers". He reported "females are more committed to the regulations of the university in regard to cheating and the studies indicating that males are more likely to cheat are common" (p. 144).

In the latter part of the 1990s, however, there was a realization that the propensity of cheating was different between male and female students (Ameen, Guffey, & McMillan, 1996; McCabe & Bowers, 1994; Whitley, Nelson, & Jones, 1999). None of the findings provided adequate reasons for the differences in gender behaviour. It soon became clear that academic dishonesty and unethical practices were not confined to any specific programme of study. There was cheating in medical schools (Sierles, Hendricks, & Circle, 1980), in business schools (Brown, 1995; McCabe & Trevino, 1995; Sims, 1993), in academe (Tom & Borin, 1988), in information technology (Sheard, Markham, & Dick, 2003), in education (Ferrell & Daniel, 1995), in engineering (Brown, 1996), in economics (Kerkvliet, 1994), and in pharmacy (Bates, Davies, Murphy, & Bone, 2005).

Another key lesson learned from this period is that some students in almost all majors (e.g., business, engineering, medicine, economics, liberal arts) in one way or another engage in academic dishonesty. One of the critical omissions of this period has been the investigation of the extent to which instruction in ethics may

influence students' thoughts, actions, or consideration as they contemplate engaging in certain forms of misconduct.

Current period—2000 and beyond

As Desruisseaux (1999, p. A45) puts it, "a disturbing and fast-growing problem now plagues education around the world: academic fraud". There is greater awareness among several universities across the globe that student misconduct will destroy the credibility of these institutions (Allmon, Page, & Roberts, 2000).

Against the backdrop of ethical problems in the business sector, Allman et al. (2000) explored some of the factors that have plagued business students influenced by academic dishonesty (e.g., cheating, copying and pasting without proper citation). They argued that issues in the classroom relate very closely to what happens in the business community. In relation to the need for change, Maxwell (2003, p.6) provided similar views when he indicated that "there is an increasing desire for ethical dealing in business" (p. 6). Allman et al. (2000) suggested that although factors such as gender, country of origin, and personality are important, the most dominant factors related to classroom ethical behaviours are age and religion. They concluded that their findings were similar to earlier studies done by Forsyth and Berger (1982, p.56), which suggest "ideology was not related to behaviour".

The year 2000 will be remembered by educational institutions, business leaders, and politicians as the year that attracted tumultuous discussions on ethics. Hendershott, Drinan, and Cross (2000) suggest the need to involve every layer of an institution, including students, lecturers, administrators, and governing boards

as key to the creation of a culture that will support and sustain a climate of academic integrity. According to McCabe and Pavela (2000), some institutions that do not have traditional honour codes may have other policies in place to help promote academic integrity. Student involvement is central to the ethical community-building approach. McCabe & Pavel, (2000) point out that such an approach does not only communicate to students that [their] institution is committed to academic integrity, it also encourages students to take responsibility for their own behaviour. Those policies that include strong student participation in the judicial process may be considered "modified honour codes." McCabe has become the leading writer on students' misconduct based on numerous studies (McCabe,1992; 1993; McCabe & Bowers, 1994; McCabe & Pavel, 2000; McCabe & Stephens, 2006; McCabe, Trevino, & Butterfield, 2002; Roth & McCabe, 1995).

Over the period of his research, McCabe demonstrated unequivocally that academic dishonesty among students was one of the most menacing challenges to the education system. One of the reasons is that it threatens scholarship as well as the validity of academic performance. In the words of Robinson and Moulton (2005), some critics may argue that the various findings may be a function of when the research was done, but not lose sight that there are unresolved academic problems, particularly among students in higher education

In the beginning of 2001, most discussions on academic dishonesty centred on the proverbial damages to the education system. At least one study (Wajda-Johnston, Handal, Brawer, & Fabricatore, 2001) in the USA argued that academic dishonesty extends beyond the undergraduate level. Wanda-Johnston et al.'s study provided a glimpse of hope in that doctoral students' fares better in academic

honesty than master's level students. There is some realization at the doctoral level that creativity and originality are important factors for the advancement of scholarly work. In any case, academic dishonesty at the doctoral level will have dire consequences on careers.

Brown and Howell (2001) elevated the discussion on academic dishonesty from a mere knowledge that cheating exists to a realization that action needs to be taken to prevent further erosion of the education system. They questioned the extent to which policy statements change students' perspectives on plagiarism. Brown and Howell (2001) asserted that "educational institutions should publish statements on academic dishonesty, giving clear definitions and guidelines on how to avoid inadvertent plagiarism". Further, they reported on the severity of the problem among students to whom plagiarism statements had been read, even though the students regarded the matter as being serious. Brown and Howell (2001) stated their position with respect to the efficacy of a policy statement on plagiarism:

All the respondents showed remarkable consistency in their understanding of the necessity of citing sources, with a large majority of respondents reporting that it was absolutely necessary to cite a textbook from which text had been copied or paraphrased. This finding further supports the contention that the effect of educational information was probably not to change the respondents' understanding of the definition of plagiarism but rather to change their perception of the severity of the problem. (p. 115)

Brown and Howell (2001) did not explain whether the students' perceptions would have changed had they been exposed to a course in ethics, or how this would influence the students' moral values.

As the debate continued, it became apparent that although researchers had agreed on the existence of academic dishonesty, there were inconsistencies in terms of the findings gleaned from each study. One of the most contentious issues appeared to be whether academic dishonesty was increasing or decreasing with the passage of time. For example, prior to 2000, McCabe and Bowers (1994), Cole and McCabe (1996), and Baird (1980) all pointed to an increase in the level of academic dishonesty. Their claims, however, were refuted by Brown and Emmett (2001), and Spiller and Crown (1995) who found no evidence of an increase in academic dishonesty.

In the period 2002 through 2008, there was a flurry of publications focused on gaining a better understanding of students' misconduct. Discussions ranged from moral development in higher education (Damon, 2002; King & Mayhew, 2002; Swanger, 2002) to the call for the integration of business and ethics into the university curriculum (Arnold, Martin, Jinks, & Bigby, 2007; Culwin, 2006; Dahl, 2007; Dodd, 2006; Iyer & Eastman, 2006; Rakovski & Levy, 2007). A common thread through these studies was that no discipline (e.g., law, engineering, accounting, finance) escaped being impacted by academic dishonesty.

In concluding this section on the developments of academic dishonesty, which covers the period 2000 through 2009, one of the most intriguing questions is: Are there lessons to be learned? There is growing intolerance for plagiarism among both faculty and students. With the erosion of scholarship, there is a genuine

concern that unless university authorities attack this chronic epidemic that is rampant in universities, they run the risk of invalidating the diplomas they award (Bricault, 2007; Ellery, 2008; Engler, Landau, & Epstein, 2008; Fossey & Cutright, 2009; Olabisi, 2009). The question may become: Did the students genuinely earn the grades they received? Questions have also been raised in terms of whether institutions of higher learning are doing enough to prevent academic dishonesty. It is a good thing that external threats should force institutions of higher learning to institute more stringent policies in terms of what happens when students engage in various forms of academic dishonesty.

Finally, Machan (1997) asserts that human actions are more clearly understood if one goes back to history. It provides a reference point so as to gain a better understanding of what may have influenced particular actions at the time. Clearly, it seems that if people in educational institutions forget the past, they are likely to make the same mistakes now and in the future. Universities need to take a firm stance on academic dishonesty.

Concept, Prevalence, Dimensions and Perpetrators of Academic Dishonesty

Academic dishonesty has been defined as "the intentional participation in deceptive practices regarding one's academic work or the work of another" (Gaberson, 1997, p.14). Symaco and Marceb (2003) defined academic dishonesty as a contravention of rules and regulations among most tertiary education institutions. They suggested that academic dishonesty is a serious disorder that has no lasting solution no matter how hard or how much effort the institution tried to eradicate it. Academic dishonesty is multifaceted and is comprised of various forms

of plagiarism, cheating in tests and examinations, unauthorised help, and evading the process of assessment (Akbulut et al., 2008; Arhin & Jones, 2009; Faucher and Caves, 2009; Nonis & Swift, 2001; Passow et al., 2006; Teferra, 2001). Several forms of academic dishonesty are defined below.

Plagiarism: Akbulut et al. (2008) defined plagiarism as the illicit use of any form of information without acknowledging the original source. It has been suggested that students do not view plagiarism offences as severely as academic staff (De Jager & Brown, 2010). They further state that students may commit plagiarism without intending to do so, and that intent should be the main factor in determining whether or not an individual is guilty of plagiarism.

Cheating: Cheating is said to occur when students submit work that is copied from the work of a peer, or allows another student to copy from their work (Faucher & Caves, 2009; Passow et al., 2006). This can occur in examination and homework settings (Harding, et al., 2007). Academic dishonesty was reported in test settings where students communicated by way of a code which they had developed among themselves prior to the test, using body language or the clicking of writing utensils (Davis et al, 1992; Faucher & Caves, 2009).

Unauthorised use of information: The use of unauthorised information is another form of academic dishonesty. This form of academic dishonesty has been reported in test and examination settings (Arhin & Jones, 2009; Davis et al., 1992; Faucher & Caves, 2009). It was reported that some students hide calculators down their pants prior to a test, and hide notes in a plastic bag in their mouths for use during a test (Davis et al, 1992). Students may write crib notes onto their arms and

hide these under long sleeves (Arhin & Jones, 2009; Faucher & Caves, 2009). It has been reported that students would record information for an examination onto a cassette tape prior to writing a test and then utilise a walkman or similar device in the examination to playback the recorded information (Arhin & Jones, 2009; Faucher & Caves, 2009). More recently, iPods have been used to store pre-recorded information (Faucher & Caves, 2009). Students then take these into the examination under the premise that the music on the iPods is being used to block out noise (Faucher & Caves).

Evading the process of assessment: Students avoid assessment processes by not writing examinations themselves, or by claiming that parts of an examination paper were missing (Teferra, 2001; Faucher & Caves, 2009). These practices have been reported in higher educational institutions. In a study of the prevalence and implications of academic dishonesty at higher educational institutions in Ethiopia, it was identified that students would not hand in examination attendance or registration forms so that the student can sit for another examination if the current examination is failed (Teferra, 2001). Teferra found that students would remove the difficult sections of the examination question paper so that if they fail, they can claim that their failure is the fault of the institution for not supplying them with a complete question paper. Students may employ the use of an impersonator to write their examinations on their behalf (Faucher & Caves, 2009).

Faculty members facilitated academic dishonesty: Faculty members may also be guilty of committing academic dishonesty. By colluding with students and giving them information as to the contents of their examinations, faculty members

could be said to be guilty of academic dishonesty (Faucher & Caves, 2009). An indirect method of aiding academic dishonesty is that of faculty members allowing students to go to the bathroom unsupervised during examinations. This could allow students the opportunity to go through notes that they have hidden on their person prior to the examination (Faucher & Caves).

Schmelkin, Gilbert, Spencer, Pincus and Silva (2008) identified another indirect way in which faculty members could facilitate academic dishonesty in students. The study indicated that faculty members at Ohio State University do not always report every incidence of academic dishonesty that they witness. Jones, et al. (2008) found that even though 46% of students reported having plagiarised, only 15% of those students had been caught. This could mean that faculty members did not notice the plagiarism, or that they were disinclined to report it (Jones et al., 2008). It has been proposed that failure to report academic dishonesty reinforces the academic dishonesty behaviours in the student, as the student believes that he will not get caught (Schmelkin et al, 2008). Failure to report academic dishonesty may perpetuate the cycle of academic dishonest behaviours by students (Schmelkin et al. 2008).

Faculty members may be reluctant to report academic dishonesty behaviours to avoid becoming involved in extensive litigation processes (Davis et al., 1992). They may not report academic dishonesty for fear of being seen as the person responsible for having a detrimental effect on a student's career (Davis et al, 1992).

Theories and Models of Academic Dishonesty

The issue of academic dishonesty has preoccupied the minds of many stakeholders including researchers and psychologist (Beck & Ajzen, 1991; DeVries & Ajzen, 1971; Graham, Monday, O'Brien, & Steffen, 1994; Genereux & McLeod, 1995; Haines, Diekhoff, LaBeff, & Clark, 1986; McCabe, Trevino & Buttefield, 2001a; Jordan, 2001; Whitley, 1998).

These behaviours can be premised on theories. These theories form the framework of the study and should be considered as guidelines for discussing academic dishonesty. A careful study of the various theories would reveal that they in sum, provide an explanation of principles and concepts behind academic dishonest behaviour of individuals.

There might have been many theories either directly or indirectly (explicitly or implicitly) on academic behaviour. This present study has presented the following theories that underpin and relevant to academic behaviour:

i.   Classical test theory

ii.   Theory of planned behaviour

iii. Expectancy value theory

The use of classical test theory by Spearman (1904) to explain academic dishonesty.

The harm perpetuated by academic dishonesty can be properly understood using classical test theory. Classical test theory assumes that each person has a true score, T, which would be obtained if there were no errors in measurement. A person's true score is defined as the expected number-correct score over an infinite

number of independent administrations of the test. Unfortunately, test users never observe a person's true score, only an observed score, X. It is assumed that observed score = true score plus some error, hence the equation:

X (Observed score) =   T (true score) +   E (error)

Classical test theory is concerned with the relations among the three variables, X, T and E in the population. These relations are used to say something about the quality of test scores. In this regard, the most important concept is that of reliability. The reliability of the observed test scores X which is denoted as $\rho^2xт$ is defined as the ratio of true score variance σ^2T to the observed score variance σ^2X.

That is: $\rho^2XT = \frac{\sigma^2T}{\sigma^2X}$

It is to be noted that the undeserved or strange score brought about by academic dishonesty is embedded in error score (E). A cursory look at the equation shows that:

i) The difference between X and T is the Error Score (E);

ii) It is our noble desire that as much as possible, X is close to, if not equal to, T;

iii) The smaller the value of E, the closer is X to T (in fact, if E is zero, X = T). Conversely, the bigger the value of E (unmerited score obtained courtesy of academic dishonesty), the farther is X from T.

iv) If E is very large, T diminishes, and X approaches E. This implies that the higher the value of error score occasioned by academic dishonesty, the more the school and public assessment scores deviate or diminish from true abilities of those who make or own those scores. Those scores essentially but embarrassingly

represent/reflect errors and intangibles, and everything else apart from the actual/true abilities of their owners.

The error scores affect test reliability and validity negatively. This suggest that the dependability or precision of test score is necessary to make accurate and sound inferences from the scores. Test scores must be dependable or reliable from random error in order for users to make meaningful inferences about these scores. Little wonder then that some owners of high scores in our school/public examinations can hardly perform or exhibit behaviours that are consistent with the high scores and how some university graduates can hardly perform to the expectation of the society/employers. That is the harm caused by academic dishonesty. The million-dollar question that is of concerned to many is what influences the students to engage in academic dishonest behaviour? Ajzen explain this using the theory of planned behaviour.

Theory of planned behaviour (TPB)

The TPB has been used to investigate different social behaviours since its development, and in some recent studies, it has also been used to investigate academic dishonesty (Harding et al., 2007; Stone et al., 2010). The TPB aims to understand and predict intentions to perform or not to perform social behaviours in various contexts (Ajzen, 2005; Ajzen & Fishbein, 2005; Beck & Ajzen, 1991).

The TPB is based on the assumption that human beings are rational and that any human social behaviour is predetermined by an intention to engage in target behaviour (Ajzen, 2005). The intention to engage in a target behaviour is strengthened by the degree of control the individual has over the performance of

the target behaviour (Ajzen, 2005). If the individual holds a strong intention to engage in a target behaviour, then the likelihood of the behaviour being performed is increased (Ajzen, 2005).

The TPB has been shown to be successful in explaining intentions to engage in a variety of human social behaviours such as shoplifting, recycling, and school attendance, among others (Stone et al., 2010). Figure 3 is a graphic representation of the theory of planned behaviour as described up to this point.
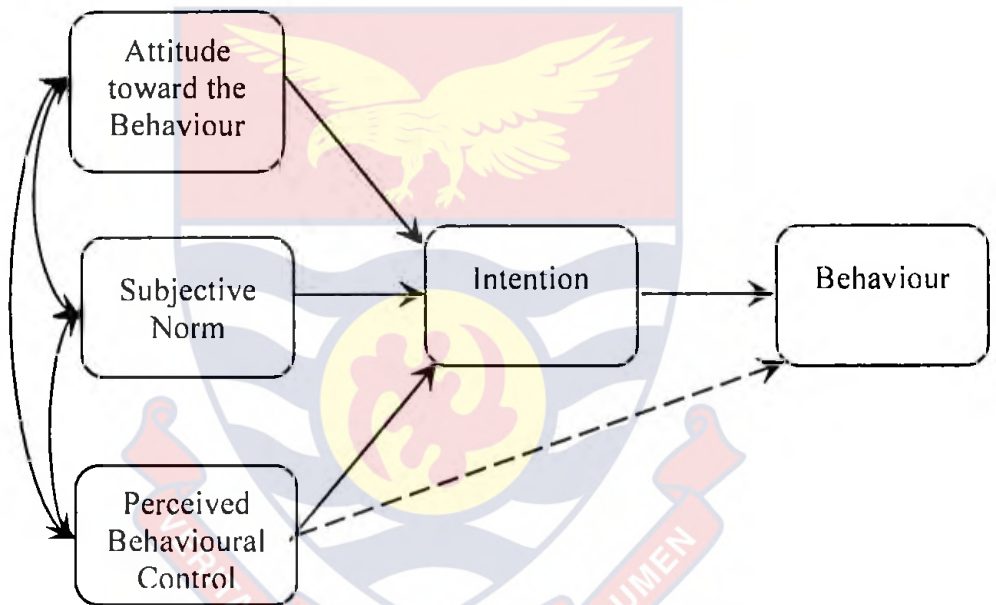
Figure 3:. The Theory of Planned Behaviour (Ajzen, 1991)

The theory of planned behaviour is based on the assumption that human beings usually behave in a sensible manner; that they take account of available information and implicitly or explicitly consider the implications of their actions. The theory postulates that a person's intention to perform or not to perform a behaviour is the most important immediate determinant of that action (Ajzen, 2005).

According to the theory of planned behaviour, intentions (and behaviours) are a function of three basic determinants; one, personal in nature, two, reflecting social influence, and a third, dealing with issues of control. The personal factor is the individual's attitude toward the behaviour.

Unlike general attitudes toward institutions, people, or objects that have traditionally been studied by social psychologists, this attitude is the individual's positive or negative evaluation of performing the particular behaviour of interest. The second determinant of intention is the person's perception of social pressure to perform or not perform the behaviour under consideration. Since it deals with perceived normative prescriptions, this factor is termed subjective norm. Finally, the third determinant of intentions is the sense of self-efficacy or ability to perform the behaviour of interest, termed perceived behavioural control (Ajzen, 2005). Generally speaking, people intend to perform a behaviour when they evaluate it positively, when they experience social pressure to perform it. and when they believe that they have the means and opportunities to do so.

The theory assumes that the relative importance of attitude toward the behaviour, subjective norm, and perceived behavioural control depends in part on the intention under investigation. For some intentions, attitudinal considerations are more important than normative considerations, while for other intentions normative considerations predominate. Perceived behavioural control is more important for some behaviours than for others. In some instances, only one or two of the factors are needed to explain the intention, while in others, all three factors are important

determinants. In addition, the relative weights of the three factors may vary from one person to another, or from one population to another.

The theory of planned behaviour does not deal directly with the amount of control a person actually has in a given situation; instead, it considers the possible effects of perceived behavioural control on the achievement of behavioural goals. Whereas intentions reflect primarily an individual's willingness to try enacting a given behaviour, perceived control is likely to take into account some of the realistic constraints that may exist. To the extent that perceptions of behavioural control correspond reasonably well to actual control, they should provide useful information over and above expressed intentions.

Figure 3 shows two important features of the theory of planned behaviour. First, the theory assumes that perceived behavioural control has motivational implications for intentions. People who believe that they have neither the resources nor the opportunities to perform a certain behaviour are unlikely to form strong behavioural intentions to engage in it even if they hold favourable attitudes toward the behaviour and believe that important others would approve of their performing the behaviour. Thus, there is an association between perceived behavioural control and intention that is not mediated by attitude and subjective norm. In Figure 3, this expectation is represented by the arrow linking perceived behavioural control to intention.

The second feature of interest is the possibility of a direct link between perceived behavioural control and behaviour. In many instances performance of a behaviour depends not only on motivation to do so but also on adequate control

over the behaviour in question. It follows that perceived behavioural control can help predict goal attainment independent of behavioural intention to the extent that it reflects actual control with some degree of accuracy. In other words, perceived behavioural control can influence behaviour indirectly, via intentions, and it can also be used to predict behaviour directly because it may be considered a proxy or partial substitute for a measure of actual control.

Of course, in some situations perceived behavioural control is not particularly realistic. This is likely to be the case when the individual has little information about the behaviour, when requirements or available resources have changed, or when new and unfamiliar elements have entered into the situation. Under those conditions a measure of perceived behavioural control may add little to accuracy of behavioural prediction. The broken arrow in Figure 2 indicates that the link between perceived behavioural control and behaviour is expected to emerge only when there is some agreement between perceptions of control and the person's actual control over the behaviour.

Intentions; According to the TPB, intentions are the product of three antecedents: the attitude towards the behaviour, the subjective norm, and perceived behavioural control over the behaviour (Ajzen, 2005). The strength of the influence of the three antecedents on intention may vary according to the behaviour and the context (Ajzen, 2005). A strong intention to perform a target behaviour will be the result of a favourable attitude and subjective norm towards the behaviour, as well as strong perceived behavioural control (Ajzen, 2005).

Attitudes; The attitude towards a target behaviour is the individual's evaluation of the behaviour in question (Ajzen, 2005). To Ajzen, this is based on the individual's positive or negative beliefs about the outcomes of performing the target behaviour which is referred to as behavioural beliefs. It can, therefore, be concluded that the attitude towards a target behaviour is the product of the values placed on these behavioural beliefs. Ajzen further posits that if an individual has mostly positive beliefs towards the outcome of a target behaviour, then the individual will form a positive attitude towards the behaviour. From Ajzen's position, a favourable attitude towards the target behaviour will increase the intention of the individual to perform the behaviour. For example, a person may believe that 'cheating in an examination'(behaviour) 'produces better grades', 'leads to change in life style during examination', look for 'ways and means' to earn better grades.

Subjective norms; The subjective norm is defined as the individual's "perception of the social pressures put on him to perform or not perform the behaviour in question" (Ajzen, 1985, p.12). To Ajzen, the subjective norm is a function of the normative beliefs held by the individual and that normative belief comprised of individuals' beliefs that referents (those important to them) feel that they should engage or not engage in the behaviour, and the individuals' motivations to comply with the behaviour. Individuals will develop a favourable subjective norm towards behaviour if their referents with whom they are motivated to comply believe that they should perform the behaviour (Ajzen, 2005). According to the TPB, (Ajzen, 2005) the stronger the subjective norm, the stronger the intention to

perform a target behaviour. However, if individuals experience social pressure from their referents not to engage in a target behaviour, then they may feel pressure to avoid engaging in the behaviour.

Perceived behavioural control; Perceived behavioural control is the individual's "perception of the ease or difficulty of performing the behaviour of interest" (Beck & Ajzen, 1991, p. 183). Perceived behavioural control is determined by control beliefs about the availability of the required resources and opportunities required to perform a target behaviour (Ajzen, 1991). These beliefs according to Ajzen, are based on a combination of past experiences of the behaviour, information obtained from others about the behaviour, as well as other factors that will increase the ease of performing the behaviour. Ajzen posits further that if individuals believe that they have the required resources and opportunities necessary to perform a target behaviour, and perceive few obstacles, then their perceived behavioural control will most likely be strong.   If the perceived behavioural control is a reflection of actual control, then there will be a direct relationship between perceived behavioural control and the target behaviour (Beck & Ajzen, 1991).   However, Ajzen argues that perceived behavioural control is related to self-efficacy (Bandura, 1977) in that both reflect the perceived ability to perform a behaviour. An example of perceived behavioural control's influence on academic dishonesty is McCabe et al.'s (2002) finding that students' degree of certainty of being caught engaging in academic dishonesty predicted extent of dishonesty regardless of institutional policies regarding the misconduct. Thus, students have a greater propensity to engage in misconduct if sanctions are not

imposed or are not severe enough to outweigh potential benefits of cheating even when instructors and administrators warn students about the consequences of cheating (Bunn etal., 1992; McCabe et al., 2002).

The theory of planned behaviour with the inclusion of additional factors

One of the most common criticisms of the Theory of Planned Behaviour is that the constructs in the theory are not sufficient to predict behaviour, and that other constructs such as moral norm and past behaviour should be included in order to predict behaviour more accurately (Beck & Azjen, 1991; Tonglet et al., 2003). Ajzen (1991) stated that "the Theory of Planned Behaviour is open to the inclusion of additional predictors if it can be shown that they capture a significant proportion of the variance" (p. 199).

Harding et al.'s (2007) model of academic cheating

Harding et al (2007), drawing from the work of Whitley (1998), used Ajzen's (1991, 2002) theory of planned behaviour as a model for exploring undergraduate students' decisions to cheat. The theory of planned behaviour is based on the premise that humans are rational beings and make decisions to engage in a specific behaviour by weighing the costs associated with engaging in that behaviour against the "expectation of a positive outcome after having engaged in [that] behaviour" (Harding et al., 2007, p. 559). Harding et al.'s modified model (see Figure 4) consisted of four factors thought to influence how students weigh the costs associated with cheating. Three of the factors are original to Ajzen's theory of planned behaviour model (indicated in Figure 4 by the box drawn with a dotted line). These factors include attitudes toward cheating, subjective norms, and

perceived behavioural control. Harding et al. added a fourth factor, moral obligation (not to cheat), as an additional predictor of cheating in their proposed model.
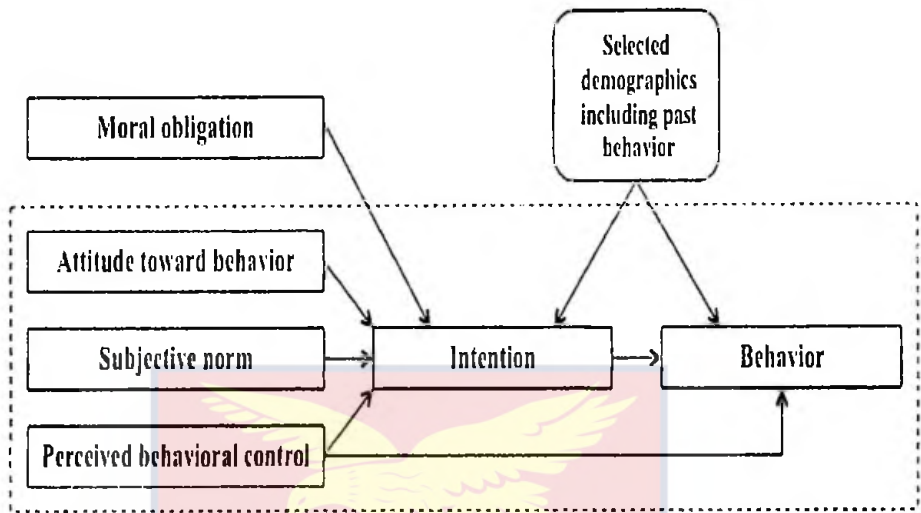
Figure 4: Harding et al.'s (2007) model of academic cheating

The four motivational factors in the Harding et al. (2007) model were proposed as predictors of students' intentions to cheat and intention was proposed as a direct antecedent of cheating behaviour and a possible mediator of the effects that demographic variables (including past cheating behaviour) have on cheating behaviour.

Intention; Intention to engage in a specific behaviour refers to the "motivation required to perform a particular behaviour, reflecting an individual's decision to follow a course of action, as well as an index of how hard people are willing to try and perform the behaviour" (Armitage & Christian, 2004, p. 4). In the theory of planned behaviour, attitudes toward behaviour, subjective norms, and perceived behavioural control influence behaviour via the effects that they have on intention. In Harding et al. (2007) model intention to cheat is strongly and positively correlated with actual cheating behaviour.

Attitude toward Behaviour; Attitude toward behaviour refers to an individual's overall evaluation of a behaviour or an individual's inclination to respond either favourably or unfavourably toward a behaviour (Ajzen, 1991, 2002; Francis, Eccles, & Johnston, 2004; Harding et al., 2007). With respect to cheating, Harding et al. found that students who held more favourable attitudes toward cheating were more likely to cheat than students who held less favourable attitudes toward cheating.

Subjective Norms; Subjective norms about a behaviour refer to an individuals' perception of the "social pressure to perform or not perform the target behaviour" (Francis et al., 2004, p. 9). In studies of student cheating, subjective norms refer to the beliefs that students have about how people of importance (family, friends, etc.) will respond to their cheating behaviour (Harding et al., 2007). Harding and his colleagues model explain how students are more likely to engage in cheating behaviours when they perceive that norms are supportive of cheating.

Perceived Behavioural Control; Perceived behavioural control refers to the "extent to which a person feels able to enact the behaviour" (Francis et al., 2004, p. 9). Perceived behavioural control influences both intention and behaviour (Armitage & Christian, 2004; Harding et al., 2007). Greater perceptions of behavioural control increase the likelihood that an individual will engage in a specific behaviour (Armitage & Christian). Perceptions of behavioural control are based on past experience with the behaviour and on anticipated internal and external barriers to engaging in the behaviour (Harding et al, 2007). Therefore, a

student with a history of successful cheating who perceives a high degree of control over whether he or she would be caught cheating would be more likely to cheat than a student who is considering cheating for the first time and perceives a low degree of control over whether he or she would be caught cheating.

Moral Obligation; Harding et al. (2007) modified Ajzen's original theory of planned behaviour model by adding moral obligation as a motivational predictor. Moral obligation refers to an individual's "personal feelings of ...responsibility to either perform or refuse to perform, a certain behaviour" (Ajzen, 1991, p. 199). Moral norms differ from subjective norms in that they represent the personal pressures (shame and guilt) an individual place on him or herself as opposed to the social pressures that he or she feels from others (Harding et al, 2007). Harding et al. found that moral obligation not to cheat was associated with less cheating.

The theory of planned behaviour and academic dishonesty

The Theory of Planned Behaviour has found strong support in explaining and predicting academic dishonesty (Beck & Ajzen, 1991; Harding et al., 2007; Mayhew et al., 2009; Passow et al., 2006; Stone et al., 2010). The variables of a favourable attitude towards academic dishonesty, subjective norms in favour of academic dishonesty and perceived behavioural control have been found to be positively related to both intentions to engage in academic dishonesty, as well as academically dishonest behaviours (Stone et al, 2010; Mayhew et al, 2009). In a study using the TPB to explain academic dishonesty among Engineering and Humanities students in the USA, it was found that the constructs of attitudes, subjective norms and perceived behavioural control were more strongly related to

intention to engage in academic dishonesty than to academic dishonest behaviour (Harding et al, 2007).

Chang (1998) found that the TPB was effective in predicting unethical behaviours. Beck and Azjen (1991) found support for the TPB in an investigation of the usefulness of the theory in the prediction of dishonest actions among students in the US. The results of Beck and Ajzen's study showed that the Theory of Planned behaviour was able to predict the intentions to engage in dishonest behaviour with a high degree of accuracy and had moderate success in predicting dishonest behaviours.

Theory of Planned Behaviour was found to account for 27.8% of the variance in academic dishonest behaviour, with each component of the model having a significant, semi partial correlation to measures of academic dishonesty (Whitely, 1998). This result is supported by other studies of the Theory of Planned Behaviour and Dishonest Actions. Beck and Ajzen, (1991) utilise TPB to predict shoplifting, cheating on an examination or assignments in a sample of 146 psychology students. The results showed that the three TPB components perceived behavioural control explained the most variance in both cheating and lying. Armitage and Connor's (2001) study did a meta-analysis of TPB research and compared favourably with those of other academic misconduct studies. It was found that the model explained 39% of the variance in intentions and 27% in behaviour. Stone et al., (2010) and Harding et al., (2007) also found strong support for the TPB model to predict academic misconduct. This gives support for the efficacy of the theory in explaining academically dishonest behaviours.

Stone et al. (2010) evaluated the effectiveness of the Theory of Planned Behaviour on the prediction of academic dishonest behaviours in undergraduate business students. Thirty-six percent of the variance in academic dishonest behaviour was explained by the Theory of Planned Behaviour, with 21% of the variance in intentions explained by the components of attitudes, subjective norms and perceived behavioural control. In a meta-analytic review of the efficacy of the Theory of Planned Behaviour, Armitage and Connor (2001) found that the theory explained 20% of the variance in behaviour, adding further support to the usefulness of the theory.

Expectancy-value theory

Expectancy-value theory, developed by Atkinson (1957) and later refined and applied to achievement settings by Eccles and her colleagues (Eccles, 1983, 1987; Eccles et al., 1993; Eccles & Wigfield, 1995, 2002; Wigfield & Eccles, 1992, 2000, 2002; Wigfield, 1994), is a theory that describes how attitudes motivate and direct behaviour (Armitage & Christian, 2004). Expectancy-value theorists believe an individual's decision to engage in a task is a function of his or her expectations for success with that task and the value that he or she places on being successful in that task (Wigfield & Eccles, 2000).

Expectancy: Expectancy refers to the judgments that one makes about his or her ability to accomplish a specific task or achieve a specific outcome or goal (Murdock & Anderman, 2006). Bandura (1997) distinguishes between two types of expectancies: self-efficacy and outcome expectations.

Self-Efficacy: Self-efficacy is one's judgments of his or her ability to organize and execute the actions necessary to achieve in a given situation (Bandura,

1997). Self-efficacy is "concerned not with the skills one has but with the judgments of what one can do with whatever skills one possesses" (Bandura. 1986. p. 391). Self-efficacy beliefs are developed based on past experiences and successes with specific tasks or behaviours (Bong, 2006). Self-efficacy beliefs are domain specific (i.e., a specific class, subject matter, task, etc.) (Zajacova, Lynch, & Espenshade, 2005) which means that students can have high self-efficacy in one domain (i.e., science) and low self-efficacy in another (i.e., math). As a result, self-efficacy "must be evaluated at a level that is specific to the outcome domain" (Zajacova et al., pp. 678-679).

Outcome expectations. Outcome expectations refer to the "belief that a given action will lead to a given outcome" (Wigfield & Eccles, 2000). Lorsbach and Jinks (1999) distinguish between outcome expectations and self-efficacy indicating that outcome expectations refer to "the beliefs [that one has] regarding the results of given actions regardless of one's beliefs about one's personal efficacy to perform those actions" (p. 160). Therefore, a student may have high self-efficacy for successfully completing a given task (i.e., performing well on an assignment) but may have low outcome expectations because he or she believes that factors outside of his or her control will impact his or her ability to be successful (i.e., the lecturer has unfair grading practices) (Linnenbrink & Pintrick, 2003; Lorsbach & Jinks, 1999; Murdock & Anderman, 2006).

Both self-efficacy and outcome expectations work as powerful motivators of future behaviour by influencing the type of activities that one will choose to engage in, how much effort one will be willing to exert, and how long one will be

willing to persist when faced with challenges (Bandura, 1986, 1997; Bong, 2006; Eccles, 2005; Schunk & Pajares, 2002). With respect to motivation, research has found that self-efficacy is a better predictor of attitudes and behaviours than outcome expectations (Wigfield & Eccles, 2000). Bandura (1986) suggests that this may be because "the types of outcomes that people anticipate depend largely on their judgments of how well they will be able to perform in a given situation" (p. 392).

Value: Within an expectancy-value framework, the value is assessed with respect to a specific task and refers to the "quality of the task that contributes to the increasing or decreasing probability that an individual will select it" (Eccles, 2005, p. 109). Quality is assessed based on four components: attainment value, intrinsic value, utility value, and cost (Eccles; Wigfield & Eccles, 2000). Eccles defines these components as follows:

- Attainment value is the "personal importance attached to doing well on, or participating in, a given task" (p. 109).

- Intrinsic value is the "enjoyment one gains from doing the task or the anticipated enjoyment one expects to experience while doing the task" (p. 111).

- Utility value refers to the perceived "usefulness" of a task or "how a task fits into an individual's future plans…and personal goals" (p. 112).

- Cost is a measure of "how the decision to engage in one activity (e.g., doing school work) limits access to other activities (e.g., calling

friends)" (Wigfield & Eccles, p. 72). In this case, the cost is assessed with respect to lost time and energy. However, many factors influence one's perceptions and assessments of costs including anticipated anxiety, fear of failure, fear of social consequences, and fear of a loss of self-worth (Eccles, 2005).

Murdock and Anderman (2006) model of academic cheating

Murdock and Anderman (2006) used expectancy value theory as a framework for organizing the academic dishonest literature. Their work resulted in a proposed model of academic dishonesty (see Figure 4). The model consists of three motivational mechanisms thought to influence students' decisions to cheat: (a) goals, (b) expectations, and (c) costs. Murdock and Anderman framed each of these mechanisms with a guiding question that students consider as they approach their academic work: (a) "What is my purpose?" (b) "Can I do this?" and (c) "What are the costs (associated with cheating)?"
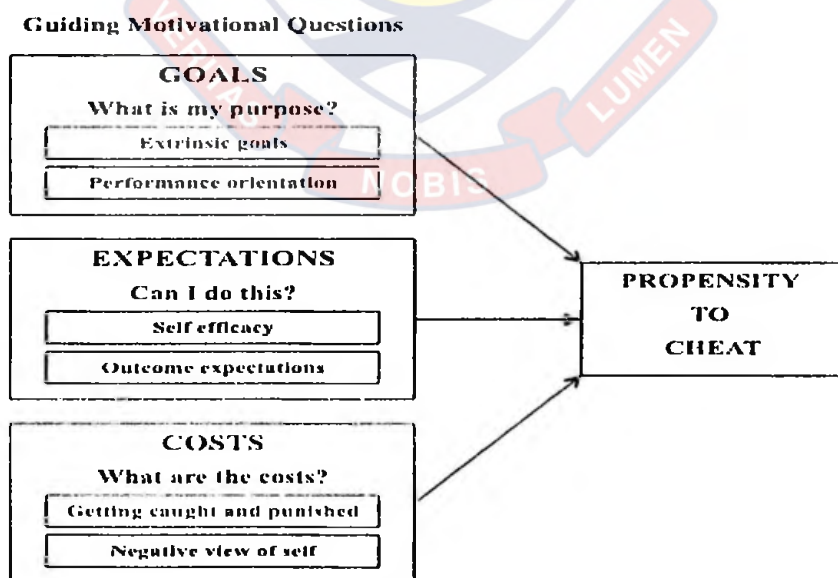
Figure 5: Murdock and Anderman's (2006) model for academic cheating

Question 1: What is my purpose?

Murdock and Anderman (2006) suggest that one of the first questions that students consider as they approach their academic work is "What is my purpose?" Within a motivational framework, the purpose is driven by goals. In their proposed model, Murdock and Anderman used motivation theory (Deci, 1975; Deci & Ryan, 1985; Deci & Ryan, 2000) and achievement goal theory (Ames, 1992; Ames & Archer, 1988; Dweck, 1986; Dweck & Leggett, 1988; Nicholls, 1984) to explain how motivations and goals drive academic attitudes and behaviour and, in turn, influence students' decisions to cheat. Based on their review of the literature, Murdock and Anderman proposed that students who are performance oriented (i.e., driven by a desire to achieve higher grades) would be more likely to cheat than students who are intrinsically motivated/mastery oriented (i.e., driven by a desire to learn).

Question 2: Can I do this?

Murdock and Anderman (2006) suggest that a second question that students consider as they approach their academic work is "Can I do this?" In their proposed model, Murdock and Anderman used self-efficacy theory (Bandura, 1986, 1997) and expectancy-value theory (Eccles, 1983) to explain how students' expectations for success drive their academic attitudes and behaviour and, in turn, influence their decisions to cheat. Based on their review of the literature, Murdock and Anderman proposed that students with low self-efficacy and negative outcome expectations would be more likely to cheat than students with high self-efficacy and positive outcome expectations.

Question 3: What are the costs?

After considering the first two questions, a student with strong performance goals, low self-efficacy, and low outcome expectations would be expected to be more motivated to cheat than a student with strong mastery goals, high self-efficacy, and positive outcome expectations (Murdock & Anderman, 2006). However, Murdock and Anderman suggest that before deciding to cheat, students consider a third and final question, "What are the costs (associated with cheating)?" In their proposed model, Murdock and Anderman used an expectancy-value framework (Eccles, 1983) to explain how students weigh the costs associated with cheating against the expected value of achieving their academic goals.

Based on their review of the literature, Murdock and Anderman identified two costs that students consider when deciding whether to cheat: the cost of getting caught and punished, and the cost associated with having to view themselves negatively. They proposed that when students are able to minimize these two types of costs, cheating is more likely to occur. In contrast, when students perceive that the costs outweigh the perceived gains, cheating would be less likely to occur.

Limitations of Murdock and Anderman's model

Murdock and Anderman's model (2006) was limited for three reasons. First, the model was purely conceptual and has never been tested. Second, the model included achievement goals but failed to include attitude, subjective norms, moral obligation, intention as well as well as demographic variables as possible predictors of cheating or academic dishonest behaviour. To address this gap, attitude, subjective norms, moral obligation, intention and demographic variables were

included in the model used in this study. Third, in the presentation of their model, Murdock and Anderman shift domains from an academic domain (academic goals and academic expectations) to a cheating domain (costs associated with cheating), which made the model conceptually confusing. Within an academic domain, constructs are framed with respect to students' academic beliefs and behaviours, whereas, within a cheating domain, constructs are framed with respect to students' cheating attitudes and behaviours. For example, self-efficacy framed in an academic domain would refer to the belief in one's ability to accomplish one's academic goals (i.e., achieve a good grade or learn the material). Whereas, self-efficacy framed in a cheating domain would refer to the belief in one's ability to successfully accomplish one's cheating goals (i.e., cheating without getting caught). This study aimed to address this weakness by clearly demonstrating how students' goals (achievement and expectations) are related to their perceptions of the costs associated with cheating.

Harding et al.'s (2007) model, which has been previously tested, was limited in two ways. First, in testing their proposed model, Harding and his colleagues relied solely on the use of semantic differentials scales (e.g. good vs. bad, positive vs. negative) to measure students' attitudes toward cheating. While semantic differentials provide a general description of students' overall attitudes toward cheating, they do not provide insight into why these attitudes exist. This study aimed to extend the Harding et al. model by exploring if and how students' academic goals and expectations influence them to be academically dishonest. Fig 6 presents the proposed model.
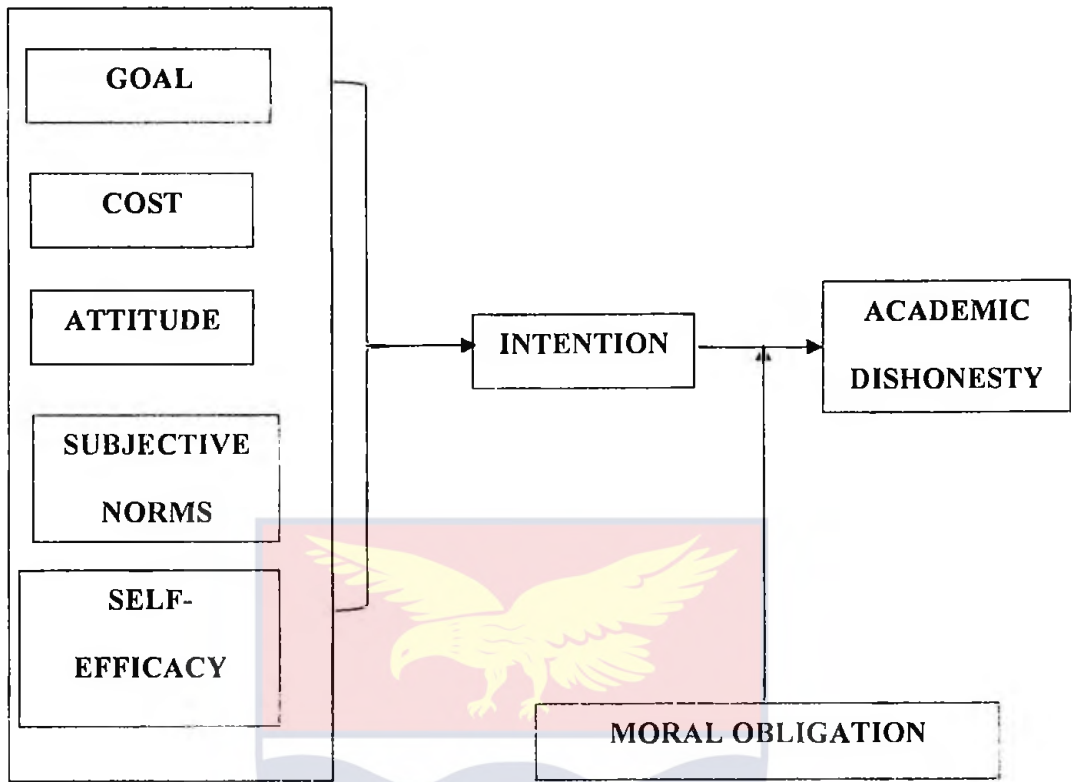
Figure 6: Proposed model of academic dishonesty

The model used in this study provides a framework for simultaneously exploring how students' goals, costs, attitude, subjective norms and self-efficacy influence students' decision to be dishonest or cheat. With respect to goals, the proposed model suggests that academic and social goals influence students' decisions to cheat via the effect that they have on students' behaviour to cheating. Students who pursue mastery goals were expected to hold less favourable attitudes toward cheating and, as a result, were expected to be less likely to cheat than students who pursue performance goals. But in this study, both goals were studied unitarily.

With respect to costs, the model used in this study suggests that students assess the costs associated with academic dishonesty based on their moral

obligation not to be dishonest, attitudes toward academic dishonesty, perceived subjective norms related to academic dishonesty, and perceived behavioural control related to academic dishonesty. Students who perceive the costs associated with academic dishonesty to be high are expected to be less likely to cheat. Students who perceive the costs associated with academic dishonesty to be low are expected to be more likely to be dishonest.

The study used self-efficacy as having effect on the individual intention to engage in academic dishonesty. "The sense of self-efficacy or perceived behavioural control refers to the perceived ease or difficulty of performing the behaviour and it is assumed to reflect past experiences as well as anticipated impediment and obstacle" (Ajzen, 2005, p.111). Hence, self-efficacy and perceived behavioural control are used synonymously (Ajzen, 2005) in the context of academic dishonesty in this study.

Goal and academic dishonesty

Murdock and Anderman (2006) suggest that one of the first questions that students consider as they approach their academic work is "What is my purpose?" (p.130). From an achievement motivation perspective, purpose is determined by goals, and goals are motivational mechanisms that drive behaviour (Covington, 2000; Pintrich & Schunk, 2002; Wentzel, 2002). Students are motivated in their academic work by their goals (Anderman, 1999; Anderman & Anderman, 1999; Anderman, Freeman, & Mueller, 2007; Patrick, Anderman, & Ryan, 2002; Patrick, Hicks, & Ryan, 1997; Ryan, Hicks & Midgley, 1997; Ryan & Shim, 2006; Urdan & Maehr, 1995). Murdock and Anderman limited their review of the academic

dishonest literature by discussing only achievement goals, stating that social goals have been minimally examined in relation to student cheating. While it is true that social goals have been explored less than achievement goals, the research that does exist suggests that goals in general, whether achievement or social, play a role in students' decisions to engage in academic dishonesty (Anderman et al., 2007; Calabrese & Cochran, 1990; Eisenberg, 2004; Jordan, 2001; McCabe & Trevino, 1993; Murdock et al., 2001). The following section provides a review of the theoretical and empirical literature that connects goals and academic dishonesty.

Research on achievement motivation has long emphasized the cognitive bases of behaviour, but recent literature has advanced an achievement goal framework that integrates cognitive and affective components of goal-directed behaviour (Ames & Archer, k987, 1988; Dweck, 1986; Dweck & Elliott, 1983; Dweck & Leggett, 1988; Elliott & Dweck, 1988;). An achievement goal concerns the purposes of achievement behaviour. It defines an integrated pattern of beliefs, attributions, and affect that produces the intentions of behaviour (Weiner, 1986) and that is represented by different ways of approaching, engaging in, and responding to achievement type activities (Ames, 1992b; Dweck & Leggett, 1988). Elliott and Dweck (1988, p.11) define an achievement goal as involving a "program" of cognitive processes that have "cognitive, affective, and behavioural consequences".

Two contrasting achievement goal constructs have received the most attention in the research literature. These two goals have been differentiated by their linkage to contrasting patterns of motivational processes and have been

alternatively labelled learning and performance goals (Dweck, 1986; Dweck & Leggett, 1988; Elliott & Dweck, 1988), task-involvement and ego-involvement goals (Nicholls, 1984a).

Although mastery and performance goals have been described as representing two forms of "approach tendencies" (Nicholls, Patashnick et al., 1989), they are elicited by different environmental or instructional demands and result in qualitatively different motivational patterns. Research has identified patterns of cognitive-based, as well as affective based, processes that are "set in motion" when a particular goal is adopted over the short- or long-term (Elliott & Dweck, 1988). Considerable research linking mastery and performance achievement goals to different ways of thinking about oneself and learning activities suggests that a mastery goal elicits a motivational pattern that is associated with a quality of involvement likely to maintain achievement behaviour, whereas a performance goal fosters a failure-avoiding pattern of motivation (Covington, 1984; Dweck, 1986; Dweck & Leggett, 1988; Elliott & Dweck, 1988; Nicholls 1984, Nicholls, Patashnick, & Nolen, 1985).

Research evidence suggests that a mastery goal is associated with a wide range of motivation-related variables that are conducive to positive achievement activity and that are necessary mediators of self-regulated learning. Of particular importance is evidence that links mastery goals to an attributional belief that effort leads to success, supporting an effort-outcome perception that is central to the attributional model of achievement directed behaviour (Ames & Archer, 1988; Weiner, 1979). When mastery goals are adopted, pride and satisfaction are

associated with successful effort and guilt is associated with inadequate effort (Jagacinski & Nicholls, 1984, 1987 Wentzel, 1991). Mastery goals have also been associated with a preference for challenging work and risk taking (Ames & Archer, 1988; Elliott & Dweck, 1988).

Mastery goals increase the amount of time children spend on learning tasks and their persistence in the face of difficulty but more importantly the quality of their engagement in learning (Elliott & Dweck, 1988; Butler, 1987). Active engagement is characterized by the application of effective learning and problem-solving strategies, and students' use of these strategies is dependent on a belief that effort leads to success and that failure can be remedied by a change in strategy (Garner, 1990; McCombs, 1984). Of course, students' ability to use self-regulatory strategies is also related to their awareness and knowledge of appropriate strategies and knowing when and how to apply them (McCombs, 1984; Pintrich & De Groot, 1990). Low-achieving children may lack knowledge of these strategies to the degree that they are unwilling to make a commitment to effort utilization (Covington, 1983, 1985). Nevertheless, these effort-based strategies are more likely to occur when students are focused on mastery goals (Diener & Dweck, 1978). When students are focused on the task, "How can I understand this?" (Nicholls, 1979), "How can I do this?" (Ames & Ames, 1984) or "How can I master this task?" (Elliott & Dweck, 1988) are questions of interest. Indeed, students endorsing mastery goals have reported valuing and using those learning strategies that are related to attending, processing, self-monitoring, and deep processing of

verbal information (Ames & Archer, 1988; Meece et al., 1988; Nolen, 1987, 1988; Nolen & Haladyna, 1990a).

In contrast to a mastery goal, a performance goal orientation has been associated with a pattern of motivation that includes, for example, an avoidance of challenging tasks (Dweck, 1986; Dweck & Leggett, 1988: Elliott & Dweck, 1988); negative affect following failure, accompanied by a judgment that one lacks ability (Jagacinski & Nicholls, 1987); positive affect following success with little effort (Jagacinski & Nicholls, 1984); and use of superficial or short-term learning strategies, such as memorizing and rehearsing (Meece et al., 1988; Nolen, 1988; Ryan & Groinick, 1986). When a performance goal is adopted, self-concept of ability becomes an important determinant of students' achievement-related behaviours (Dweck, 1986). Because the focus is on ability and normative performance, students with low self-concept of ability are less likely to choose challenging tasks or use self-regulatory strategies (Dweck, 1986; Pintrich & De Groot, 1990). Self-concept of ability, then, is a significant mediator of cognitive, affective, and behavioural variables when students are focused on doing better than others but not when they are focused on trying and learning, as a mastery goal orientation (Covington & Omelich, 1984; Dweck, 1986). Thus, research evidence suggests that it is a mastery goal orientation that promotes a motivational pattern likely to promote long-term and high-quality involvement in learning (Ames, 1992).

Achievement goals have just recently begun to be explored directly in the academic dishonesty literature. Across these studies, achievement goals have been

measured via the use of two instruments: (a) the Learning and Grade Orientation Scale (LOGO and LOGO II) (Eison, 1981; Eison, Pollio, & Milton, 1986) and (b) the Patterns of Adaptive Learning Survey (PALS) (Midgley et al., 1997, 2000). Eison and colleagues developed the LOGO and LOGO II instruments to distinguish between students who are learning oriented versus students who are grade oriented (Eison, 1981; Eison et al., 1986). Two studies (Huss et al., 1993; Weiss, Gilbert, Giordano, & Davis, 1993) were found that used the LOGO to explore the relationship between self-reported cheating and learning orientation among college students. Both of these studies found inverse relationships between learning orientations and self-reported academic dishonesty (Murdock & Anderman, 2006).

These findings are consistent with achievement motivation theory, which suggests that learning oriented students will view academic dishonesty less favourably and, as a result, will engage in less dishonesty than grade-oriented students. Rettinger, Jordan, & Peschiera, (2004) explored the relationship between academic cheating and goal orientation as measured by LOGO II using a sample of 103 undergraduate students. In this study, vignettes were used to simulate common classroom settings and to manipulate the protagonist's goal orientation and competence. After reading each vignette, respondents were asked to indicate the likelihood that the protagonist would cheat in the given situation and the likelihood that they, themselves, would cheat in the given situation. The LOGO II was used to measure the motivational orientations of the respondents. When the protagonist was depicted as being intrinsically or mastery motivated, respondents were

significantly less likely to expect him to cheat than when he was depicted being extrinsically or performance motivated.

The Patterns of Adaptive Learning Survey (PALS) (Midgley et al., 1997, 2000) provides another tool for exploring the relationship between motivation and academic cheating. The PALS distinguishes between students with mastery, performance-approach, and performance-avoidance goals. Murdock et al. (2007) explored the relationship between personal goals and attitudes toward academic cheating among a sample of 224 undergraduate students using the PALS. Personal performance goals were found to account for a significant amount of the variance in student attitudes toward cheating, specifically, the extent to which cheating was viewed as being justifiable. Murdock and Anderman, (2007) and Anderman and Midgley, (2004) have used the PALS scales extensively to study cheating. These studies are all limited by the fact that they focus primarily on younger student populations (i.e., elementary, middle, and high school students). As such, the results are not generalizable to university student populations.

Together, the results from the use of the LOGO, LOGO II, and PALS instruments suggest that students who approach their work with performance goals will have more favourable attitudes toward cheating and will be more motivated to cheat than students who approach their work with mastery/learning goals. This study proposes that students who endorse mastery goals will be more intrinsically motivated and therefore hold less favourable attitudes toward cheating and students who endorse performance (avoid) goals will be more extrinsically motivated and hold more favourable attitudes toward cheating.

Costs and academic dishonesty

Although it seems reasonable that students who have stronger performance goals combined with low self-efficacy or low outcome expectations would be more motivated to cheat than their highly confident and mastery-focused peers, cheating is still one of many strategy choices for increasing one's performance (Murdock & Anderman, 2006). For example, a student might obtain additional help, try new approaches, or take a different class. From a motivational perspective, according to Murdock and Anderman (2006), the decision of which strategy to adopt will be influenced by the perceived potential cost associated with a given behaviour. For example, the choice to spend extra time studying for an examination might mean that a student can get a better grade but not make extra money from a part-time job, attend volleyball practice, or participate in recess (Watkinson, Dwyer, & Nielsen, 2005). Within an expectancy-value framework (Eccles, 1983; Wigfield & Eccles, 1992), these costs are weighed against the potential value of achieving one's goal: When the costs outweigh the perceived gain, the behaviour is less likely to occur. Although cheating can reduce the amount of time spent completing school work, it is not without its own potential costs. The most studied of these are the cost of being caught, and the potential cost to one's self-concept. Choices also communicate our priorities and therefore affect how others see and respond to us (Murdock & Anderman, 2006). Murdock and Anderman hold the view that cheating is more likely to occur when students can minimize the potential costs associated with detection and the costs of having to perceive oneself as dishonest.

Murdock and Anderman (2006) opine that detection costs are largely controlled by two factors: the perceived likelihood of being caught, or the ease of cheating, and the perceived punishment that will result if caught. Indeed, it is easier to cheat on academic work in some situations compared to others, and factors that make cheating more difficult also appear to lower rates of dishonesty. For example, students and faculty at two small private colleges in the USA, indicated that the chance of getting caught and the penalties associated with getting caught were two of the top three reasons for not cheating (Graham, Monday, O'Brien, & Steffan, 1994). In another study in Texas, high school students from two demographically diverse schools rated the "fear of getting caught and punished" as the second most frequent reason why they did not cheat, with the most frequent response being that they did not have any need to cheat (Stephens, 2004). Moreover, students believe that making the act of cheating more difficult reduces its frequency. For example, two-thirds of the students in South-eastern Public University in the USA reported that scrambling test-items, providing alternate test forms, unique make up tests, as well as small classes and additional proctors, would reduce dishonest behaviour (Hollinger & Lanza-Kaduce, 1996). Finally, formal honour code statements that clearly specify no tolerance for cheating have been found to increase students' perceptions of risk involved in trying to cheat (Cummings & Romano, 2002) and decrease the actual prevalence of cheating behaviour (McCabe & Trevino, 1993; McCabeetal., 2001; McCabe, Trevino, & Butterfield, 2002).

Naturalistic and laboratory experiments demonstrate declines in cheating when there is an increased risk of detection. For example, Houston (1976)

examined the effects of spaced seating and alternate examination forms on cheating in undergraduate psychology classes in the USA. The dependent variable was a cheating index on a multiple-choice test, based on the ratio of identical correct and incorrect answers shared by the student and a nearby target, as compared to the student and another random student. Less copying occurred in spaced versus nonspaced seating conditions. However, having two different question orders for an exam did not lead to less cheating than having one version of the examination. The authors speculated that item order was not a deterrent because it was relatively easy for students to find the matching question from someone seating near them. To test this hypothesis, Houston (1983) examined rates of cheating in three conditions: when the test items were scrambled, when the question and answer choices within the questions were scrambled, and when there was no scrambling. Cheating only declined when both the questions and the answers within the questions were scrambled. Moreover, students cheat more when seating is chosen versus assigned because they tend to sit near people who they know and with whom they have studied (Houston, 1986). The cost of engaging in cheating behaviours may be perceived as higher when students are randomly assigned to seats due to the unknown outcomes of cheating from unfamiliar classmates.

Laboratory studies also demonstrate the effects of potential detection on cheating. Students in an experimental laboratory study were less likely to cheat in a high versus low surveillance condition (Coveyet al., 2001). This main effect was modified by an interaction effect: The rates of cheating among students who were low in self-monitoring, and who presumably care less about the opinions of others,

were less affected by the amount of surveillance than were cheating rates of their more impression-conscious peers. Experimental studies of high school students with high and low surveillance conditions have yielded similar findings (Corcoran & Rotter, 1987).

Dishonesty is also more prevalent when a student can reduce the potential costs of having to see him/herself or fear that others will see him or her as a "bad person." Self-image suffers when people behave in ways that violate their own norms of acceptable behaviour; as such, one would anticipate that the costs associated with cheating would be reduced, and thus the prevalence of cheating would be higher, among students who see cheating as acceptable (Corcoran & Rotter, 1987). Indeed, a qualitative study of college students in Canada describes the numerous impression management strategies that some students used to ensure that they are not perceived by others as cheats, such as staring at the ceiling while thinking, dressing without pockets, and making facial expressions that convey serious involvement with the exam materials (Albas & Albas, 1996). Students' judgments of the acceptability of cheating have been conceptualized in two ways, including: moral beliefs about cheating and attitudes about the justifiability of cheating, which is often referred to as "neutralizing attitudes." As evidence suggests, students who engage in cheating behaviours typically view cheating as more justifiable and acceptable than those who are more honest, thereby lessening the impact of the behaviour on one's self-perceptions (i.e., reduced cost of cheating). At the same time, it is not clear that honest and dishonest students actually differ in their moral judgments of cheating (Murdock & Anderman, 2006).

Attitudes toward academic cheating or dishonesty

Research has shown that students with favourable attitude toward cheating are more likely to cheat than students with unfavourable attitude (Whitley, 1998). Attitudes towards cheating have been defined and measured in a variety of ways in the cheating literature (Magnus et al., 2002; Hardigan, 2004; Harding et al., 2007).

One strategy for exploring students' attitudes toward cheating has been to examine students' attitudes toward cheaters (Magnus et al., 2002; Hardigan, 2004). Magnus and colleagues evaluated high school, college, and graduate students' attitudes toward cheaters, across cultures, by asking students from five countries (Provincial Russia, Moscow, the Netherlands, Israel, and the United States) to read and respond to single cheating vignette. The vignette depicted a student who reported test/exam cheating (one student copying from another student) to a school authority. Students were asked to characterize their attitude toward each of the students in the vignette. The student who reported cheating, the student who copied from another student, and the student who was copied from. They used students' responses to create a tolerance of cheating index. Their findings showed that students from the United States had a low tolerance for cheating when compared to students from other countries. One possible explanation for this finding is the value that the US educational system places on competition. Students in the US may view cheating as an unfavourable option if it is viewed as an unfair instrument of competition (Magnus et al., 2002). The Magnus et al.'s study use of cross-sectional data limits its application to the university's academic cheating literature because the differences that were identified might be due to differences that exist in the

educational levels of the respondents. In addition, the sample sizes from each country were not comparable to one another, with nearly 60% of the sample coming from Provincial Russia or Moscow, which limits the authors' ability to make meaningful comparisons across groups.

Hardigan (2004) explored students' attitudes toward cheating in the USA by administering a locally developed 31-item "Attitudes Toward Cheating" (ATC) scale to a population of 823 first and third year pharmacy students across nine colleges and universities. The ATC scale consisted of measures of students' attitudes and assessments of instances that may or may not be regarded as academic cheating, the morality of cheating, teachers' behaviours, cheaters' behaviours, and contingencies placed on cheating.

With respect to gender, they found that when controlling for other demographics, women were 9% more likely to hold less favourable attitudes toward academic cheating than men. This finding was not surprising because most studies of cheating have reported that women cheat less than men (Whitley & Keith-Spiegel, 2002). One possible explanation for this finding is that men may be more motivated by performance goals and women may be more motivated by learning goals (Vallerand et al., 1992).

With respect to age, they found that third-year pharmacy students were 18% more likely than first-year pharmacy students to hold less favourable attitudes toward academic cheating. This finding is consistent with prior research that has found that younger students cheat more than older students (Whiltey, 1998). One possible explanation for this finding is that younger students may operate at lower

levels of moral reasoning than older students and therefore may feel less of a sense of moral obligation to view academic cheating as wrong (Harding et al., 2007).

Finally, with respect to GPA, they found that higher achieving students were 6% more likely to hold less favourable attitudes toward cheating than lower achieving students. These findings are consistent with prior research that has shown that GPA is negatively correlated with student academic cheating (Whiltey, 1998). One possible explanation for this finding is that students who have higher GPAs may have higher self-efficacy and as a result may not view cheating as necessary (Murdock & Anderman, 2006).

The findings of the study by Hardigan (2004) suggest that students' attitudes toward cheating may vary across groups, specifically with respect to demographic and achievement variables. The generalisation of this study was limited by the researcher's use of a non-random sampling technique, which resulted in a sample that was over-represented by females (67%) and students who classified themselves as religious (74%).

In a Harding et al,'s. (2007) study in the USA, attitude towards cheating were measured using a semantic differential scale, as recommended by Ajzen (1991, 2002). This scale consisted of five items anchored positively on the left and negatively on the right (i.e., good/bad). Results showed that the attitude toward cheating variable was significantly correlated with both test (0.39) and homework cheating (0.44) in the expected direction but the correlation is weak (Cohen, 1988). Findings also showed that the attitude toward cheating variable was moderately correlated with other predictor variables in the model, namely subjective norms

(0.56 and 0.61 for test and homework cheating, respectively) and moral obligation (0.69 and 0.69 for test and homework cheating, respectively). This finding is consistent with the findings of other studies that have applied the theory of planned behaviour to student cheating (Beck & Ajzen, 1991). This means that students' attitudes toward cheating may influence or be influenced by other factors including subjective norms and moral obligation not to cheat.

Subjective norms and academic dishonesty

Research has shown that students who perceive that social norms support cheating will be more likely to engage in cheating behaviours than students who perceive that social norms are not supportive of cheating (Beck & Ajzen, 1991; DeVries & Ajzen, 1971; Graham, Monday, O'Brien, & Steffen, 1994; Genereux & McLeod, 1995; Haines, Diekhoff, LaBeff, & Clark, 1986; McCabe, Trevino & Buttefield, 2001a; Jordan, 2001; Whitley, 1998).

In 2001, Jordan (2001) explored the relationship between social norms and cheating in the US by surveying 175 students at a small private liberal arts college. Social norms were measured by asking respondents to respond to a series of items that assessed their perceptions of cheating (frequency) by other students at the school. In addition, students were also asked to report their own cheating behaviours. The reported frequency of peer behaviour varied widely (1% to 95%) with a mean score of 26.2%. The actual level of cheating in the population was found to be 54.9%. While it is difficult to get an accurate assessment of peer cheating behaviour, the wide variance in the reported frequency calls into question the usefulness of the measure used. The measure was very subjective and relied on

the respondents' ability to remember cheating by peers. This approach is problematic because cheating is often a private behaviour and is not one that many students talk about openly. Therefore, the finding that students' underestimated peer cheating was not surprising.

An interesting finding from this study emerged when cheats were compared to non-cheats. Specifically, cheats reported cheating more often by their peers than non-cheaters. Additionally, mean cheating scores were higher among those who witnessed cheating by peers when compared to those who did not. There are several possible explanations for these findings. First, cheaters may associate more often with other cheaters, specifically when cheating is collaborative as is often the case in homework cheating. Second, cheaters may be more attuned to the cheating that goes on around them and may be more likely to notice cheating by their peers. Third, the more cheating that one sees, the more likely one may feel that cheating is acceptable and the more likely one may be to cheat (Jordan, 2001).

While Jordan's study provided interesting insights into the relationship between perceived norms and cheating, it is limited in several ways. Specifically, the study relied primarily on correlation and chi-square analysis. This means that the findings only show that a relationship exists, and they do not indicate causality. Additionally, the generalization of this study is limited because of its use of one campus and white students were over represented in the respondent group.

In the Harding et al. (2007) study, subjective norms about cheating were measured using a scale that consisted of eight items such as "If I cheated on an in-class test or exam, most of the people who are important to me (e.g., my family,

friends, colleagues, teachers, etc.) would approve of my behaviour." Items were measured on a 5-point scale with higher scores indicating social norms that were more supportive of cheating, which meant an increased likelihood of cheating. Results showed that subjective norms were significantly correlated with cheating on tests (0.32) and homework (0.31) in the expected direction even though the correlation is weak. These findings suggest that subjective norms have a similar influence on students' decisions to cheat across tasks (test and homework).

As mentioned before, analysis by Harding and his colleagues (2007) showed that subjective norms were moderately correlated with other variables (attitude and moral obligation) in their model. As a result, the researchers combined attitudes, subjective norms, and moral obligation to produce a second order factor. This factor was found to be a significant predictor of students' intention to cheat on both tests (coefficient = 0.66) and homework (coefficient = 0.64). While these findings show that attitudes, subjective norms, and moral obligation are important predictors of cheating intention, the combination of these three variables into one factor limits our understanding of the unique contribution of each of these variables to the prediction equation which makes it difficult to tell which of these three variables is the strongest unique predictor of student cheating.

Academic self-efficacy and academic dishonesty

Murdock and Anderman (2006) suggest that students consider the question "Can I do this?" as they approach their academic work. From an achievement motivation perspective, this question relates to the judgments that students make about their ability to accomplish specific academic tasks or to achieve specific

learning outcomes. Students' expectations about their ability to pursue and achieve their desired academic goals play an important role in achievement motivation and, in turn determine decisions to cheat. Murdock and Anderman (2006) used two concepts from Bandura's (1997) self-efficacy theory, to demonstrate how academic expectations motivate students' decisions to be dishonest.

Within an expectancy-value framework, self-efficacy is domain specific. Therefore, academic self-efficacy is conceptualized as a student's judgment about his or her ability to organize and execute the actions necessary to successfully engage in and complete specific academic task (i.e., perform well on a test, complete a homework assignment) (Zajacova et al., 2005). Research has shown that specific measures of academic self-efficacy have more predictive power than generalized measures of academic self-efficacy (Zajacova et al. 2005). When specific measures were used, academic self-efficacy was shown to be a strong predictor of motivation, learning, and achievement (Bong, 2006; Pajares, 1996; Schunk & Pajares, 2002). Academic self-efficacy is thought to mediate learning by encouraging perseverance and by providing students with the confidence to try new strategies (Lorsbach & Jinks, 1999).

When faced with challenging tasks, students with high self-efficacy are likely to try new things and work harder in order to achieve their goals (Schunk & Pajares, 2002). Students with high self-efficacy have been shown to spend more time on schoolwork (Torres & Solberg, 2001), be more engaged in the classroom environment (Linnenbrink & Pintrich, 2003), experience less stress (Torres &

Solberg), and take responsibility for their own learning (Zimmerman & Kitsantas, 2005).

In contrast, when faced with challenging tasks, students with low self-efficacy doubt their abilities and stop trying as soon as they perceive that their efforts will not end in success. Lorsbach and Jinks (1999) describe this process as a "negative spiral" in which low self-efficacy leads to less effort, which leads to less success, which leads to even lower self-efficacy. In academic settings, students with low self-efficacy are more likely to resort to using shortcuts and other maladaptive strategies to accomplish their goals (i.e., cheating) (Finn & Frone, 2004).

Moral obligation and academic dishonesty

Harding et al. (2007), drawing from the work of Beck and Ajzen (1991), added two additional factors-moral obligations not to cheat and its antecedent, moral reasoning-to the theory of planned behaviour in an effort to increase the predictive ability of their model of student cheating. Similar to the findings of Beck and Ajzen, Harding et al. (2007) found that when moral obligation is added to the theory of planned behaviour model it becomes a significant, albeit modest, predictor of student academic cheating. They also found moral obligation was predicted by moral reasoning. Students who use higher levels of moral reasoning are more likely to feel a sense of moral obligation not to cheat.

Murdock and Anderman's (2006) model also suggests that morality should be included as a predictor of students' decisions to cheat. Because moral obligation has been shown to increase the predictive ability of the theory of planned

behaviour, and because it was noted as an important predictor in both models, it is included as a variable in this study but it is used as a moderator variable with the expectation that students who report higher levels of moral obligation not to cheat will be less likely to cheat than students who report lower levels of moral obligation not to engage in academic cheating. A moderator is a variable that modifies a causal effect (Wu & Zumbo, 2007). In essence, a moderator modifies the strength or direction (i.e., positive or negative) of a causal relationship of a variable (Frazier, Tix & Baron, 2004).

Intention and academic dishonesty

According to Ajzen (1991), the primary objective of the theory of planned behaviour is to be able to predict and explain the behaviour of an individual. The theory suggests that the determinant of a behaviour is a person's intentions to perform (or not to perform) the behaviour. In another study, Ajzen and Fishbein (1980) argued that intentions encompassed factors that suggested how committed a person was to performing a given behaviour. Based on this rationale, it is expected that the stronger a person's intentions, the more likely it is for that individual to perform a given behaviour. In this study, intention is used as a mediator variable.

Frazier et al (2004) opine that a simple mediational model, assumes an intermediary process that leads from the predictor variable to the criterion variable. In other words, in a simple mediational model, the predictor variable is presumed to cause the mediation, and in turn, the mediation causes the criterion variable. Collins, Graham and Flaherty (1998, p.297), describe the mediation process as "a

line of dominos knocking over the first domino starts a sequence where the rest of the dominos are knocked over one another".

It is believed that the best test of the theory of planned behaviour is the direct observation of behaviour. However, this has proven to be quite challenging. In light of this fact, the measurement of behavioural intentions rather than actual behaviour seems to be more practical, especially given the strong relationship between intentions and the subsequent behaviour (Carpenter & Reimers 2005). Although behavioural intentions have been proposed to be a function of attitudes, subjective norms and perceived behavioural control, Ajzen and Fishbein (1980) highlighted the fact that the significance of these factors would fluctuate according to the type of behaviour and conditions under which the behaviour will be performed. Beck and Ajzen's (1991) research present a curious though intentions to commit academic dishonesty (i.e., plagiarism and cheating) among students and this had set the stage for this present study.

Indeed, intentions have been shown to be related to attitudes, subjective norms, perceived behavioural control, and behaviour across a variety of academic dishonesty behaviours (Beck & Ajzen, 1991; Harding et al., 2007; Stone et al., 2010). Intentions to cheat correlated strongly with cheating behaviour (Beck & Azjen, 1991), academic misconduct behaviour (Stone et al, 2010) and academic dishonesty behaviour (Harding et al, 2007). Studies have shown that intentions to engage in academic dishonesty are a significant predictor of academic dishonesty behaviour (Mayhew et al., 2009; Stone et al., 2010). Mayhew et al. found that intentions to cheat were strongly related to cheating behaviour in undergraduate

engineering and humanities students. Intention has also been found to be a significant predictor of academic misconduct behaviours (Stone et al, 2010).

Demographics and Academic Dishonesty

In addition to the proposed model variables, a number of demographic variables are included in this study. These variables were used to determine the representativeness of the respondent group and to explore whether there are differences in the predictive ability of the model across groups. The demographic variables included in this study are gender, age, programme of study.

Gender

The relationship between gender and academic dishonesty has been explored extensively. However, research findings have been mixed. Calabrese and Cochran's (1990) study examined the relationship between academic dishonesty and social alienation among public and private schools and found that cheating was more prevalent among male students then their female counterparts. In another study by Davis et al (1992) which investigated how gender and institutional affiliation influence cheating in the USA, women consistently report lower cheating rates than men in high schools and colleges. They reported that the percentages of men and women at small, private liberal arts colleges who reported having cheated in college are significantly lower than those reported by their counterparts at larger state and private institutions. Finn and Frone (2004) found in their study that male students reported cheating more frequently than did female students. In Rawwas and Isakson's (2000) study, females were found to be more ethical than males.

Most studies of college students report that men are more likely to cheat than women (Bushway & Nash, 1977; Michaels & Miethe, 1989; Newstead et al., 1996; Smith et al., 2004; Ward & Beck, 1990; Whitley,1998). However, a few studies have found no differences in self-reported cheating among men and women (Haines et al., 1986).

One study (Jacobson, Berger, & Millham, 1970) found that women cheated more than men. In studies in which gender has been used as a control variable, it has not been found to be a significant predictor of self-reported cheating (Anderman & Midgley, 2004; Genereux & McLeod, 1995; McCabe & Trevino, 1997).

Age

Age and grade level are also variables that have been explored extensively in the cheating literature. Age is typically defined as an individual characteristic whereas grade level is defined as a contextual characteristic. However, both are strongly correlated with one another and can be reviewed together as one construct (Miller, Murdock, Anderman, & Poindexter, 2007). Based on reviews of the cheating literature, Cizek (2003) and Miller et al. (2007) suggest that the relationship between age/grade level and cheating is curvilinear with cheating beginning in elementary school, increasing as students' transition from one grade level to the next, peaking in high school and levelling off in college.

Among college students, several studies have reported differences in self-reported cheating across ages and grade levels (Franklyn-Stokes & Newstead, 1995; Haines et al., 1986; Harding et al., 2007). These studies have consistently found that younger students cheat more than older students and that,

underclassmen, especially freshmen, cheat more than upperclassmen. These findings may be due to differences in levels of motivation, ability and experience, moral obligation, maturity (Finn & Frone, 2004).

Studies that have used gender and age as control variables in a prediction models for student cheating have found mixed results. Finn and Frone's (2004) study in New York entered gender, along with age, into the first step of a regression equation designed to explore the predictors of student cheating among a population of 315 high school and college students. Their results showed that both gender and age were significant predictors of student cheating with younger males reporting cheating more frequently than older females. In contrast, Smith et al. (2004) used structural equation modelling to evaluate a proposed model of student cheating using a population of 742 business school students (undergraduate and graduate) Salisbury University, Maryland and found neither gender nor age to be significant direct predictors of student cheating (Smith et al., 2004).

These differences likely exist due to differences in the ages of respondents for each of these studies. The Finn and Frone's (2004) study used a cross-sectional sample of high school and college students with ages ranging from 16 to 19. Smith et al. (2004) used a cross-sectional sample of college business school students. The group consisted of students from all classifications ranging from first-year undergraduate students to graduate students. The average age for the respondent group was 23.1 years. Finn and Frone study found out that younger students are likely to have different motivations to cheat than older students based on differences in goals and costs associated with cheating.

Using age as a predictor, McCabe and Trevino (1997) found older students to have a lower propensity to cheat than younger students. On the other hand, older medical students cheated more than younger medical students (Hrabak et al., 2004). Bisping, Patron, and Roskelley's (2008) study showed contrasting results for age as older students were less prone to be academically dishonest than the younger students. While age was not found to be a significant factor in influencing academic cheating, Teixeira and Rocha (2008) observed that age variable itself was partly a negative, significant predictor of academic dishonesty.

In this study, age is expected to be a significant predictor of academic dishonest behaviour because the age range of participants vary though the same level (final-year university students) but different mode of admission (direct and mature) across the universities. Therefore, information about participant's age was collected to determine if age was a significant predictor of academic dishonesty.

Programme of study

Several researchers have explored the relationship between field of study and academic dishonesty (Baird, 1980; Bowers, 1964; Harding et al., 2007; McCabe, 1997; Newstead et al., 1996; Passow et al., 2006). These studies have consistently shown that students in "vocationally oriented" (McCabe, 1997) majors, like engineering and business, report the highest rates of cheating. In their study of the theory of planned behaviour, Harding et al. found that academic discipline was an important variable in explaining the variance of the regression equations. Engineering students were more likely than humanities students to form an intention to cheat and to cheat in both the test and homework conditions. Brown

(1996) found few differences between major and minor students for academic dishonesty. In another study of 31 top-ranked universities in the US involving engineering, business, science, and humanities. business students were ranked the highest with 87%, engineering 74%, science 67% and humanities 63% (Meade. 1992). Teixeira and Rocha (2010) in a cross country study on academic dishonesty, reported that the average magnitude of copying among economics and business undergraduate is quite high which is at 62%. Brown, Weible and Olmosk (2010) also reported that the percentage in cheating in undergraduate business classes in 2008 was close to 100 percent compared to 49 percent in 1988.

Summary

This review has demonstrated that academic goals, achievement and performance are important factors that need to be considered as possible predictors of students' motivation to engage in academic dishonesty. This study proposes that goals motivate students' decisions to cheat via the effect that they have on students' intention to cheat. To-date, no one study has examined the relationship between the combined approach of academic goals and student academic dishonesty. Therefore, it is still unclear if and how academic goals work together to motivate cheating. This study aimed to fill that gap.

Again, no study has explored the relationship between academic self-efficacy, goal and academic dishonesty. This study aimed to achieve that goal. Based on the proposed model of student cheating, this study suggests that academic expectations (self-efficacy and goal) influence students' decisions to cheat via the impact that they have on students' intention to cheat. This study assumed that

students who had low self-efficacy and negative outcome expectations will be more likely to cheat than students with high self-efficacy and positive outcome expectations.

It is clear from the literature that the theory of planned behaviour provided a good model for exploring and predicting cheating among undergraduate students. Adding moral obligation as a moderator and intention as a possible mediator to the model to explore the relationship between academic goals, perceived cost, attitudes, subjective norms, and academic self-efficacy was likely increase the model's explanatory power. This study aimed to achieve that goal and explore further the contribution of the demographic variables such as age, programme and gender towards academic dishonesty.

Furthermore, this review has demonstrated that academic cheating is a complex motivational issue. Decisions to cheat are made based on one's assessment of goals, and perceived costs across two domains, an academic domain and a cheating domain. Students' goals and perceived cost within the academic domain are the mechanisms that motivate students' decisions to engage in academic dishonesty. Once motivated, students' decisions to be dishonest academically will depend on a cost-benefit analysis. Benefits may outweigh costs when students do not feel a strong moral obligation not to be dishonest, when students have positive attitudes toward dishonesty, when subjective norms support dishonesty, and when students believe that they can cheat and get away with it.

In addition to the proposed model variables, the review also demonstrated that a number of demographic variables predicted academic dishonest behaviour of

students. These variables are used to determine the representativeness of the respondent's group and to explore whether there are differences in the predictive ability of the demographic variables of the students. The demographic variables included in this study are gender, age, and programme of study.

In conclusion, it is clear from this review that the proposed model of academic dishonesty would hold great promise for exploring and predicting the factors that motivate student academic dishonesty behaviour. This model needed to be empirically tested. The next chapter describes the methods that were used to achieve this goal.

CHAPTER THREE
RESEARCH METHODS

The study sought to examine the prevalence and predictors of academic dishonesty among students in public universities in Ghana. This chapter explains how the study was conducted. It covers the research design, population, sample and sampling procedures, instrumentation, data collection procedures, pilot testing and data analysis procedure.

Research Design

The study used the survey-inferential design. A survey-inferential design uses inferential statistics which offers more powerful analysis to be performed on survey data. It is concerned with making large inferences about social phenomena (Fraenkel, Wallen & Hyun, 2012). This method involves collection of data from the field in order to answer research questions and test hypotheses.

Data collected through survey-inferential design enable generalisation of findings of the study from a sample to the entire population. Surveys are versatile and practical, especially to the administrator, in that they identify present conditions and point to present needs (Sarantakos, 1998). The design is highly regarded by policy makers in the social sciences where large populations are dealt with and most widely used in educational research, since data gathering by way of inferential survey represents field conditions (Fraenkel, Wallen & Hyun 2012).

In this study, a quantitative, non-experimental, cross-sectional research design was used. A quantitative design was chosen instead of a qualitative or mixed-methods design for several reasons. First, this study required collecting a large amount of descriptive information from a large population in a short amount

99

of time. Therefore, a quantitative approach was both appropriate and practical. Second, quantitative designs are well suited for testing theory and developing conceptual models (Creswell, 2003).

A non-experimental research design was chosen instead of an experimental research design because it was impossible, impractical and unethical to manipulate relationships among the proposed model variables (Johnson, 2001; Mertler & Charles, 2005). Unlike experimental research, however, non-experimental research cannot be used to establish a cause and effect relationship. At best, non-experimental research can be used to provide strong evidence to support the existence of a relationship between predictor and criterion variables (Johnson, Mertler & Charles, 2005).

A cross-sectional design was chosen primarily for convenience and ease of data collection. The strength of cross-sectional design was that data were collected from predetermined participants at a single point in time and comparisons made across variables of interest (Johnson, 2001; Fraenkel, Wallen & Hyun 2012). Indeed, this study collected data on the prevalence and predictors of academic dishonesty among students in public universities in Ghana to answer research questions and test hypotheses of which comparisons were made which is a hull mark for the cross-sectional design. Inferential survey design emanated from the positivist paradigm.

Positivism is the philosophy of science that information derived from logical and mathematical treatments and reports of sensory experience is the exclusive source of all authoritative knowledge, and that there is valid knowledge

100

(truth) only in this derived knowledge. Verified data received from the senses are known as empirical evidence. Positivism holds that society, like the physical world, operates according to general laws. Introspective and intuitive knowledge is rejected. Although the positivist approach has been a recurrent theme in the history of western thought, the modern sense of the approach was developed by the philosopher and founding sociologist Auguste Comte in the early 19th century. Comte argued that, much as the physical world operates according to gravity and other absolute laws, so does society (Hughes, 2001).

The positivist paradigm is one that has its roots in physical science. It uses a systematic, scientific approach to research. Hughes (2001) explains that the positivist paradigm sees the world as being based on unchanging, universal laws and the view that everything that occurs around us can be explained by knowledge of these universal laws.

Positivism belongs to epistemology which can be specified as philosophy of knowing, whereas methodology is an approach to knowing. As a philosophy, positivism adheres to the view that only "factual" knowledge gained through observation (the senses), including measurement, is trustworthy. In positivism studies, the role of the researcher is limited to data collection and interpretation through objective approach and the research findings are usually observable and quantifiable.

The principles of positivism, depends on quantifiable observations that lead themselves to statistical analysis. It has been noted that "as a philosophy, positivism is in accordance with the empiricist view that knowledge stems from human

experience. It has an atomistic, ontological view of the world as comprising discrete, observable elements and events that interact in an observable, determined and regular manner" (Collins, 2010, p. 38).

Moreover, in positivism studies the researcher is independent from the study and there are no provisions for human interests within the study. Crowther and Lancaster (2008) note that as a general rule, positivist studies usually adopt deductive approach, whereas inductive research approach is usually associated with a phenomenology philosophy. Moreover, positivism relates to the viewpoint that researcher needs to concentrate on facts.

Wilson (2010) opines that a positivist approach to a study implies that the researcher is independent and purely objective and that maintains minimal interaction with the research participants when carrying out the research. In other words, studies with positivist paradigm are based purely on facts and consider the world to be external and objective.

There are some grains of weakness found in empiricism and objectivity. Empiricism and objectivity are not suitable in social phenomenon which tests human behaviour. Excessive confidence in its claims to objectivity and empiricism do not stand up to scrutiny when used in both the social and natural sciences, and thus it cannot be truly considered to 'work'. (Houghton, 2011).

It is difficult to detach oneself from the hypothesis totally, almost impossible, but expression is instinctive and should not be made dumb, "positivism fails to take account of the unique ability to interpret experiences and represent them to others" (Cohen et al., 2007 p.18). A general understanding would remain

general, it may not help in a particular context, knowledge produced may be too abstract and general for direct application to specific local situation (Johnson & Onwuegbuzie, 2004).

Inaccuracy in scientific data is likely to alter the end-results of the hypothesis. This can occur in any of the methods being used in this study because the participants may choose random answers not providing with the authentic responses but one must abide by the findings anyway. Over all, there is no flexibility as far as positivism is concerned. Some scholars believe that since positivists believe everything can be measured and calculated, they tend to be inflexible. Positivists see things as they are and tend to disregard unexplained phenomenon (Johnson 2014).

Having gone through the strengths and weaknesses, one may still support positivism as a research paradigm for this study because its features of generalization, prediction, validity and reliability, parsimony, helped the researcher to carry out the research which is general and not particular, so as to be applicable universally. Epistemologically being empirical, gives opportunities of prediction. Unlike interpretivists, this paradigm is objective, it is transparent from personal prejudices. Being valid and reliable one can always remain realist ontologically and can count on it for long. Precision and parsimony saves time and provides sample for brief writing. Prevalence and predictors of academic dishonesty align itself to inferential survey design which analyses quantitative data using several variables, where the relationship includes a criterion variable and one or more predictor variables.

Population

The target population for this study was all the final year undergraduate students enrolled on full time and lecturers in Ghanaian public universities. Ghana has ten public universities. However, five of them were considered in this study. These were the University of Ghana (UG); Kwame Nkrumah University of Science and Technology (KNUST); University of Cape Coast (UCC); University of Education Winneba (UEW) and University for Development Studies (UDS). This consideration was because since they were the earliest universities established in the country and had attended autonomy for the past ten years or more, they must have had a long and more dependable history of prevalence of academic dishonesty. Also, they have almost similar conditions and environments in terms of facilities and students' populations. The accessible population of 25, 165 encompassed all the final year undergraduate students and 3,355 lecturers in the five public universities.

The reasons for using the final year undergraduate students were that students in the final year had written a lot of examinations and they knew their Cumulative Grade Point Average (CGPA) and were more anxious to make their class. More importantly, they were the potential employees at various work places or industries.

Lecturers were involved in the study because they were involved in offering courses for undergraduate students. Moreso, lecturers were involved in the academic work of students including supervision of project works, examining the students, supervision and invigilation of examinations.

Sampling Procedure

Regarding a sample representativeness of population, Cohen, Manion and Morrison (2011) maintain that the researcher has to consider the extent to which it is important that the sample, in fact, represents the whole population in question if it is to be a valid sample. As well, the researcher needs to be clear on the population being represented. Table 3 shows the population and sample distribution among the various subgroups; that is, universities, undergraduates and lecturers.

Table 3: Population and Sample Distribution of the Subgroups

Category	Population	Sample	% sample in pop
Universities	5*	3	60%
Undergra. Stud. (Final)	22, 458	1200	5.3%
Lecturers	3,335	150	4.5%

*Public universities which are more than 10 years old.
Source: National Council for Tertiary Education (NCTE) (2016)

Multistage sampling was used to select the sample for the study. The first stage was the selection of three universities out of the five (Public universities which are more than 10 years old) using simple random sampling, precisely the lottery method. The codes of the universities were written on pieces of paper and put in a receptacle, and the receptacle was shaken up. The receptacle was raised and a friend picked randomly the pieces of paper on which the numbers were written. This was done with replacement, in order to maintain the same probability for each of the universities. Thus, when a number was picked it was recorded and put back into the receptacle. This process continued until the three (3) universities;

University of Ghana (UG), University of Cape Coast (UCC) and University of Education (UEW) were selected.

The second stage involved the selection of departments. Purposive sampling was used to select the Business department(s) for the study. The business department(s) were purposively selected because students from those department(s) after completion of their study, play key roles in the corporate industries and most of these corporate industries have cases of unethical behaviours of staff (an offshoot of academic dishonesty) that have brought wilful corporate fraud and corruption (Lin & Wen, 2007). In a study of 31 top-ranked universities in the US involving engineering, business, science, and humanities, business students were ranked the highest with 87%, engineering 74%, science 67% and humanities 63% (Meade, 1992). The rest of the departments included in this study as shown in Table 4, were also selected using purposive sampling technique. This was because the departments did not have equal number of students therefore, departments with final year students above 100 were selected directly, taking each university as a unit. Though the departments were selected purposively, it was done by harmonising their characteristics to obtain a representative sample that cut across both the sciences and humanities. The universities did not have the same administrative procedures; whilst some ran the collegiate system, others did not but the secondary unit that was universal to all the universities was the departments hence the need to select the departments from the universities directly.

Ten departments were selected from 40 academic departments in each of the two universities, namely University of Cape Coast and University of Education,

Winneba. However, University of Ghana enrolment statistics is organised around programmes and as such, University of Ghana sample was organised around the programmes in the university. This presupposes that in University of Ghana, the programmes were akin to the departments unlike the other two universities. There were 20 programmes of which 5 of them were selected for the study using purposive sampling technique. In all, 10 departments were selected from each of the two public universities- UCC and UEW and 5 programmes were selected from UG.

The third stage was the selection of the students from the selected departments/programmes. To this end, a sample size of 1200 student-participants were selected for the present study, with 400 participants selected from each university using simple random sampling method. This was because the larger the sample size the greater the generalisability, reliability, and precision of the statements about the population based on the sample (Johnson & Christensen, 2008).

In an attempt to obtain a representative sample for the study from the universities, the sampled departments were visited to obtain the list of the students in the final year. In each case, permission was sought from the Academic Registrar or Director of Academic Affairs Directorates of the respective Universities. The list was also confirmed from the students' record sections of the universities. The names were given code numbers to ensure anonymity of the participants.

Given the three universities and different numbers of departments/programmes involved, stratified proportional random sampling was

used to obtain a representative sample for the study taking into account the different strata. This was necessary in order to facilitate valid generalisation. The number of departments/programmes sampled from each university and the number of participants in the departments/programmes was calculated using proportional random sampling. Table 4 shows the selected departments/programmes and the number of students sampled from each department.

Table 4-Distribution of Sampled Departments/Programme and selected number of students from each department/programme in the Universities.

Institutions					
University of Ghana		University of Cape Coast		University of Education	
Sampled Prog.	No.19(5)	Sampled Dept.	No. 40(10)	Sampled Dept.	No.40(10)
B.Sc. Engine.	254 (16)*	Arts Educ.	110(16)	Basic Educ.	351(39)
B.Sc. Adm.	1295(80)	ICT	134(19)	Akan-Nzema	215(24)
B. A	4082(248)	Nursing	231(33)	Accounting Edu.	614(69)
LLB	129(8)	Voc. &Tech	148(21)	Agric. Educ.	350(39)
B. Sci.	785 (48)	Classic &Phil.	238(34)	Art Educ.	321(36)
		Maths & Stat.	280(40)	Economics	303(34)
		Accounting	401(58)	ICT	156 (17)
		Socio &Anthr.	732(105)	Mgt. Educ.	724(80)
		Edu. & Psych.	181(26)	Political Sci.	328(37)
		Bus. Mgt.	326(48)	Science Edu	220(25)
Total	6,545(400)	Total	2781(400)	Total	3582(400)

*The number in the parenthesis is the number sampled in each department (UCC & UEW) or programme (UG)

Source: Academic Affairs Directorates of the Universities.

In selecting the students, a list of students was obtained from the Student Record Unit/Data Processing Unit to prepare a sample frame. The table of random

numbers was generated from a website (http://stattrek.com/statistics/random-number-generator.aspx) specifically for each depending, on the total number of participants and the numbers sampled.

For example, in selecting participants from the economics department of UEW, 303 participants were used for the sample frame. The researcher enters 34 in the text box labelled "How many random numbers?" since each participant was assigned to a unique number between 1 to 303, the minimum value equal to 1 and the maximum equal to 303. The Random Number Generator produced a Random Number Table consisting of 34 unique random numbers from 1 to 303. From these numbers, a sample size of 34 students were randomly selected. The same process was used to select all the participants in the other departments/programmes for the study.

Lecturers, on the other hand, were accidentally selected from the sampled departments/programmes in the three universities. Most at times lecturers engaged in one activity or the other, in or outside the universities. Therefore, the researcher found it difficult reaching them hence the researcher fell on those available at the time of the data collection. Fifty lecturers were selected in each of the three universities making a total of 150. The sample of 150 lecturers was settled on using Bartlett, Kotrlik and Higgins (2001) formula.

Data Collection Instruments

The main instruments for the study were questionnaires. The questionnaires were used to collect data from the students and lecturers because they were the most convenient way of obtaining information from a large number of people. Moreover,

the sensitivity of the topic made it appropriate to use self-administered questionnaires because participants might have felt comfortable to complete an anonymous questionnaire than to divulge the information to an interviewer (Cizek, 2003). In addition, Leedy (1985) and Amedahe (2005) maintain that the questionnaire is widely used for collection of data in educational research since it is very effective for securing factual information about practices as well as for probing into opinions and attitudes/perceptions of participants in a study.

The present study relied on the use of some previously published scales and measures as well as researcher constructed instruments to assess the variables of interest in the proposed model of academic dishonesty. The scales were adapted to suit the variables of interest and the population under study. The authors of the published scales and measures included in this study were duly referenced (see Appendix C).

In all, the study used two types of instruments: Prevalence and Predictors of Academic Dishonesty Instrument for Students (PPADIS) and Prevalence and Predictors of Academic Dishonesty Instrument for lecturers (PPADIL). Prevalence and Predictors of Academic Dishonesty Instrument for Students (PPADIS) consisted of two parts. Part One had four items that deal with demographic data of the participants and Part Two consisted of four sections, each measuring a variable in the model.

Section A, B, C and D were made up of items from the following sources:

1. The Prevalence of Academic Dishonesty Questionnaire (PRADQ) which was developed by de Lambert, Ellen, and Taylor (2003) and validated by the researchers;

2. The items on goals and expectations were adopted from Patterns of Adaptive Learning Scales (PALS) developed by Midgley, Maehr, Hruda, Anderman, Anderman, Freeman, Gheen, Kaplan, Kumar, Middleton, Nelson, Rosser, and Urdan, (2000).

3. The Self-efficacy for Learning Scale (SELS) measuring the academic self-efficacy of the undergraduate students was constructed by Pintrich, Smith, Garcia, and McConachie (1993).

4. The intention to engage in academic dishonest behaviour scale drawn from Perceptions and Attitudes of Cheating Among Engineering Students survey, version 2 (PACES-2) developed by Harding et al. (2007).

5. The items on Cost/Consequences were adapted from Consideration for Future Consequences (CFC) Scale developed by Joireman, Balliet, Sprott, Spangenberg, and Schultz (2008).

6. The items measuring moral obligation and subjective norms drawn from Perceptions and Attitudes of Cheating Among Engineering Students survey, version 2 (PACES-2) developed by Harding et al. (2007).

7. The researcher constructed the scale measuring attitude in section E. The attitude scale was vetted by the supervisors to establish face validity.

The items on the two instruments (e.i., PPADIS and PPADIL) consisted of close-ended items with response options for respondents to choose from. The close-ended type of items was selected because it had advantage of generating frequencies of response that were amenable to statistical treatment and analysis as well as enabling comparisons to be made across groups in the sample. (Amedahe, 2005; Cohen et al 2011; Leedy, 1985).

The subsequent section provides an overview of the development of these instruments, including a discussion of their established reliability and validity. A discussion of the specific scales and measures used to assess the variables in this study is also included.

PPADIS: Part Two, section A (Prevalence of Academic Dishonesty)

The part two section A of the questionnaire dealt with the personal history of the participants. It covered a variety of issues from plagiarism to examination malpractice. It had nineteen (19) items. The participants were asked to indicate how often they had engaged in each form of misconduct with the following options: (0) never; (1-2) sometimes (3-5) often and very often (6 or more). The items were trial tested by the researcher on 200 students from the departments/programme that were not part of the sample in the three universities and the internal consistency yielded 0.87.

Patterns of Adaptive Learning Scales (PALS)

The present study used two sub scales from the PALS collection namely mastery goal orientation and performance approach goal orientation to measure goal and expectation. The PALS (1997) were originally validated by Midgley et

al. (1998) with a sample of elementary and middle school students and have since been found to provide valid measures of achievement goal orientations among college students (Ross, Shannon, Salisbury, Glennon, & Guarino, 2002). Based on a sample of 184 college juniors and seniors, Ross et al (2002) reported internal consistency scores that were similar to values originally reported by Midgley et al (1998) for the elementary and middle school populations. In recent years, Ross et al. (2005) provided additional support for the use of the PALS (1998) instrument by using reliability generalization to analyse 276 PALS studies. Their analysis showed that the development of the PALS over the years had improved consistency scores which provided additional support for inferences that were made from the most recent versions of the instrument (Ross et al.).

The most recent version of the PALS instrument was published in 2000 (Midgley et al., 2000). The 1997 scales were revised by "removing items that assess intrinsic value and removing references to specific behaviours" (Midgley et al., p. 3). Removing these items shifted the focus of the scales away from the specific behaviours or interests that students exhibit to "goals as orienting frameworks within which students' function" (Midgley et al., p. 3). These scales were validated using elementary, middle, and high school students (Midgley et al.).

While the Ross et al's. (2002, 2005) studies provide support for using the PALS to assess college student achievement goals, they are limited by the fact that they are based on an out-of-date version of the PALS instrument. In addition, the sample used in the 2002 study included only junior and senior college students. Therefore, the reliability of the revised version of the PALS instrument using a

population of final-year college students needed to be established. In addition, as recommended by Ross et al. (2002), the content and wording of the PALS instrument had to be changed to more accurately reflect the university context (i.e., changing "teacher" to "lecturer" and "class" to "course"). The instrument was trial tested and it has a reliability of 0.84. For a complete list of scales, scale items, and internal consistency measures see Appendix C.

Academic Self-Efficacy

Academic self-efficacy construct was measured using the self-efficacy for learning and performance scale from the MSLQ. This scale consisted of 8 items designed to measure the extent to which students believed that they have the competence and skills necessary for successful academic performance. An example of an item from this scale is "I am confident I can understand the most complex material presented by the lecturer in this course."

This scale had a 6-point scale ranging from (1) not at all true of me to (6) very true of me. This scale has been shown to have high internal consistency [$\alpha = 0.93$] (Duncan & McKeachie, 2005). However, the trial test of the instrument yielded a reliability of 0.87. For a complete list of scale items see Appendix C.

Intention

Intention to cheat or plagiarise construct was a mediation variable. It was measured using the intention to cheat scale from the PACES-2 instrument. This scale consisted of 5 items designed to measure respondents' intention to cheat in the future. Respondents were asked to indicate their level of agreement with the items. Responses were measured using a 6-point scale ranging from (1) very

strongly disagree to (6) very strongly agree. Reliability indexes for this scale have previously been shown to be very high ($\alpha = 0.92$ and $\alpha = 0.94$ for test and homework cheating, respectively) (Harding et al., 2007). The trial test reliability estimate is 0.70. For a complete list of scale items, see Appendix C.

Cost/Consequences scale

The cost/consequence construct was measured by the consideration of future consequences (CFC) scale developed by Strathman, Gleicher, Boninger & Edwards (1994). The original items on the scale are items 1-12. Most researches using the CFC scale have treated it as a uni-dimensional construct. Internal reliability for the overall 12-item scale is high (typically ranging from 0.80 to 0.85) with a five-week temporal stability of 0.72 (Joireman, Strathman, & Balliet, 2006). While the internal reliability of the overall scale was quite high, recent research suggested the scale contained two subscales, one tapping consideration of immediate consequences (CFC-I), the other tapping consideration of future consequences (CFC-F) (Joireman, Balliet, Sprott, Spangenberg, & Schultz, 2008). This study used both CFC-F and CFC-I as a unidimensional construct.

The CFC scale had been expanded to a 14-item scale (with 2 new future items to improve the reliability of the CFC-Future subscale) (Joireman, Shaffer, Balliet, & Strathman, 2012). Originally, the scale had a 5-point scale. To create more variance, the researcher decided to use the 6-point scale which was trial tested and its internal reliability was 0.76.

Moral obligation

Moral obligation not to cheat or plagiarise construct was a moderating variable. It was measured using the moral obligation scale from the PACES-2 instrument. This scale consisted of three items designed to measure respondents' perceptions and personal feelings of responsibility to cheat or not to cheat. An example of a reverse coded item from this scale was "I would feel guilty if I engaged in academic dishonesty in whatever form." Responses were measured on a 6-point scale from (1) very strongly disagree to (6) very strongly agree. This scale had been previously shown to have high internal consistency ($\alpha = 0.85$ and $\alpha = 0.86$ for test and homework cheating, respectively) (Harding et al., 2007). The scale yielded an internal reliability of 0.73 when it was pilot tested. For a complete list of scale items, see Appendix C.

Attitude sub-scale

The attitude construct scale was constructed by the researcher to measure attitude of students towards academic dishonest behaviour. The scale consisted of 10 items designed to measure the participants' attitude towards academic dishonesty. Respondents were asked to indicate their level of agreement with statements such as "I see nothing wrong in a student cheating in examination/plagiarising to help himself/herself to pass the course." Responses were measured using a 6-point scale from (1) strongly disagree to (6) strongly agree. Internal consistency values for this scale was 0.94.

Predictors of Academic Dishonesty Instrument for lecturers (PPADIL)

The lecturers' questionnaire also consisted of two parts. Part One consisted of demographic data which included lecturing experience (measured by numbers of years of lecturing) gender, academic qualification and rank. Part Two consisted of Section A to C. The statements covered issues on plagiarism and examination malpractice. It was also adapted from PRADQ survey developed by de Lambert, Ellen, and Taylor (2003). The scale consisted of 26 items: Section A, 12 items; section B, 7; and section C; 7. The instrument was trial tested and it has an internal reliability index of 0.75

Trial Testing of Instruments

The Prevalence and Predictors of Academic Dishonest Instrument for Students (PPADIS) and Prevalence and Predictors of Academic Dishonest Questionnaire for Lecturers (PPADIL) were trial tested in the three universities sampled but in different departments and programmes. In UCC, Basic Education and, Business and Social Science Education departments were selected whilst in UEW, Social Studies and Health Education department were selected. In UG, Bachelor of Science Nursing and Bachelor of fine Arts were the programmes selected for the trial-testing of the instruments. This was to ascertain whether the items were presented in clear and understandable language and to verify whether the participants in the trial testing would interpret the questionnaire items similarly. In all, 200 students were used for the trial testing.

The departments and programmes that were used did not take part in the actual study. This is to reduce any influence that the trial testing could have on their

responses. The participants were asked to suggest changes and alternative items that they thought might improve the instrument. Their suggestions were considered to make the instrument more applicable for the main study. A few inherent weaknesses that were revealed were corrected before going to the field. For example, items 15 and 39 in PRADIL and item 3 on PRADIL were amended after the trial testing.

The reliability of the research instruments was determined using Cronbach Coefficient Alpha Method. The prevalence and predictors of academic dishonest questionnaire for students (PPADIS) had an overall reliability coefficient of 0.84 whist prevalence and predictors of academic dishonest instrument for lecturer (PPADIL) had reliability coefficient of 0.70.

Data Collection Procedure

An introductory letter was taken from the researcher's Head of Department and sent to the three universities where the data collection was carried out. The administration and collection of the instruments were carried out personally by the researcher. Explanation of the nature of the instrument was given to the students. In order to ensure effective delivery, and prompt response to the instruments in the universities, the researcher gave out copies of the instrument to students and waited to collect the completed copies of the instrument. The respondents were assured of confidentiality and anonymity to motivate them to freely respond to the instrument. They were also asked to give candid response to the items. The instrument for lecturers and students were collected the same day the researcher visited the department except in some cases where some lecturers were engaged and could not

respond on the same day, their instruments were collected three days and in some cases four days after.

The data collection was carried out between November 21, 2016 to December 9, 2016. University of Ghana's data was collected between 21st to 25th November, 2016 whilst University of Cape Coast data was carried out between 28th November, 2016 to 2nd December, 2016. On the 5th December 2016 to 9th December 2016, University of Education, Winneba data was carried out. The entire data collection lasted for three weeks.

Data Processing and Analysis

The data collected was analysed with descriptive and inferential statistics. Serial and code numbers were given to each item on the instruments. All the responses were accordingly coded. Students' responses on prevalence (Part Two; section A) and lecturers' responses (Part Two; section A) were used to answer research question 1. The rest of the responses from lecturers were used to answer the research questions 2 and 3. The research questions were answered using percentages and frequencies. Each hypothesis was tested at .05 level of significance.

Hypothesis 1: In testing this hypothesis, independent sample t-test was used. Data gathered on the gender of students and self-reported academic dishonesty behaviour (Part Two Section A of PPADIS) was used to test this hypothesis.

Hypothesis 2: Hypothesis 2 was tested using one-way analysis of variance (ANOVA). Part one and part two section A of the PPADIS collected data on the

119

age and self -reported academic dishonest behaviour of the student-participants respectively. This information was used to test this hypothesis.

Hypothesis 3: The hypothesis was tested with one-way analysis of variance (ANOVA). In testing this hypothesis, the information on student-participants programme was sorted in Part One of PPADIS as well as self-reported academic dishonest behaviour of the student-participants in Part Two Section A of PPADIS.

Hypothesis 4: Multiple regression was used to test hypothesis 4. Demographic variables gender, age and programme were indicated by student-participants in Part One of the PPADIS and their self-reported academic dishonest behaviour in Part Two Section A of the PPADIS were the responses that were utilised in testing this hypothesis. The statistical tool employed to test this hypothesis was multiple regression.

Hypothesis 5: Partial correlation was used to test Hypothesis 5. Data was collected on the attitude of students towards academic dishonesty (Part Two Section D of PPADIS) and their real academic dishonest behaviour as reported in Part One Section A of the PPADIS. The students' attitude towards academic dishonesty was correlated with the self-reported academic dishonest behaviour (real academic dishonest behaviour).

Hypothesis 6: Structural equation modelling and conditional process analysis was deployed to test this hypothesis. Student-participants' responses on goals, cost, subjective norms, attitude, self-efficacy and moral obligation were gathered using

120

the Part Two Sections B and C of the PPADIS with the self-reported academic dishonest behaviour in part two section A.

Ethical considerations

Consent to participate in the study was sought from the students, and the students were asked to endorse a consent form. Data elicited from them were not out of coercion or deception. Students were also appealed to, to be honest and open in providing information for the study. The study duly protected the anonymity of participants by way of dissociating individual's names, ages, gender, universities, or any form of identity from responses during the coding, analyses, interpretation and recording process. Responses or results obtained were not linked to any university that was sampled for the study. The study is the researcher's own work, any other work that was cited in the research text was duly acknowledged.

Chapter summary

Chapter three provided a description of the research design. It also provided an insight into the procedures used to investigate the prevalence of academic dishonesty among public university students in Ghana. This included the research paradigms employed, the sampling techniques used and instrumentation issues. The procedure for data collection and analyses were also discussed. Chapter four presents the results and discussion of the findings.

CHAPTER FOUR

RESULTS AND DISCUSSION

The purpose of the study was to determine the prevalence and predictors of academic dishonesty among students in public universities in Ghana. The study used the survey-inferential design which uses inferential statistics to analyse survey data.   This chapter focuses on the results of data analysis and the discussion of the findings that emerged from the data analysis. Questionnaire was deployed to gather information from the respondents. One hundred and forty-four university lecturers and 1200 university students (undergraduates) answered the questionnaire. There were two types of instruments, namely prevalence and predictors of academic dishonest instrument for students (PPADIS) and prevalence and predictors of academic dishonest instrument for lecturers (PPADIL). PPADIS consisted of items on demographic data, prevalence, goals, attitude, self-efficacy, intention, cost, moral obligation, and subjective norms. The PPADL, on the other hand, had items on demographic data and prevalence.

A total of 1200 copies of the questionnaire representing 100 percent retrieval rate was achieved for the student questionnaire. The retrieval rate from lecturers stood at 96 percent. Thus, the 1200 student respondents and 144 lecturer respondents were used as the final sample and their responses were used in the analysis.

Tables 5-9 show the demographic distribution of the students and lecturers. Students were asked to indicate their gender, programme, age as well as their CGPA

whilst lecturers were asked to specify their gender, number of years of teaching, academic qualification and rank.

Demographic Data

Table 5 is a cross-tabulation showing the distribution of lecturers' gender by number of years of teaching.

Table 5: Distribution of Gender of Lecturer Respondents by Number of Years of Lecturing

Years of experience	Male		Female		Total	
	freq	%	freq	%	freq	%
1-5yrs	13	9	6	4.2	19	13.2
6-10yrs	29	20.1	23	16	52	36.1
11 above yrs.	44	30.6	29	20.1	73	50.7
Total	86	59.7	50	10.3	144	100

Source: Field survey, (2016).

As Table 5 shows, out of 86 (59.7%) male lecturers, 13(9%) had lectured between 1-5years and 44 (30.6%) for 11 years and more. Similarly, 6 (4.2%) of the female lecturers had lectured for a period of between 1-5years whilst 29 (20.1%) of them for 11years and above. Again, the data revealed that 73 (50.7%) of the lecturers (more than half) were lecturing for 11 years or more while only 19 representing 13.2% lectured for 1-5years.

A close examination of the distribution shows that there were a good number of male lecturers as well as female lecturers who had lectured for 11 years or more. This is an indication that the responses from the questionnaire came from

123

experienced lecturers and, therefore gave, credibility to the responses for the study in terms of data on the research questions. Table 6 is the distribution of gender of the lecturers by academic qualification.

Table 6: Distribution of Gender of Lecturer Respondents by Academic Qualification

Academic Qualification	Male		Female		Total	
	freq	%	freq	%	freq	%
M.A/M.ED/M.phil	36	25.00	19	13.2	55	38.2
Ph.D	50	34.7	39	27.1	89	61.8
Total	86	59.7	58	40.3	144	100

Source: Field survey, (2016).

Table 6 shows that 89 (61.8%) holds a Ph.D. This comprised of 50 (34.7%) were males and 39 (27.1%) females. Those holding M.A/M.Ed/M.Phil were 55 (38.2%), comprising 36 (25%) males and 19 (13.2%) females. From the distribution, there were a sizeable number of males and females who holds Ph.D The M.Phil/M.A/M.Ed holders were little above a third of the sampled lecturers. Table 7 presents a cross-tabulation of the lecturers' gender by their ranks.

Table 7: Distribution of Lecturer Respondents' Gender by Their Ranks

Rank	Male		Female		Total	
	No.	%	No.	%	No.	%
Assistant Lecturer	23	16.0	8	5.6	31	21.5
Lecturer	20	13.9	16	11.1	36	25.0
Senior Lecturer	43	29.9	34	23.6	77	53.5
Total	56	59.7	58	40.3	144	100

Source: Field survey, (2016).

From Table 7, it is clear that out of 144 lecturers, 77 representing 53.5 percent were senior lecturers. This number consisted of 43 (29.9%) males and 34 (23.6%) females. The lecturers were 36 (25%) with 20(13.9%) and 16 (11.1%) representing male and female respectively. The total number of assistant lecturers as reflected in Table 7 were 31 (21.5%) with 29.9% and 23.6% for males and females respectively. The indication is that majority of the lecturers were senior lecturers. The gender distribution of the student respondents by programme is presented in Table 8.

Table 8: Distribution of Student Respondents' Gender by Programme

Programme	Male		Female		Total	
	Freq	%	Freq	%	Freq	%
Arts	214	17.8	181	15.1	395	32.9
Business	107	8.9	79	6.6	186	15.5
Education	276	23	187	15.7	463	38.7
Science	112	9.3	44	3.6	156	13
Total	709	59	491	41	1200	100

Source: Field survey, (2016).

From Table 8, it is seen that a total of 395 (32.9%) of the respondents were in the Arts programme. This consists of 214 (17.8%) males and 181 (15.1%) females. The student respondents who were offering Education numbered 463 (38.7%) with 276 (23%) males and 187 (15.7%) females. On the other hand, 156 representing 13% of the respondents of which 112 (9.3%) were males and 44 (3.6%) were females were offering Science. A total of 186 (15.5%) of the respondents of which 107 (8.9%) were males and 79 (6.6%) were female were offering Business programme. A close examination of the distribution shows that there is a good number of both females and males offering Arts, Business, and Education. However, only 156 (13%) were offering Science programme with 44 representing 3.6 percent being females. Perhaps, this is an indication of how most Ghanaian students show a disaffection for science courses, and also, the general perception that science is a male-dominated programme; thus, the few female representations.

In order to gather relevant information to determine whether age has some influence on students' academic dishonesty for testing Hypotheses 2 and 4, the respondents were asked to indicate their age. The result is shown in Table 9.

Table 9: Distribution of Student Respondents by Gender and Age

Age	Male		Female		Total	
	Freq	%	Freq	%	Freq	%
16-20	48	4	44	3.7	92	7.7
21-24	450	37.5	388	32.3	838	69.8
25-28	140	11.7	39	3.3	15	15
29-32	45	3.8	17	1.4	62	5.2
33 and above	26	2.2	3	3	29	2.5
Total	707	59	491	41	1200	100

Source: Field survey, (2016).

From Table 9, most of the student-respondents were between the ages of 21-24, that is, 838 student-respondents representing 69.8% of the total student-respondents. Similarly, as can be seen in the table, out of the total of 1200 student respondents, only 29 representing 2.9 percent were 33 years of age or more. As seen from the table, a good number of students in the universities were between the age range of 21-28. This is an indication that most of these students came from the Senior High Schools direct to access university education and had written the West African Senior Secondary School Certificate Examination (WASSCE). The experience they had in writing WASSCE and a lot of semester examinations in the universities seem to be pertinent in giving cogent information to test the hypotheses.

Prevalence of Academic Dishonesty

This section of the study examines the prevalence of academic dishonesty among university students. To ascertain the prevalence of academic dishonesty among university students, the student-respondents were asked to indicate the frequency with which they had engaged in each of the scenarios presented, with possible responses being never (0), sometimes (1-2), often (3-4) and very often (6+). The results are presented in Table 10.

Table 10: Prevalence of Academic Dishonesty

Statement of dishonesty	Responses			
	Very Often	Often	Some-times	Never
Copying from another student during a quiz/exam.	35 (2.9)	31 (2.6)	560(46.7)	475 (47.8)
Allowing another to copy from you in quiz/exam.	49 (4.1)	137(11.4)	714(59.5)	300 (25.0)
Taking unauthorised material/using a foreign material during a quiz/exam.	17 (1.4)	17 (1.4)	79 (6.6)	1087(90.6)
Giving answers to another student by signals in a quiz/exam.	54 (4.5)	83 (6.9)	729(60.8)	334 (27.8)
Receiving answers from another student by signals in a quiz/exam.	32 (2.7)	42 (3.5)	614(51.2)	512 (42.7)
Writing and using expected answers on body parts during quiz/exams	10 (0.8)	29 (2.4)	144(12.0)	1017(84.8)
Using technologically stored information during a quiz/test (graphing, calculator, etc.)	21 (1.8)	38 (3.2)	117 (9.8)	1024(85.3)
Using camera phones during semester examination	11 (.9)	6 (.6)	40 (3.3)	1143(95.3)
Getting someone else to write the exam for me – impersonating.	13 (1.1)	14 (1.2)	48 (4.0)	1125(93.8)
Continuing to write after time allotted for quiz/exam is over.	49 (4.1)	59 (4.9)	636 (53)	456 (38)
Gaining unauthorised access to test material - test paper, marking scheme etc. before the quiz or exam.	11 (.9)	17 (1.4)	94 (7.8)	1078(89.8)
Paying another person to complete an assignment.	11 (.9)	12 (1.0)	106(8.8)	1071(89.3)
Writing an assignment for someone else.	55 (4.6)	131(10.9)	644(53.7)	370 (30.8)
Paraphrasing information from a web site, book, or periodical without referencing the source.	55 (4.6)	131(10.9)	644(53.7)	370 (30.8)
Copying information directly from a web site, book or periodical with reference to the source but no quote marks.	98 (8.2)	166(13.8)	681(56.8)	255 (21.3)
Copying information directly from a web site, book or periodical without indicating and/or referencing the source.	77 (6.4)	129(10.8)	630(52.5)	364 (30.3)
Copying information directly from another student's assignment (current or past) without acknowledging source.	128(10.7)	195(16.3)	592(49.3)	285 (23.8)
Seeing another student copying in a quiz/exam but failing to report him/her to the authorities.	368(30.7)	250(20.8)	360(30.0)	222 (18.5)
Working together on an assignment when it should be individual	128(10.7)	195(16.3)	592(49.3)	285 (23.8)
Total (Average)	65*(5.4)**	89(7.4)	422*(35.2)	624(52.1)

Source: Field survey, (2016). *mean of the responses ** mean of the percentages

Table 10 reveals prevalence of academic dishonesty as reported by students. From the table, 35(2.9%) copied from another student during a quiz or exam very often, 31(2.6%) students often engaged in copying from another student, 560(46.7%) sometimes copied from another student and 475 (47.8%) never copied from another student during a quiz or exam. It could be deduced that majority of the students (52.2%) had copied from another student during a quiz or examination. This act of academic dishonesty may have occurred because the rules governing the conduct of the quiz or examination appeared to be relaxed. Again, seating arrangements could promote this form of academic dishonesty. When candidates are seated close to each other, it makes it easier for them to copy from another student's work. Some candidates may also devise well-cut seating pattern that could encourage copying. A student may purposefully have copied from another student just to make up the grade in order to survive in the university. Students would continue to copy in a quiz so far as there are limited alternatives for assessing the academic achievements of students in universities.

Table 10 revealed that 49(4.1%) of the students allowed another student to copy their work in a quiz or examination very often. One hundred and thirty-seven (11.4%) students said they often allowed another student to copy their work, 714(59.5%) students engaged in this academic dishonesty sometimes and 300(25%) students never allowed another student to copy their work in a quiz or exam. From the results, it can be concluded that, majority of the respondents (70.9%) allowed another student to copy from them during a quiz/examination. It could be deduced that allowing another student to copy one's work is quite

prevalent in the universities. The result suggests that compensatory and reciprocal cliques formed out of the formal setting are responsible for the widespread of this act of academic dishonesty. It appears that most students see it as a way of consolidating brotherhood/sisterhood. Similarly, this act is likely to perpetuate the act of copying from another student when the need arises in the distant future.

The respondents were asked to indicate how often they see other students copying in a quiz or examination but failed to report to the authorities. The result reveals that 368 (30.7%) students indicated very often, 250(20.8%) students indicated often, 360(30%) students reported seeing other students copying in a quiz or examination sometimes and 222(18.5%) students never saw other students copying. Overall, (81%) had seen other students copying in a quiz or examination but failed to report to the university authorities. It can be deduced that this act of academic dishonesty is prevalent. The result could be influenced by the fact that no student would like to be responsible for the outright withdrawal of fellow students from the university. Secondly, reporting fellow students is seen as betrayal and the culprit may risk being excommunicated from the class. However, by failing to report the culprits, they were condoning the act.

The respondents were asked to estimate the number of times they worked together on an assignment when it should have been individual assignment. One hundred and twenty-eight (10.7%) students indicated that they engaged in that very often, 195(16.3%) students often engaged in that, 592(49.3%) students sometimes engaged in this act of academic dishonesty but 285(23.8%) students never experienced that. A total number of the respondents (76.3%) had worked together

on an assignment when it should have been individual. As a shared learning community, students may not see anything wrong in assisting colleagues in their assignments.

Table 10 further shows that 54(4.5%) students signalled answers to other students very often, 83(6.9%) students did so often, 728(60.8%) students sometimes signalled answers and 334 (27.8%) never signalled answers to another student in a quiz or exam. The majority of respondents (72.2%) affirmed the assertion that signalling of answers in a quiz or examination was prevalent among undergraduate students. The use of signals appears to be obscured and are only privy to friendship cliques in the examination hall. Since it does not involve talking, the perpetrators are least to be caught. Special codes are learnt and rehearsed before the day of the examination. In most cases, the fingers are rigorously used to communicate answers in an examination hall.

Similarly, 32(2.7%) students received answers from other students by signals very often, 42(3.5%) received answers by signals from other students often, 614(51.2%) sometimes received answers by signals and 512(42.7%) never received answers by signals from another student in a quiz or examination. It could be suggested that receiving answers from another student by signals is a victimless crime by majority of the students (57.4%). Students may also engage in this act of academic dishonesty because it could hardly be noticed by invigilators. It may be very difficult interpreting signals from students as a means of communicating answers. The surreptitious nature of this crime may continue in a quiz or exam

because students devise well-cut out non-verbal communications, such as signals to receive assistance from other students in a quiz or exam.

On paraphrasing information from a website without referencing the source, 55(4.6%) students indulged in that very often, 131(10.9%) students often indulged in that, 644(53.7%) sometimes indulged in paraphrasing information and 370 (30.8%) never engaged in paraphrasing information from a website without referencing the source. A total of 69.2% paraphrased information from a website without referencing the source. Table 10, further revealed that 98(8.2%), 166(13.8%), 681(56.8) and 225 (21.3%) very often, often, sometimes and never copied information directly from a website, book or periodical with reference to the source but no quotation marks respectively. These dishonest behaviours may have been committed by the respondents without them knowing how these border on criminality, or are offences that had negative repercussions for academic excellence. Perhaps the acts were committed as a result of ignorance on the part of the respondents.

Seventy-seven (6.4%) students very often copied information directly from a website, book, or periodical without indicating the source, 129(10.8%) students often committed this act of academic dishonesty, 630(52.5%) students sometimes copied information directly from the website without referencing the source and 364(30.3%) students never engaged in this act of academic dishonesty. Overall, a total of (67.7%) of the respondents admitted ever copying information directly from a website, a book, or a periodical without indicating the source. Closely linked with the pervasive use of website sources was the issue of copying information directly

from another student's assignment without acknowledging the source. With this scenario, 128(10.7%), 195(16.3%), 592(49.3%) and 285(23.8%) respondents very often, often, sometimes and never respectively copied information directly from another student's assignment without acknowledging the source. Most lecturers appear not interested in the source of content of assignment or students' own originality, rather, award marks to plagiarised contents. Secondly, there seems to be no mechanisms in checking contents of assignments for probable cases of plagiarism.

Some cases of probable academic dishonesty were less self-reported among undergraduate students. For instance, on taking unauthorised material or using foreign material during a quiz or exam, 17(1.4%) reported that they very often engaged in that, 17(1.4%) often engaged in that, 79(6.6%) sometimes engaged in that and 1087(90.6%) never engaged in that.

On writing and using expected answers on body parts during quiz or exam by students, 10 (0.8%) students very often wrote and used answers on body parts, 29(2.4%) students often did so, 144(12%) sometimes engaged in this act and 1017(84.8%) never engaged in this act of academic dishonesty. The data further revealed that 21(1.8%) of the students used technologically stored information very often, 38(3.2%) students often used technologically stored information, 117(9.8%) sometimes used technologically stored information and 1024 (85.3%) never used technologically stored information during a quiz or test. Similarly, 11(0.9%) students very often used camera phones during semester examination, 6 (0.6%) students used camera phones in examination often, 40(3.3%) students sometimes

134

used camera phones in examination and 1143(95.3%) students never used camera phones in examination. On impersonating in examination, 13(1.1%) students very often engaged in this act, 14(1.2%) students often engaged in this act, 48(4%) students sometimes engaged in this act and 1125(93.8%) students never engaged in this act. Eleven (0.9%) students gained access to test materials very often, 17(1.4%) students often gained unauthorised access to test materials, 94(7.8%) students sometimes gained unauthorised access to test materials and 1078(89.8%) students never gained access to test materials before the quiz or examination.

The majority opinion suggests that these acts of academic dishonesty was less prevalent among undergraduate students. Undergraduate students might see such an act as circumstantial evidence for withdrawal from the university. hence, its less prevalence.

It could also suggest that invigilators are more vigilant. University authorities are swift in dealing with cases of academic dishonesty when there is available documentary evidence. The issue of test security and personal responsibility over testing materials before, during and after a quiz or examination is highly paramount in the universities. The result could also be attributed to the fact that invigilators were diligent in searching students thoroughly before entering the examination hall.

Another less reported case of academic dishonesty was paying another person to complete an assignment. With this scenario, 11(0.9%) students very often engaged in this act, 12(1.0%) students often engaged in this act, 106(8.8%) students sometimes engaged in this act and 1071(89.3%) students never engaged in this act

135

of academic dishonesty. Internet services available for students free of charge might have accounted for this finding. Students have access to the internet and other sources online for assignment and may rely less on another person to writing assignments.

The overall assessment of the prevalence rate of academic dishonesty as self-reported by the respondents indicated that 65(5.4%), 89(7.4%), 422(35.2%) very often, often and sometimes engaged in one academic dishonest behaviour or another respectively. An average of 624(52%) indicated that they had not engaged in academic dishonesty. It could be seen from the results in Table 10 that the prevalence rate of academic dishonesty as self-reported by the respondents stood at almost 576(48%). This is an indication that almost half of the respondents had ever engaged in one academic dishonest behaviour or another. The 48% prevalence rate was lower than that obtained by Hollinger and Lanza-Kaduce's (1996) finding where in a single survey, 68% admitted to cheating, at least, once during one 15-week semester. Also, Daris and Ludvigson (1995) found in their study with 2,153 undergraduates that between 42% and 64% of the respondents from various state institutions reported having cheated in college. Diekoff et al's (1996) single survey reported a higher prevalence rate of 61.2% of cheating. Greene and Saxe (1992) also studied undergraduates cheating and reported that 81% of students admitted cheating.

In all, the most prevalent academic dishonest behaviours were "seeing another student coping in a quiz/exam but failing to report him/her to the authorities" which had 81.5% of the respondents engaged in it. It was followed by

"copying information directly from a website, book or periodical with reference to the source but no quote marks" with 78%. "Working together on an assignment when it should be individual" was the third most prevalent academic dishonest behaviour representing 76.3%. The least academic dishonest behaviour respondents engaged in was "using camera phones during semester examination". Only 4.8% of the respondents had engaged in this academic dishonest behaviour.

Prevalence of Academic Dishonesty among Students Reported by Lecturers

To further establish the prevalence of academic dishonesty among the student-respondents, the perspectives of lecturers were also sought. The lecturers were asked to indicate how frequently academic dishonesty behaviours occurred among undergraduate students. The results are presented in Table 11.

Table 11: Lecturers responses on prevalence of academic dishonesty among students

Scenario	Responses			
	Very often	Often	Sometimes	Never
Copying another student's homework	53(36.8)	45(31.3)	43(29.8)	3(2.1)
Looking on another student's paper during a quiz/test	51(35.4)	46(31.9)	44(30.6)	3(2.1)
Using a foreign material during a quiz/test	25(17.4)	43(29.6)	60(41.6)	16(11.1)
Turning in another student's work	23(16.0)	39(27.1)	72(50.0)	10 (6.9)
Falsifying research references	11(7.6)	31(21.5)	96(66.7)	6 (4.2)
Copying from another work without proper references	9(6.3)	39(27.1)	95(66.0)	1 (.7)
Stealing an answer key/making scheme	8(5.9)	23(16.0)	90(62.5)	23(16.0)
Stealing a copy of a test in advance	10(6.9)	20(13.9)	91(63.2)	23(16.0)
Using technologically stored information during a quiz/test (graphing calculator, etc.)	18(12.5)	21(14.6)	90(62.5)	15(10.4)
Text messaging exam questions during semester examination	34(23.6)	25(17.4)	63(43.8)	22(15.3)
Using cell phones during semester examination	39(27.1)	17(11.8)	64(44.4)	24(16.7)
Using camera phones during semester examination	40(27.8)	10(6.9)	65(45.1)	29(20.1)
Total	27*(18.7)**	30(20.8)	73(50.5)	14(10.0)

Source: Field survey, (2016). *mean of the responses ** mean of the percentages

The first academic dishonesty scenario, "copying another student's homework" saw 53(36.8%) indicating very often, 45(31.5%) indicating often, 43(29.8%) indicating sometimes and 3(2.1%) reporting never. The result suggests that lecturers are not taking adequate measures to deal with this behaviour hence its perpetration. Probably, lecturers continue to give one particular assignment over the years and students continue to produce similar output, hence its prevalence among students. This confirms the perception of students on the frequency of this academic dishonest behaviour.

Another scenario, "looking on another student's paper during a quiz/test" saw 51(35.4%) lecturers reporting very often, 46(31.9%) reporting often, 60(41.6%) reporting sometimes and 3(2.1%) indicating never. It could be deduced that lecturers noticed students engaging in this academic dishonest behaviour. One wonders whether institutional measures are put in place to curb this behaviour from degenerating into a canker. This finding confirms the students' self-reported data on this form of academic dishonest behaviour.

Concerning the frequency of students "using a foreign material during a quiz/test", 25(17.4%) reported very often, 43(29.6%) reported often, 60(41.6%) reported sometimes and 16 (11.1%) reported never. The lecturers' responses appeared to be parallel to that of the students. Whereas the lecturers claimed such behaviour is more prevalent, students perceived the behaviour otherwise. Differences in prevalence rates of this dishonest behaviour may be attributed to probable underreporting from students or students may being oblivious to what constitute "foreign materials" in a test/quiz.

When lecturer respondents were asked to indicate how often they noticed students "turning in another students' work", 23 (16%) indicated very often, 39 (27.1%) said often, 75 (50%) reported sometimes and 10 (6.9%) said never. Similar responses were given when respondents were asked to indicate how often they noticed students "falsifying research references". Eleven (7.6%) indicated very often, 31 (21.5%) said often, 96 (66.7%) reported sometimes and 6 (4.2%) said never.

Concerning the frequency of students "copying from another work without proper references", 9 (6.3%) reported very often, 39 (27.1%) indicated often, 95(66%) reported sometimes and 1 (.7%) said never. The result confirmed the self-reported data of the students. It seems that lecturers simply do not perceive "copying from another work without proper references" as academic dishonesty hence their relenting efforts not to nib this behaviour among students. On the frequency of students "stealing an answer key/marking scheme", 8 (5.6%) of the lecturers agreed that it happened very often, 23 (16%) indicated that it happened often, 90 (62.5%) reported sometimes and 23(16%) said it never occurred. Closely linked with this behaviour is the case of students' unauthorised possession of testing materials in advance. When the lecturers were asked to indicate how often students "steal a copy of a test in advance", 10 (6.9%) indicated very often, 20(13.9%) said often, 91 (63.2%) reported sometimes and 23 (16%) said never. The results suggest that such dishonest behaviours of students occurred sometimes. This could mean that any careless act among lecturers would result in unauthorised possession of testing materials and answer key or marking scheme.

When lecturer respondents were asked to indicate how often they noticed students "using technological stored information during a quiz/test", 18 (12.5%) said it occurred very often, 21(14.6%) said it occurred often, 90 (62.5%) indicated that it occurred sometimes and 15(10.4%) said it never occurred. The lecturers were further asked to estimate the number of times students "text message examination question during semester examination" and 34 (23.6%) indicated very often, 25 (17.4%) reported often, 63 (43.8%) reported sometimes and 22 (15.3%) reported never. On the frequency of students "using cell phones during semester examination", 39 (27.1%) indicated very often, 17(11.8%) said often, 64(44.4%) reported sometimes and 24 (16.7%) indicated that they never noticed this behaviour among students. Finally, the lecturers were asked to report on how often students "use camera phones during semester examinations, and 40 (27.8%) agreed that it occured very often, 10 (6.9%) indicated often, 65 (45.1%) indicated sometimes and 29 (20.1%) indicated never. The results suggest that the use of technological devices during examination was prevalent among undergraduate students. This finding is contrary to the position held by the students who reported less prevalent rates on those variables. The technological ineptitude of most lecturers may have accounted for this difference. Lecturers may have over-exaggerated the prevalence of these academic dishonest behaviours among undergraduate students.

However, the prevalence rate as reported by the lecturers appears to be overwhelming. One-hundred and forty-three representing 99.3% of lecturer-respondents agreed to seeing students copying from another work without proper references. Again, 141(97.9%) of the lecturers admitted noticing students copying

140

another student's homework and also looking on another student's paper during a test.

In all, the prevalence rate of academic dishonesty reported by lecturers was 90% with about 19%, 21%, 51% and 10% representing 'very often', 'often', 'sometimes' and 'never' responses, respectively. This prevalence rate, 90%, far outweighed the 48% reported by the students. Perhaps the students underreported their dishonest behaviours. This might be misleading because it did not accurately reflect the state of affairs. There is no doubt that students see instances of academic dishonesty all around them. Much more frequently than not, observed academic dishonest behaviour goes unreported, apparently because students who do not cheat know what it is like to be in the other person's shoes or because of a tacit prohibition against reporting on a fellow student. Cizek (2003) pointed it out that in some cases, some students may overlook academic dishonesty because the 'lecture just seems to deserve'. Shab (1992) identified what he called a culture of 'no-squealing' in his survey of 1, 629 students in which approximately 88% of the respondents said that they would not report if they observed a friend or asked to report on their own academic dishonest behaviour. Demonstrating that propinquity does not matter that much, 80% said they would not report cheating by another student even if he or she were not a friend. This is an indication that there is a general apathy towards academic dishonesty among undergraduate students on the university campuses.

In summary, a total of 99% of the lecturers reported "copying from another student" as the most prevailing academic dishonest behaviour. This was followed by "copying another student's homework" and "looking on another student's paper

during a quiz /exam" with 97.9% each. The third most prevalent academic dishonest behaviour reported by lecturers was "falsifying research references". A total of 95.8% of the lecturer respondents, at least sometimes observed it. The least academic dishonest behaviour observed by the lecturer respondents was the use of camera phones during semester examination. About 68% reported noticing this behaviour.

University Lecturers' Response to Academic Dishonest Behaviours

Table 12 reveals ways university lecturers reacted to academic dishonest behaviours among undergraduate students. The respondents were to agree by indicating "yes" or disagree by indicating "no" to the list of statements (scenarios) provided as indicated in Table 12.

Table 12: Lecturers reaction to students' academic dishonest behaviour

Statements	Response	
	Yes	No
Confronted student but didn't pursue the matter further	87 (60.4)	57 (39.6)
Dealt with the student one-on-one	94 (65.3)	50 (34.7)
Gave the student a warning	100(69.5)	44 (30.5)
Lowered the grade on the item in question	71 (49.3)	73 (50.7)
Gave a "fail" on the assignment	54 (37.5)	90 (62.5)
Reported the incident to a higher authority in the university	66 (45.8)	78 (54.2)
Did nothing	69 (47.9)	75 (52.1)

Source: Field survey, (2016).

From the data, 87(60.4%) confronted students believed to commit academic dishonesty but didn't pursue the matter further while 57(39.6%) did not use this approach. Lecturers may reprimand students involved in academic dishonesty but may not find time and effort (dissipating) to pursue the case to its logical

conclusion. The bureaucratic nature of dealing with cases of academic dishonest behaviours may have informed this intention of dealing with the issue on personal basis.

Furthermore, 94(65.3%) dealt with the culprit one-on-one while 50(34.7%) never did. The majority position confirmed this approach to managing academic dishonesty. Most lecturers may want to be seen as an authority figure. Besides, lecturers may not be aware of the gravity of the offence in threatening the credibility of certificates awarded to students with visible evidence of academic dishonest behaviours.

`Another approach common among the lecturers in the universities is giving the student a warning as 100 (69.5%) indicated that they gave the culprit a warning whereas 44 (30.6%) did not. It seems that when there are no vicarious experiences attached to the verbal warnings, the fight against academic dishonesty cannot be won.

As shown in Table 12, 71 (49.3%) lowered the grade on the item in question and 73 (50.7%) failed to do so. Fifty-four (37.5%) gave a "fail" on the assignment while 90 (62.5%) did not do that. Sixty-six (45.8%) reported the incidence to a higher authority in the university while 78 (54.2%) failed to do so. Finally, 69 (47.9%) did nothing to the culprit while 75 (52.1%) used one of the preceding ways to respond to cases of academic dishonesty in the universities. It is worrisome to note that though academic dishonest behaviour is a familiar problem for universities, it is often not very well known. Sometimes it appears university authorities do not even want to know of this problem because it has the potential to

143

bring certificates awarded by such institution into disrepute. Lecturers are reluctant to bring dishonest academic behaviour before the university authorities. In affirmation of this finding, Keith-Spiegel and Whitley (2001) showed that among a sample of almost 500 university professors in in the United States, 20 percent reported they had ignored to take further measures in evident cases of academic dishonesty. Many university teachers obviously hesitate to take action against academic dishonest behaviours because of the stress and discomfort that follows (Murray, 1996). Also, Maramark and Maline (1993) suggest that faculty often choose not to involve university or departmental authorities but handle observed academic dishonest behaviour at an individual level, thus, making it invisible in university documents and unknown to the university authorities. Within this context, Jendreck (1992), as an example, concluded that students preferred to handle the problem informally rather than using formal university policies.

Measures Taken to Prevent Academic Dishonesty among Students

This section looks at measures taken by university lecturers to prevent academic dishonest behaviours among students. Table 13 shows the list of measures used by university lecturers to prevent academic dishonesty among undergraduate students.

Table 13: Measures Taken to Prevent Academic Dishonesty among Students

Measures	Response	
	Yes	No
Move around the classroom vigilantly during a test	134 (93.1)	10 (6.9)
Distribute different forms of the same test	117 (81.3)	27(18.8)
Lock tests in secure locations	123 (85.4)	21(14.6)
Protect test software with passwords	117 (81.2)	27(18.8)
Use plagiarism detecting software	62 (43.1)	82(56.9)
Check references on research papers	72 (50.0)	72(50.0)

Source: Field survey, (2016).

Table 13 shows that most common measures are 'moved around the classroom vigilantly during a test' 134(93.1%), 'distributed different forms of the same test 117(81.3%)', 'locked tests in secure locations' 123(85.4%) and 'protected test software with password' 117(81.3%). However, 82(56.9%) never used plagiarism detecting software to verify uniqueness of students' assignment. There was split response (yes = 50% and no = 50%) as to whether lecturers checked references on research papers.

It can be deduced from the results obtained that the common preventive measure against academic dishonest behaviours of students is vigilance of invigilators during a test while the least preventive measure is the use of plagiarism detecting software. As reflected in an earlier finding, some lecturers were not interested in even preventing academic dishonest behaviour; Perhaps they rather considered it as help being rendered to the candidates or to cater for teaching

145

inadequacies. These lecturers could be seen as condoning and conniving with students to engage in the act of academic dishonesty.

Influence of Gender on Academic Dishonesty

This segment of the study examines how gender influences academic dishonesty among public university undergraduate students. The concentration here is to find out whether gender influences academic dishonesty as reported by the students. To examine this, hypothesis 1 "there is no statistically significant differences in academic dishonesty (self-reported) when students are classified according to gender" was formulated. The students were asked to indicate their gender. The gender of the students was compared with their self-reported academic dishonest behaviours. The statistical tool deployed to test this hypothesis is independent sample t-test. The results are presented in Table 14.

Table 14: Gender Distribution of Student Responses on Academic Dishonesty

Gender	Freq.	Mean	Std. dev.	df	t-value	Sig
Male	709	1.63	.394	1198	1.726	.085
Female	491	1.59	.342			

Source: Field survey, (2016). *$p < 0.05$ (2-tailed significant results)

Table 14 presents the results of the independent samples t-test performed on the prevalence of academic dishonesty of two independent groups made up of female and male students selected at random. As can be seen in the table, comparison of the mean of academic dishonesty (self-reported) of the female and the male respondents suggest that, academic dishonesty is prevalent among male

146

respondents (mean=1.63) than female respondents (mean=1.59). To test whether the difference in the mean score of male and female students is statistically significant as far as prevalence of academic dishonesty is concerned, independent sample t-test performed revealed that there was no statistically significant difference in the mean of prevalence of academic dishonesty between male and female respondents [t (1198) = 1.726, p = 0.085)] justifying that, whatever difference that exists in the mean of the values of academic dishonesty was due to chance. To further examine the effect of gender on the prevalence of academic dishonesty, the Eta squared was calculated. It is given by the formula.

$$\text{Eta squared} = \frac{t^2}{t^2+(N_1+N_2-2)}$$

$$\frac{1.73^2}{1.73^2+(709+491-2)} = 0.0025$$

Cohen (1988), proposed that, .01 is a small effect, .06 is moderate and .14 is large effect. The result showed that .25% of the variance in the prevalence of academic dishonesty was explained by gender. This showed that the magnitude of the mean difference between male and female respondents was very small.

Consequently, the null hypothesis that "there is no statistically significant differences in academic dishonesty (self-reported) when students were classified according to gender" is retained. Thus, the prevalence of academic dishonesty among males and females does not differ. This agrees with the study results of Anderman and Midgled (2004) in which gender was used as a control variable and it was not found to have had a significant effect on self-reported cheating. The

finding however, disagrees with Jacobson et al.'s (1970) finding that women cheat more than men. It also debunks the observation that, male adolescents get more involved in academic dishonest behaviours than their female counterparts (Esere & Arewah, 2000).

Again, the finding contradicts the study that revealed that male and female students are significantly different in their involvement in academic dishonest behaviours (Yahaya, 1999). One possible explanation for this finding is that, female students are taking equally the same risk to engage in academic dishonesty as their male counterparts.

Furthermore, in Table 14 the result is not significant (mean difference is just .038). This is an indication that female students are equally venturing into this maladjustment behaviour perhaps to be at par with their male counterparts. Another explanation for this finding is that in the Ghanaian society it is expected usually that men play leading role in the upkeep of the household but women nowadays are also shouldering responsibilities for the upkeep of the home. In this regard, passing a university examination and acquiring the requisite academic qualification is a matter of "do and die" so, both male and female students at the university go to all length to get an excellent university qualification. It seems women are therefore, competing with their men counterpart in academic dishonesty in order to get a well-paid job and perhaps to identify themselves with the slogan "what men can do women can do it better". This might make them breadwinners of their households as well.

Differences among Students' Academic Dishonesty by Age

This section of the study examines the differences among undergraduate university students' academic dishonesty by age. The focus here was to ascertain how students' age groups differ with respect to academic dishonest behaviour. The students were asked to indicate their age. To examine this, the Hypothesis 2 "there is no significant difference in academic dishonesty (self-reported) when students' are classified according to their age" was tested. Descriptive statistics of the different groups and a one-way analysis of variance was conducted, and the results presented in Tables 15 (mean values were the mean of the total academic dishonesty prevalence rate) and 16 (one-way ANOVA results) respectively.

Table 15: Frequency distribution of academic dishonest behaviour by age.

Age	Freq.	Mean*	SD
16-20	92	1.62	.370
21-24	838	1.61	.341
25-28	197	1.57	.376
29-32	62	1.57	.331
33 and above	29	2.03	.856
Total	1200	1.61	.374

Source: Field survey, (2016). *mean of academic dishonesty

Table 15 shows clearly that students between the ages of 16-20 and 21-24 had almost the same mean value as 1.62 and 1.6, respectively. While students with ages between 25-28 and 29-32 had the same mean value of 1.57. The highest mean, 2.03 value was recorded by students with ages 33 and above. Again, from Table

15, the highest standard deviation (.856) was also recorded by the same group (33 and above) meaning that the group was more heterogeneous than all other age ranges. The other age groups (16-20, 21- 25-28, 29-32) have almost same variation measured by the standard deviation ranging from .33 to .38 (approximately).

The inference one can make from the results is that. students of 33 years and above are more likely to indulge in academic dishonest behaviours than their younger ones. A critical look at the mean score of academic dishonesty, shows that, students with ages of 33 and above indulge in academic dishonest behaviour "sometimes" and "often" while those below the age 33 "sometimes" indulge in academic dishonesty.

A one-way analysis of variance (one-way ANOVA) test conducted to investigate how academic dishonest behaviour differs among students using age ranges of students and in effect testing the Hypothesis 2. In testing the hypothesis, the independent variable age was measured against academic dishonesty (self-reported). The result of the one-way analysis of variance is presented in Table 16.

Table 16: One-Way ANOVA Result on the differences among Students' Academic Dishonest Behaviour by Age Levels.

		Sum of Squares	df	Mean Square	F	Sig.
Prevalence of	Between Groups	5.515	4	1.379	10.174	.000*
Academic						
Dishonesty	Within Groups	161.947	1195	.136		
	Total	167.462	1199			

Source: Field survey, (2016). *p< 0.05 (2-tail significant results)

The results show a statistical significant difference at the 0.05 probability alpha level in academic dishonest behaviours for the five age groups [F (4,1195) =10.2, p=.0001]. Based on the results, the null hypothesis that there is no statistically significant difference in academic dishonesty when students are classified according to their age is therefore rejected. Despite reaching statistical significance, the actual difference in mean score between the groups was quite small. The effect size, calculated using eta square,

$$\text{Eta Square} = \frac{\text{sum of squares betwen groups}}{\text{total sum of squares}} = \frac{5.515}{167.462} = 0.033$$

was 0.033 which Cohen (1988) classified as small. To ascertain which age ranges significantly differ statistically in academic dishonesty, a Post Hoc analysis was conducted using Tukey HSD test and the result is presented in Table 17.

Table 17: Results of Post Hoc Test on the Comparative difference of Age on Academic Dishonesty of Students.

Age of Comparisons	Mean diff.	Sig.
16-20 Vrs 21-24	.012	.998
16-20 vrs 25-28	.050	.828
16-20 vrs 29-32	.53	.908
16-20 vrs 33 and above	.422*	.000
21-24 vrs 25-28	.038	.720
21-24 vrs 29-32	.041	.919
21-24 vrs 33 and above	.422*	.000
25-28 vrs 29-32	.002	1.00
25-28 vrs 33 and above	.460*	.000
29-32 vrs 33 and above	.462*	.000

Source: Field survey, (2016). *p< 0.05 (2-tailed significant results)

The results of the post hoc comparisons using Turkey HSD test on the comparative difference of age on academic dishonest behaviour indicated that the mean score for age Group 5 (33 and above) (M=2.03. SD=0.856) was significantly different from Group 3 (M = 1.57, SD = .38) and Group 4 (M = 1.57, SD =.33). Group 1(M = 1.62, SD = .37), Group 2 (M = 1.61, SD = .34), Group 3 (M = 1.57, SD = .38) and Group 4 (M = 1.57, SD = .33) did not differ significantly from each other. For example, from the mean (See Appendix E) the students with the age range of 33 and above with the mean of 2.3 differ significantly in their engagement in academic dishonest behaviours than the rest of the students from the other age grouping. The results suggest that, the students with the age group of 25-28 and 29-32 had not differ in their academic dishonest behaviours. The rest of the mean difference between other age groups was negligible or existed due to chance.

The graph of the means plot of age influence on academic dishonesty is presented in Figure 6. An inspection of the means plot confirms the results that the age group 33 and above differs statistically significantly higher in academic dishonest behaviour while the students within the age groups of 25-28 and 29-32 differ the least. This also implies that students with the age group of 33 and above did engage in academic dishonest behaviours more than their counterparts at a younger age.
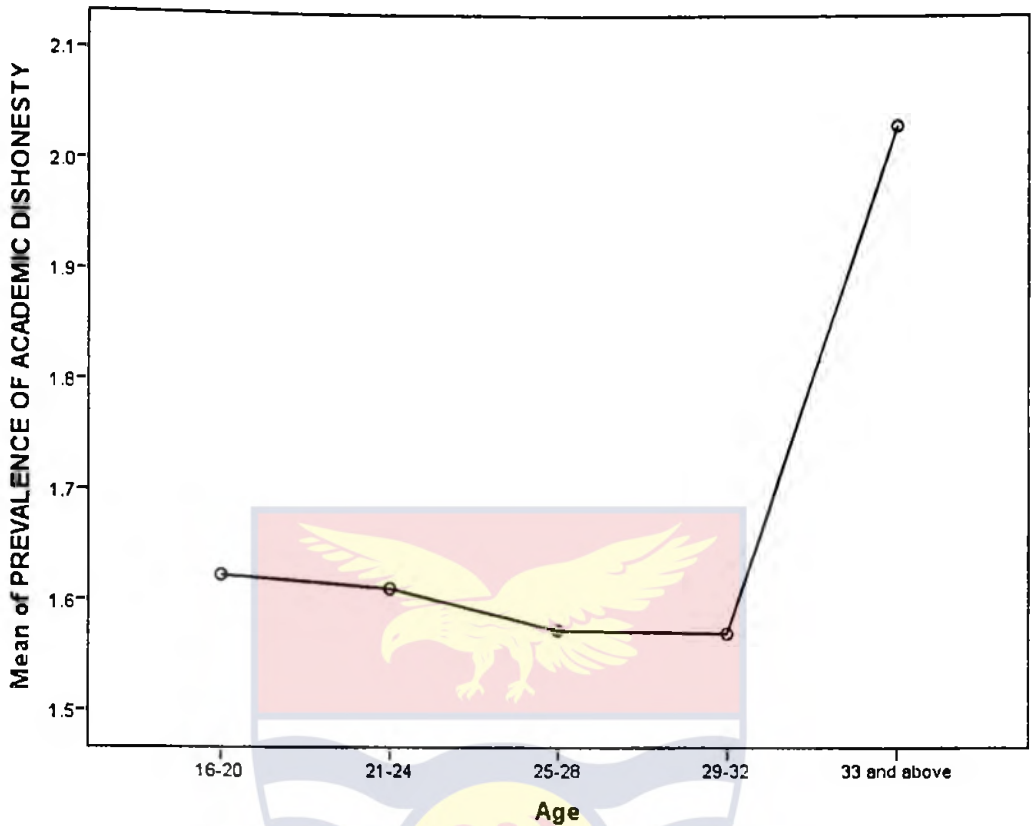
Figure 6: Means Plots of Age and Its Influence on Academic Dishonesty

The details of the mean plots in Figure 6 indicates a visual representation of the influence of age groups on academic dishonesty and their linear relationship. From the data, 16-20 and 21-24 age groups have means a little above 1.6 whilst 25-28 and 29-32 age groups have means a little below 1.6 which indicates that the two groups (25-28 and 29-32) differ the least. However, the age group (33 and above) had a mean above 2.0 showing clearly that, they differ significantly in their engagement in academic dishonest behaviour than any other age group. This finding is in sharp contradiction to studies done by Franklyn-Stokes and Newslead (1995) and Haines et al, (1986). These studies found out that younger students engaged in academic dishonest behaviours more than older students and concluded

153

that this may be due to the differences in levels of motivation, ability and experience, moral obligation and maturity (Fin & Frone, 2004). It also contradicts McCabe and Trevino's (1997) study which found older students to have a lower propensity to be academically dishonest than the younger students. This finding also contradicts Harding et al's (2007) study which found that younger students were academically dishonest than the older students.

It is obvious that university students at that age (33 and above) might be preoccupied with responsibilities of managing their family and therefore affording them less time for actual study. This could also cause many of them to begin to miss classes, resorting to shortcuts associated with academic infractions. Some others are likely to engage in academic dishonest behaviours because they have poor time management skills. University work is challenging, and some students underestimate the time to complete tasks in the university. Others engage in other activities and by so doing, run out of time and therefore take shortcuts. Sometimes, these students apart from their family responsibilities/engagements at that age, also inappropriately prioritise social or extra-curricular events over their academic work. The problem could range from having issues with their girlfriends/wives/husbands/boyfriends, funeral issues to deal with and ill-health of people in their families. This makes academic dishonest behaviour a thought-out, premeditated act and above all an impulsive act for them.

Differences among Students' Academic Dishonesty by Programme

This segment of the study examines the differences among undergraduate university students' academic dishonesty by programme. The focus here was to

154

ascertain how students' programme groups differ with respect to academic dishonest behaviour. Students were asked to state their programme (Arts, Business, Science and Education). Hypothesis 3 "there is no statistically significant difference in academic dishonesty when undergraduates are classified according to their programmes" was tested using one-way analysis of variance (one-way ANOVA) (mean values were the mean of the total academic dishonesty prevalence rate as presented by each programme). The main analysis is in Appendix F but the essential parts are displayed in Table 18.

Table 18: Frequency distribution of academic dishonest behaviour by Programme

Programme	Freq.	Std.	Mean
Arts	395	.478	1.67*
Business	186	.328	1.63
Education	163	.300	1.56
Science	156	.295	1.60

Source: Field survey, (2016). *mean of academic dishonesty

Table 18 indicates clearly that, students offering education had the lowest mean of 1.56 while students in the Arts programme had the highest mean of 1.67. It is remarkable that students in business and science had almost the same mean of 1.63 and 1.61 respectively. The mean as displayed in the Table 18 revealed that Arts students were indulging in academic dishonest behaviour than any other programmes. However, the Education students were the least to engage in the academic dishonest behaviour compared to other programmes. It is also worthy to

note that, with the mean range of 1.56 to 1.67 (approximately) all the students irrespective of their programmes "sometimes" engaged in academic dishonesty. To further ascertain the difference in the mean, hypothesis 3 ''there is no statistically significant difference in academic dishonesty when students are classified according to programmes'' was tested using a one-way ANOVA. The statistics of the test are shown in Table 19.

Table 19: One-Way ANOVA Result on the Differences among Students' Academic Dishonest Behaviour by Programmes

	Sources of variance	Sum of Squares	Df	Mean Square	F	Sig.
Prevalence of	Between Groups	2.722	3	.907	6.588	.000*
Academic	Within Groups	164.740	1196	.138		
Dishonesty	Total	167.462	1199			

Source: Field survey, (2016). *p< 0.05 (2-tailed significant results)

The results of the ANOVA test presented in Table 19 on the differences among students' academic dishonest behaviour based on programme show that, undergraduate students differ statistically significantly in academic dishonest behaviour when their classified by programme [F (3, 1196) = 6.588, p<0.05]. The effect size is calculated using Eta squared was 0.02 which is small (Cohen, 1998). Consequently, the null hypothesis that 'there is no statistically significant difference in academic dishonesty when students are classified according to their programmes'' is rejected. To identify the programmes that were responsible for the

significant ANOVA, a post hoc test analysis was conducted using Tukey HSD. The results are presented in Table 20.

Table 20: Tukey HSD Post hoc on the Comparative Influence of Programmes on Academic Dishonesty.

Programme Comparisons	Mean diff.	Sig.
Arts vrs Business	.043	.563
Arts vrs Education	.111*	.000*
Arts vrs Science	.078	.117
Business vrs Education	.068	.015
Business vrs Science	.035	.819
Education vrs Science	.033	.777

Source: Field survey, (2016). *p< 0.05 (2-tailed significant results)

The results of the post hoc comparisons using Turkey HSD test on the comparative difference of programme on academic dishonest behaviour indicated that the mean score for Arts (M = 1.67, SD = 0.48) was significantly different from Education (M = 1.56, SD = .30). Business (M = 1.63, SD = .33), Science (M = 1.60, SD = .30), and Arts (M = 1.67, SD = 0.48) did not differ significantly each other. For example, the mean difference (.111) of Arts and Education was statistically significant, indicating that the difference in the mean values of Education students and Arts students was not due to chance. However, the differences in the rest of the programmes (Arts vrs Business, Arts vrs Science, Business vrs Education, Business vrs Science and Education vrs Science) was not statistically significant. These mean differences were due to chance.

Figure 7 presents the means plot. An inspection of the means plots confirms the results that the programme of study affects students' academic dishonest behaviours. By implication, students' programmes did have a significant impact on their academic dishonest behaviours signifying that a vast majority of those who might have indulged in the dishonest behaviour perhaps did that on the basis of their programme. The graph of the mean plots of programme influence on academic dishonest behaviours is presented in Figure 7.
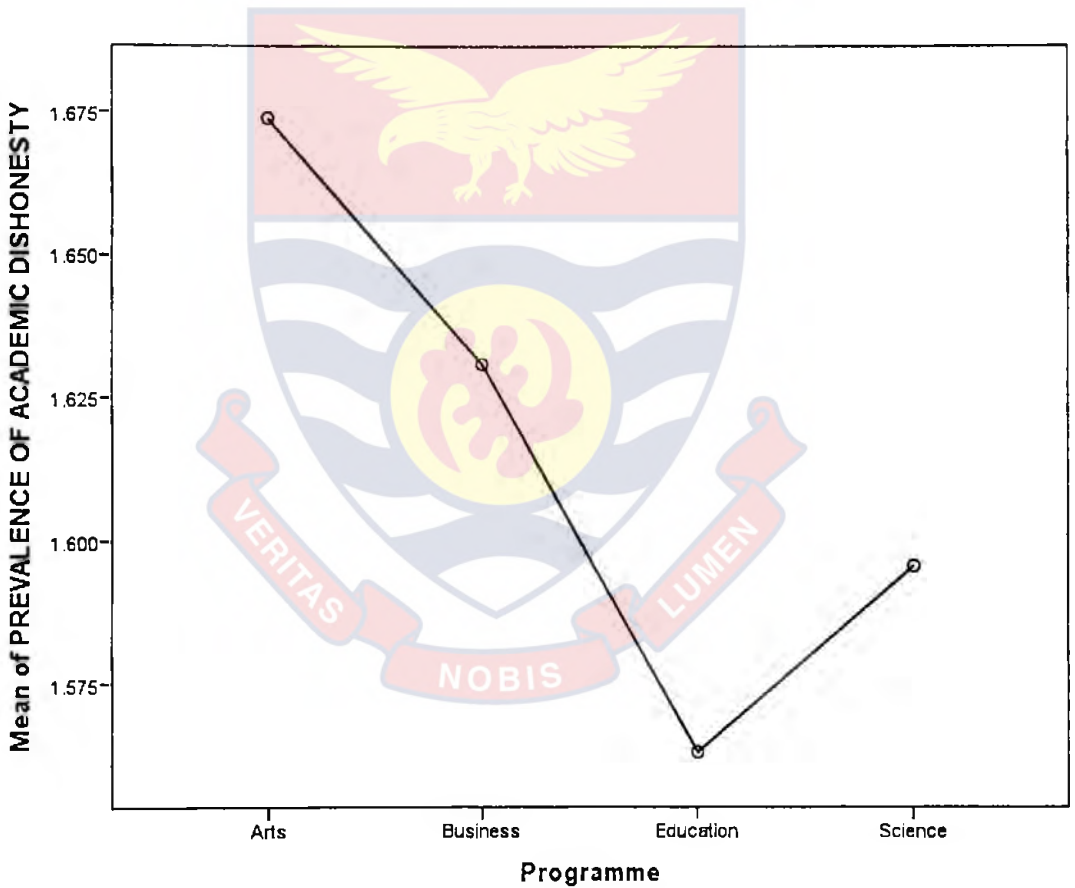
Figure 7: Means Plots of programme and Its Influence on Academic Dishonesty

The graph for the mean plots in Figure 7 gives an illustration of programmes differences on undergraduate students' academic dishonest behaviour and their

158

linear relationship. The data on the means plots of Arts programme differ with respect to academic dishonest behaviour. It is approximately 1.69; that of Business is 1.60, Education is about 1.56 and the mean of science is also about 1.63. The data indicated that Arts students differs statistically significantly in the academic dishonest behaviour than any other programme.

These findings however, contradicts the study by McCade (1997) where Science and Business students reported the highest rates of academic dishonesty. Handing et al (2007) also found in the study on students' intention to cheat and to teat in both test and homework conditions that science students were more likely to engage in academic dishonest behaviours than Arts students (Humanities). In a related development, Teixerra and Rocha (2010) also documented that business school students routinely engaged in academic dishonest behaviours during their university days which disagreed with the current finding. At the same time, Meade (1992) found that business students ranked highest for self-reported levels of cheating, followed by engineering and humanities students.

One possible explanation for this finding that Arts students engage in academic dishonest behaviour than other programmes is that, most of the assessment tasks for the Arts programmes are subjective so there is a high likelihood of the students' desire to please the assessor with their responses. This might compel some of them to engage in the act of academic dishonesty to better their performance.

In Ghana, the Education students have ready job market irrespective of the degree classification attained and most of them too are on study leave from the GES

so they might not be desperate to earn high scores during examinations and hence might not engage so much in the dishonest behaviours. Moreover, the Education students take a course in measurement and evaluation and perhaps might be aware of the harmful effect of academic dishonesty on the society. Most of these Education students end up being teachers. More importantly, educators' academic dishonest behaviour may increase students' predisposition towards academic dishonesty. This initiates a snowball effect because teachers are not just transmitters of knowledge but moral agents, and thus classroom interaction is fundamentally and inevitably moral in nature. A teacher has a responsibility and authority to uphold and maintain academic integrity and must show commitment to social and ethical values.

Demographic Variables (gender, age, and programme) and Academic Dishonesty

This part of the study is to determines whether demographic variables gender, age and programme of the university students is likely to predict their dishonest behaviour. The section tested hypothesis 4 "gender, age and programme are not statistically significant predictors of academic dishonesty". The predictor variables gender, age and programme were dummy coded with Female, 16-20 years and Business programme became the bases or comparison groups for gender, age and programme respectively. The Stepwise Multiple Regression Method was used. The results of the analysis are presented in Table 21.

Table 21: Results of Demographic Predictors (Gender, Age and Programme) of Academic Dishonesty

Model	R	R Square	Adjusted R^2	R^2 Change	F- Change	Sig
1	.050	.002	.002	.002	2.980	.085
2	.186	.035	.031	.032	9.952	.000*
3	.222	.049	.043	.014	5.992	.000*

Source: Field survey, (2016). *p< 0.05 (2-tailed significant results)

Table 21 indicates the model summary and contains information on the extent to which the model predicts the dependent variable academic dishonesty. Reading from the Table, model 1, 2 and 3 under the heading show that the predictor variable gender, age and programmes were entered in blocks.

Taking the first blocks 'gender' the value .050 under R (the multiple correlation coefficients) is the Pearson's correlation coefficient collectively produced by gender (male and female). The R^2 and its adjustment mean that gender explains only 0.2% (0.002) of the variable in academic dishonesty. The difference in the R^2 and the adjusted R^2 (0.002-0.002) of 0.00 indicates that the model would lose nothing if academic dishonest behaviour is generalized beyond the sample. However, with respect to gender, F-ratio of 2.980 is not statistically significant at an alpha level of .05. This suggest that the model (1) on gender only, did not fit the data very well.

Model (2) used gender and age as the predictor variables. In Table 21, value .186 under R (the multiple correlation coefficients) is the Pearson's correlation coefficient collectively for gender and age with academic dishonesty. The R^2 and

its adjustment shows that gender and age explain 3.1% (when adjusted for bias) of the variable in academic dishonesty.

The difference is the R^2 and the adjusted R^2 (0.035-0.031) of 0.004 indicated that the model lost only about 0.4% of the 0.035 variance explained in academic dishonesty if the model is generalised beyond the sample to the population of the university students' academic dishonest behaviour. The F-ratio (9.952) is significant at the alpha level of 0.05, indicating that the second model fits the data well. The model is significantly better at predicting the dependent variable (academic dishonesty), the F-ratio is the ratio of the enhancement made in predicting after fitting the model to the data (i.e., Mean square Regression = 1.161), compared to (or divided by) the residual existing after fitting the model to the data (mean square residual =.135). So, for the model, the F-ratio of 9.952 is significant at an alpha level of 0.05. This implies that it is unlikely the result was due to chance.

Model 3 is the model containing the three predictor variables namely gender, age and programme. As shown in Table 23, the three under the heading model had the three predictor variables (gender, age and programme). The value .222 under R which is the Pearson's correlation coefficient is collectively produced by gender, age, and programme with academic dishonesty. Table 23 shows that the difference in R^2 (4.9%) and the adjusted R^2 (4.3%) of the variable in academic dishonesty is 0.006. An indication that the model would lose about 0.6% of the variance explained in academic dishonesty if the model is generalized beyond the sample to the population. The F-ratio of 5.992 is statistically significant with an

162

alpha level of 0.05, suggesting that the model fit the data well. Therefore, it is improbable that such value was obtained due to chance.

Table 22: Regression of Gender, Age and Programme on Academic Dishonesty

Model	Variable	B	Beta	t	Sig
1	(Constant)	1.592		94.471	.000*
	Male vs Female	.038	.050	1.726	.085
2	(Constant)	1.606		40.093	.000*
	Male vs Female	.032	.043	1.463	.144
	16-20 VRS 33⁺	.398	.163	5.045	.000*
	16-20 VRS 29-32	-.059	-.035	-.975	.330
	16-20 VRS 25-28	-.058	-.056	-1.227	.220
	16-20 VRS 21-24	-.012	-.015	-.308	.758
3	(Constant)	1.598		32.675	.000*
	Male vs Female	.034	.045	1.549	.122
	16-20 vs 33⁺	.420	.173	5.351	.000*
	16-20 VRS 29-32	-.017	-.010	-.282	.778
	16-20 VRS 25-28	-.010	-.009	-.197	.844
	16-20 VRS 21-24	.011	.014	.272	.786
	Business vrs Arts	.038	.048	1.157	.248
	Business vrs Educ.	-.069	-.090	-2.130	.033*
	Business vrs Sci.	-.039	-.035	-.965	.335

Source: Field survey, (2016). *p< 0.05 (2-tailed significant results)

In the first predictor variable gender (From the Table 22), a change in the dependent variable (academic dishonesty) would result from a unit change in the

163

predictor variable gender (dummy coded as male =1 and female = 0) as meaning the difference in academic dishonesty that a change from being a man to a woman makes. So, the b-value of 0.038 and the beta of 0.050 have an associated t (1.726) which is not significant at the 0.05 level. To interpret this, the change from being a woman to a man would expect dishonesty to increase by approximately 3.8% times and therefore the change from female to male is not a significant predictor of academic dishonesty. This is an indication that gender did not in any way statistically predict students' academic dishonest behaviour. That is gender is not a significant predictor of academic dishonesty.

Concerning age, a change from 16-20 to 21-24 years resulted in 1.1% (b-value .011), and from 16-20 to 29-32 shows 5.9% (-0.059) and finally a change from 16-20 to 33+ indicated 39.8%. To interpret this, it could be said that if a student change from the lowest age from 16-20 to 21-24, 16-2- to 25-28 and from 16-20 to 29-32 academic dishonest behaviour is expected to reduce by 1.2%, 5.8% and 5.9% respectively. However, from 16-20 to 33+, academic dishonest behaviours are expected to increase sharply by 39.8%. Among all the age levels compared to the base age range of 16-20, it is only the age change in the age range from 16-20 to 33+ that was significant (t = 5.045). Therefore, a a change in students' age from 16-20 to 21-24, 25-28 and 29-32 is not a statistically significant predictor of academic dishonesty.

It is also worthy to note that when students change courses from Business to Education and Business to Science, the level of academic dishonesty will only decrease by 0.9% and 3.9% respectively, while a change in programme from

164

Business to Arts will decrease academic dishonesty prevalence by 3.8%. The change from Business programme to Education programme resulted in statistical significant implying that the change was not due to chance. However, the change from Business to Science and Business to Arts programmes was not statistically significant. Hence, the conclusion that the change was due to chance and is therefore negligible.

The ANOVA result in Appendix G shows whether the model is significantly better at predicting the criterion variable (academic dishonesty). The F-ratio is the ratio of the progress made in predicting after fitting the model to the data (mean square regression is 1.026) compared to the residual existing after fitting the model to the data (i.e., mean square residual =.134). So, for the model, the F-ratio is 7.674, therefore, it is unlikely that such value was obtained by chance. The ANOVA confirms that combination of gender, age and programme together significantly improves the ability to predict prevalence of academic dishonesty. Consequently, the null hypothesis that "Gender, age and programme are not statistically significant predictors of academic dishonesty" is retained.

Students' Attitude and Academic Dishonesty

This part of the study is to verify if there is any relationship between students' attitude toward academic dishonesty and their real academic dishonest behaviour. Hypothesis 5, states that "there is no statistically significant relationship between students' attitude towards academic dishonesty and their academic dishonest behaviour (self-reported)" was formulated and tested. Students were asked to indicate the degree of agreement or disagreement to ten (10) statements on

attitude (scores were 1 for very strongly agreed and 6 for very strongly disagree. Some items were reversely scored) and the prevalence of academic dishonesty (very often 4 upto never 1). The result of the responses is shown in Table 25.

Table 23: Attitude and Academic Dishonesty Responses

	Mean	Std.
Prevalence of academic dishonesty	1.61*	.374
Attitude	4.01**	1.066

Source: Field survey, (2016). *mean of means of the prevalence rate
                                    **Mean for attitude

The results show that the mean of prevalence reported is 1.61 (approximately 2 which is sometimes on the prevalence instrument) which is an indication that all the students 'sometimes' engage in academic dishonesty while the students tend to have a negative attitude towards academic dishonesty as indicated by an attitudinal score of 4.0 (4 is disagree on the attitude scale) which corresponds to 'disagree'.

To further explore the relationship between academic dishonesty (self-reported) and attitude towards academic dishonesty, partial correlation was employed. The partial correlation was deployed because the effect of the other control variables (self-efficacy, intention, cost, moral obligation and subjective norms) which were likely to correlate with academic dishonesty had to be eliminated. The result of the partial correlation is presented in Table 24.

Table 24: Results of Partial Correlation Coefficient Between Attitude and
Academic Dishonesty

		Academic Dishonesty	Attitude
Academic dishonesty	Correlation	1	
	Sig (2-tailed)		
	N	0	
Attitude	Correlation	-.120	1.000
	Sig (2-tailed)	.000	
	N	1193	0

Control variables: *Self-Efficacy, Intention, Cost, Moral Obligation and Subjective norms*

Source: Field survey, (2016). *p< 0.05 (2-tailed significant results)

From the Table 24 shows that the correlation between students' attitude and academic dishonesty is -.120 which is small (Cohen, 1988). This implies that a weak negative relationship existed between attitude towards academic dishonesty and academic dishonesty itself whilst holding self-efficacy, intention, cost, moral obligation and subjective norms constant. Though a weak relationship, it reveals that as students' attitude towards academic dishonesty increases, there is a small increase in their ability to indulge in academic dishonesty. In other words, as students hold positive attitude towards academic dishonesty, they are likely to engage in academic dishonesty but when they hold negative attitude towards academic dishonesty they are not likely to engage in academic dishonesty This is an inverse relationship. As a result, the null hypothesis that there is no statistically significant relationship between students' attitude towards academic dishonest and their actual academic dishonest behaviour (self-reported) is not rejected.

To ascertain how much variance, the attitude towards academic dishonesty and academic dishonesty shared, the coefficient of determination was calculated to be 0.0144 which indicates that, 1.44% shared variance. Thus, attitude towards academic dishonesty helps to explain 1.4 percent of the variance in students' actual academic dishonest behaviour.

This finding agrees with Harding et al.'s (2007) study, which reported a statistically significant correlation coefficient of .39 between the attitude towards academic dishonesty and dishonest behaviour (i.e., cheating) of undergraduate students. The finding also collaborates Beck and Ajzen's (1991) study which reported a statistically significant correlation coefficient of .22 on 146 undergraduate Psychology students' cheating behaviour and their attitude towards cheating. It should be noted that attitude denotes the sum of a person's feelings, ideas, fears and threats about a specific phenomenon (Oppenheim, 1992). Therefore, the importance of attitude and its relationship with behaviour cannot be over-emphasised. Societal attitude towards a behaviour gives room to the individual and other members of the society to repeat or extinct the behaviour. It is obvious from the result that university students' attitude towards academic dishonest behaviour is likely to nurture or discourage the occurrence of academic dishonesty.

The result is consistent with those of past studies on academic cheating that also suggest that individuals are more likely to engage in cheating behaviours that they perceived as less serious (McLaughlin & Ross, 1989). Lim and See (2001) study on undergraduates in Singapore found a correlation index of -.20

between students' attitude towards cheating and their actual cheating behaviour. One possible explanation for this is that students generally perceive the risk of punishment associated with the commission of trivial cheating offenses to be minimal. Such a perception is often reinforced when faculty members take less severe actions against students who engage in cheating behaviours considered to be relatively non-serious (Nuss, 1984). Indeed, it appears that faculty members often do not report minor violations of assessment rules and regulations to the university authorities.

Model Fitness to the Data

This section presents results and discussion of the proposed model fit of the data using Structural Equation Modelling (SEM) analyses. This was addressed by Hypothesis 6 which states that "the proposed model does not statistically and significantly fit the data". The main purpose of this hypothesis was to check structural path significance and the overall fitness of the model to predict academic dishonesty among undergraduate students. In performing the Partial Least Square Structural Equation analysis, the two step approach recommended by Chin (1998) was adopted. The measurement model should first be tested for reliability and validity. If the result of the tests is acceptable based on threshold proposed by previous researchers, then one can go ahead to test the structural relationship between the latent variables in the research model. The measurement model has to be tested first because if the measurement items do not reliably measure the latent variables then the plausible relationships between these latent variables cannot be verified.

In assessing the measurement model, the distinction between reflective models and formative models (Henseler et al., 2009) was established. A reflective measurement model happens when the indicators of a construct are considered to be caused by that construct whilst formative measurement model happens when the measured variables are considered to be the cause of the latent variable. In the case of this research all latent variables were modeled as reflective latent variables. Reflective latent variables are assessed using reliability, discriminant validity and convergent validity.

Analysis of partial least square structural equation model

The two-step approach to assessing SEM models recommended by Chin (1998) was employed. First the measurement model was assessed to determine the appropriateness of the psychometric properties of the latent variables. In doing so, an assessment of the reliability as well as convergent and discriminant validity of the latent variables was carried out. Since the measurement model was shown to exhibit sufficient reliability and validity, the structural model was assessed. The structural model determines whether the structural relations in the model are meaningful (Sarstedt et al., 2014). In assessing the structural model, the the path coefficients of the paths were examined for the predictive power of the models and the fitness of the model.

Reliability. Hair et al. (2014) defined reliability as the degree to which a set of indicators of a latent construct is internally consistent in their measurements. A construct with a high degree of reliability has items that are highly interrelated. In other words, reliable constructs have indicators that measure the same thing. The

170

most popular measure of reliability is Cronbach's alpha. However, Chronbach's alpha has been shown to underestimate reliability (Hair, Hul et al., 2014). This is due to the fact that Chronbach's alpha assumes that all items load equally on the construct. Composite reliability or Dillon-Goldstein's ρ and Dijkstra-Henseler's rho have been proposed as alternatives to Chronbach's alpha. Dijkstra-Henseler's rho is currently the only consistent measure of reliability. Most Partial Least Square softwares provide a measure for Chronbach's alpha and Composite reliability. SmartPLS version 3 also provides reliability statistics for all three measures. In the current study, the researcher provides statistics for all three measures. According to Nunnally and Bernstein (1994) and Henseler, Hubona, and Ray (2016) a construct is deemed reliable if its reliability measure is above 0.7. Table 25 presents the results of the reliability statistics of the latent variables.

Table 25: Reliability Statistics of Latent Variables

Latent Variable	Cronbach's alpha (α)	Dillon-Goldstein's rho (ρ_c)	Dijkstra-Henseler's rho (ρ_A)
Academic Dishonesty	0.876	0.877	0.902
Attitude	0.864	0.922	0.895
Cost	0.857	0.868	0.893
Goal	0.844	0.849	0.889
Intention	0.817	0.817	0.891
Self-Efficacy	0.861	0.878	0.889
Subjective Norms	0.748	0.756	0.857

Source: Field survey, (2016).

From Table 25 it can be seen that Chronbach's alpha values are compellingly higher than the threshold set by Nunnally and Bernstein (1994). From the same table, it can be seen that values of both composite reliability and Dijkstra-

171

Henseler's rho are also above 0.7 for all constructs. It can therefore be concluded that the measurement model exhibits good reliability.

Convergent Validity. Convergent validity is the degree to which indicators of a specific construct converge or share a high proportion of variance in common (Hair, Black, et al., 2014). In other words it is the degree to which a measure correlates positively with alternative measures of the same construct (Hair, Hult, et al., 2014). Convergent validity ensures that items assumed to be measuring a particular latent variable measure the said variable and not any other latent variable (Urbach & Ahlemann, 2010).

Convergent validity is assessed using the Average Variance Extracted (AVE) measure and factor loadings of items. AVE measures the amount of variance that the latent variable captures from the items it measures relative to the amount of variance associated with the measurement errors (Aibinu & Al-Lawati, 2010). As a rule of thumb, AVE values must be greater than 0.5 to indicate convergent validity (Hair et al., 2011). This means that at least 50% of the measurement variance is captured by the latent variables. Table 26 shows the results of convergent validity.

Table 26: Test for Convergent Validity

Latent Variable	Average Variance Extracted (AVE)
Academic Dishonesty	0.536
Attitude	0.512
Cost	0.584
Goal	0.616
Intention	0.732
Self-Efficacy	0.505
Subjective norms	0.668

Source: Field survey, (2016).

From Table 26 it can be seen that AVE values range from 0.505 For Self-Efficacy to 0.732 for Intention. Evidence of convergent validity is shown since the AVE values of all latent variables are well above the cut-off point of 0.5. Hair, Black, et al. (2014) described discriminant validity as the extent to which a construct is truly distinct from other constructs both in terms of how much it correlates with other constructs and how distinctly measured variables represent only this single construct. In assessing discriminant validity the following guidelines were followed: (1) the loadings of each indicator should be greater than all its cross-loadings (Chin, 1998; Götz, Liehr-Gobbers, & Krafft, 2010; Henseler et al., 2009), (2) the Fornell-Larker criterion; which states that the Average Variance Extracted (AVE) of each latent construct should be greater than the highest squared correlations between any other construct (Fornell & Larcker, 1981), and (3) the more recent Heterotrait-Monotrait (HTMT) criterion proposed

by Henseler, Ringle, and Sarstedt (2015), which state that all HTMT ratios of correlation must be less than 0.85.

Table 27: Test of Discriminant Validity using the Fornell-Larker Criterion

	AD	Attitude	Cost.	Goal	Int.	Self	SN
Academic Dishonesty	0.732						
Attitude	-0.275	0.716					
Cost	-0.267	0.530	0.746				
Goal	0.200	0.186	-0.080	0.785			
Intention	0.365	0.54	-0.585	-0.815	0.856		
Self-Efficacy	-0.156	0.201	0.135	0.574	-0.241	0.711	
Subjective Norms	0.222	-0.679	-0.494	0.163	0.491	-0.205	0.817

Source: Field survey, (2016).

Table 28: Test of Discriminant Validity Using the Heterotrait-Monotrait Ratio

	AD	Attitude	Cost.	Goal	Int.	Self	SN
Aca. Dishonesty							
Attitude	0.294						
Cost	0.290	0.586					
Goal	0.224	0.218	0.101				
Intention	0.415	0.624	0.678	0.226			
Self-Efficacy	0.189	0.237	0.142	0.664	0.268		
Subjective Norms	0.263	0.831	0.614	0.207	0.628	0.234	

Source: Field survey, (2016).

An inspection of Table 27 shows that all indicator variables load their highest on their respective construct (values shown in bold) and that no indicator loads higher on other constructs than on its intended construct. From Table 26, it can also be seen that the Fornell-Larcker criterion is also met in that, the square root of the AVE for each construct is greater than the cross-correlation between the construct and any other construct. Results from Table 28 also show that the HTMT criterion has been met since all the values in that table are less than 0.85. It can therefore be concluded that the measurement model shows evidence of discriminant validity.

Once reliability, convergent validity and discriminant validity of the measurement model had been achieved, a test on the significance of the structural paths in the proposed research model was done.

Structural model assessment

Once the psychometric properties of the measurement model were confirmed to be acceptable, the structural model was assessed. The assessment of the structural model was based on the sign, magnitude and significance of path coefficients of each path. In order to determine the significance of each estimated path, the bootstrapping procedure was used with 5000 resamples drawn with replacement. The mediating effects of intention in the proposed model were also tested. The predictive power as well as the predictive relevance of the estimated model were assessed using the Coefficient of determination and the Stone-Geiser Q^2 respectively. Model Fit indices such as the Standardised Root Mean Square Residual (SRMR) composite factor model (Henseler et al., 2014), the Geodesic

175

Discrepancy d_G, the Unweighted Least Squares Discrepancy d_ULS (Dijkstra & Henseler, 2015a), the average R-squared, the average path coefficient (Kock, 2013) and the Tenenhaus Goodness of Fit index, GoF (Tenenhaus, Amato, & Vinzi, 2004) were also used to assess the fitness of the estimated model. Results for the structural model assessment are presented in Table 29.

Table 29: SEM Parameter Estimates for The Proposed Academic Dishonesty Model

Relationship	Path Coefficient (β)	T-Statistics	P-Values	Results
Attitude-AD	-0.085*	2.154	0.027	supported
Attitude-Int	-0.228*	5.786	0.000	Supported
Goal-AD	-0.123*	2.489	0.007	supported
Goal-Intention	-0.055*	2.115	0.043	Supported
Cosq-AD	-0.069*	2.172	0.030	supported
Cosq-Int	-0.379*	12.411	0.000	Supported
Self-Efficacy-AD	-0.014ns	0.629	0.781	Not supported
Self-efficacy-Intention	-0.082*	4.517	0.004	Supported
SN-AD	-0.022ns	0.629	0.536	Not supported
SN-Int	-0.123*	3.456	0.001	Supported
Int-AD	0.265*	7.626	0.000	Supported

Source: Field survey, (2016). *Note:* * sig. at $\alpha=5\%$.
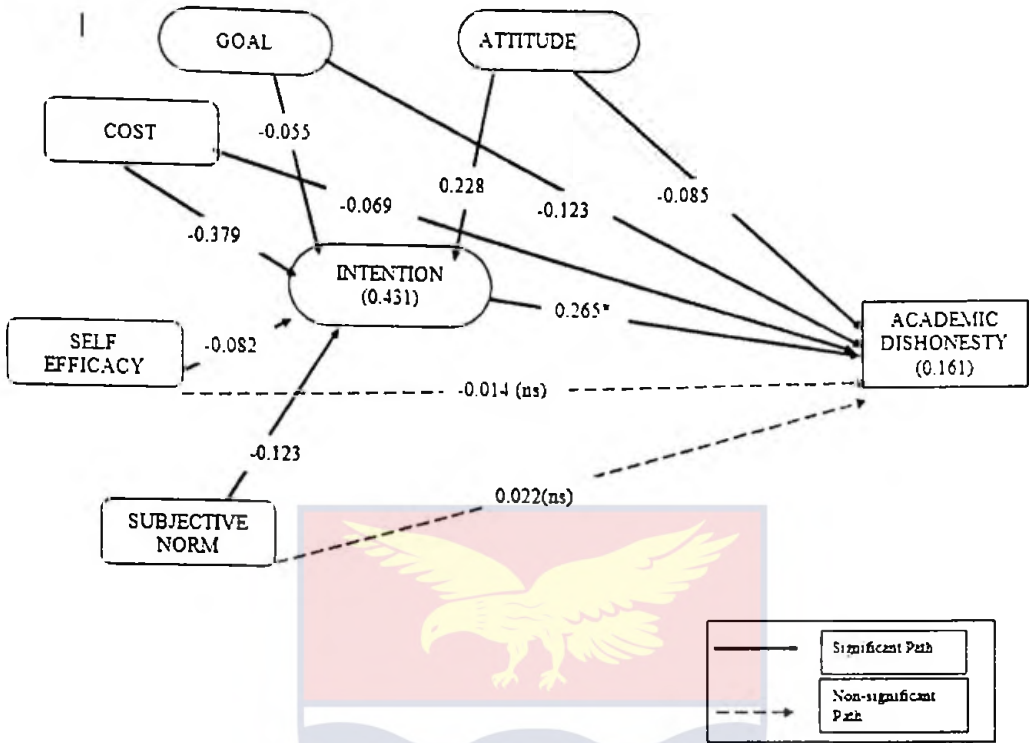
Figure 8: Proposed structure model without the moderator (moral obligation)

Attitude and academic dishonesty

From the Table 29 and Figure 8, the direct effect of attitude on academic dishonesty was negative but it was however significant ($r = -.28$, $\beta = 0.085$, $p = 0.027$). The mediating role of intention in the model produced an indirect effect on academic dishonesty which was also significant ($r = -.54$, $\beta = 0.61$, $p = 0.00$). Hair et al. (2014) recommend that for mediating effects to be considered variance accounted for (VAF) should be greater than 0.2. In this study, VAF values greater than 0.2 but less than 0.8 would be considered as partial mediation while values greater than 0.8 are considered as full mediation.

Again, to establish the total variance accounted for (VAF) by attitude in academic dishonest behaviour, mediating effect of intention on the relationship

177

between attitude and academic dishonesty was analyzed. The results are presented in Table 30 and Figure 9.

Table 30: Mediating Effect of Intention on Attitude to Academic Dishonesty

   Relationship

	Path	Estimate	t- statistics	p-value
	Attitude→AD	-0.085	2.194	0.027
	Attitude→int	-0.228	5.840	0.000
Total effect	Int→AD	0.265	7.617	0.000
Indirect effect	Attitude→AD	-0.061	4.590	0.000
VAF	0.421			

Note: VAF=indirect effect/ (Direct effect + indirect effect).
Source: Field survey, (2016).
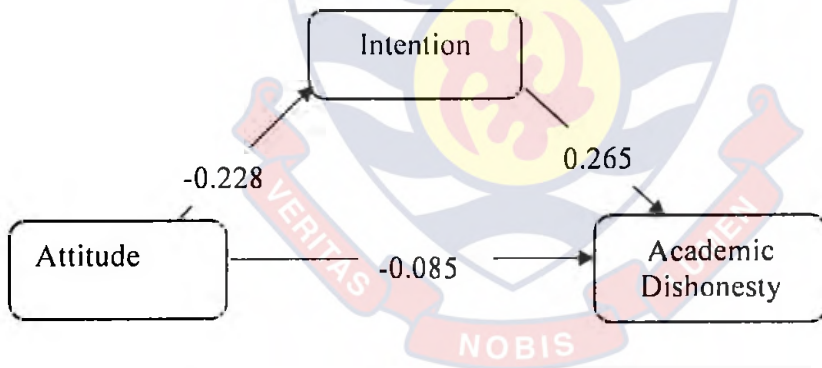
Figure 9: Mediating Effect of Intention on Attitude to Academic Dishonesty.

Table 30 and Figure 9, show that Intention was mediating the relationship between attitude and academic dishonesty. However, it could be seen that the mediating effect was partial since Variance Accounted For (VAF) which is 0.42 (42%) was less than 0.8 (80%). The practical implication of this result is that improving attitude→intention and intention→academic dishonesty links would lead to an improvement in the attitude→academic dishonesty link.

178

This implies that when students' attitude is negative (higher scores) the intention to commit academic dishonesty decreases. In the same way when students hold favourable attitude towards academic dishonesty (low score or the same score), Intention to engage in Academic Dishonesty increases. However, from the result in Table 30, it obvious that there exists a weak positive relationship between Intention to engaged in Academic Dishonesty and Academic Dishonest Behaviour itself ($r = .37$). This implies that a rise in intention to commit academic dishonesty will lead to an increase in academic dishonesty.

It is understandable that when students place favorable value on academic dishonesty, the believe that academic dishonesty will occur and vice versa. This finding conforms with Whitley's (1998) study which found out that students with favourable attitudes towards academic dishonesty were more likely to engage in academic dishonest behaviour than students with unfavorable attitude. Again, the finding is consistent with studies by Hardigan (2004), Magins et al (2002) and Harding et al (2007). They also found that students who had favourable attitude towards academic dishonesty engaged in it several times. One explanation for this finding is that, attitude denotes the sum of man's inclinations and feelings, ideas, fears and threats about a specific behaviour (Oppenheim, 1992). It is an indication that prediction becomes accurate depending on how strong attitude is, and how directly relevant the attitude is to behaviour or situation. Clearly, student's attitude towards academic dishonesty will give room to repeating or extinction of the menace. Therefore, the statistical significance of attitude in predicting academic

dishonesty shows that the attitudes of the students are most likely to nurture or threaten academic dishonesty in the universities.

Goal and academic dishonesty

The proposed model explored the relationship and the effects of goal on academic dishonesty. From Table 29 and Figure 8, the direct effect of goal and academic dishonesty was found to be negative and statistically significant at 5% alpha level (r = -.20, β = - 0.123, p = 0.007). This implies that an increase in goal will lead to a decrease in academic dishonesty. This means that students who realise that their goal to achieve or perform better in the course is decreasing, engaged in academic dishonesty to satisfy themselves.

To further explain the effects of goal on academic dishonest behaviour, the indirect effect was determined by mediating the relationship between goal and academic dishonesty with intention. Table 31 and Figure 9 present the results of the mediation.

Table 31: Mediating Effect of Intention on the Goal-Academic Dishonest (AD) Relationship

	Path	Estimate	t-statistics	p-Values
Direct effect	Goal → AD	-0.123	2.489	0.000
Total effect	Goal → INT	-0.055	2.115	0.000
	Goal → AD	0.265	7.617	0.000
Indirect effect	Goal → AD	-0.015	1.950	0.000
VAF	0.108			

Note: VAF=indirect/ (direct effect + indirect effect)

Source: Field survey, (2016).
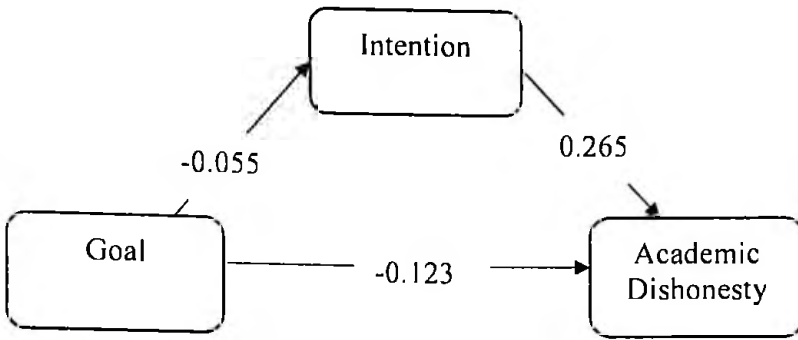
Figure 10: Mediating effect of intention on Goal to Academic Dishonesty link

Table 32 and Figure 9 showed that Intention as a mediator in the relationship between goal and academic dishonesty resulted in an indirect effect of the variable goal on academic dishonesty. This direct relationship was not statistically significant ($r = -.20$, $\beta = -0.123$, $p = 0.05$).

The Variance Accounted For (VAF) by Goal in Academic dishonesty was 0.11(11%) which is less than 0.20 (20%). This implies that the mediating role of intention in the relationship between academic goal and academic dishonesty was therefore, negligible and might exist due to chance. It also showed that, improving Goal→Intention and Intention→Academic Dishonesty links would not result into an enhancement in the Goal→Academic Dishonest link.

Academic Goal having direct negative relationship (though weak and not statistically significant) with Academic dishonesty was not surprising because practically, goals drive belief that students have in their ability to successfully accomplish their academic works (Bandura, 1997) and the belief that their performance is dependent on failures that are within their control (Duncan & McKeachie, 2005). Results showed that students with higher expectations for academic success would less engage in academic dishonesty. Murdock et al. (2001)

181

found similar result when they found a weak relationship (.29) between academic goals and students' academic dishonesty behaviour among middle school students. A possible explanation for this finding is that students who are confident that they will perform academically well will feel less of a need to cheat. This especially applies to assignments where the stakes are not as high as they would be on tests/examinations. These students would view academic dishonesty as an unfavourable strategy, because the risk associated with academic dishonesty would outweigh the perceived gains.

Subjective norm and academic dishonesty

Subjective norms form an integral part of the proposed model. This is to explore the extent to which specific individuals or groups approve or disapprove of engaging in academic dishonesty or to find out whether these social referents themselves engage or does not engage in it.

From Table 29 and Figure 8, the direct effect of subjective norm on academic dishonesty revealed that the relationship was inverse (negative) and had no statistically significant effect on academic dishonesty ($r = -22$, $\beta = 0.022$, $p = 0.536$). This implies that subjective norms had no direct effect on academic dishonest behaviour. The indirect relationship and effect of subjective norms was explored further by the proposed model. However, the indirect relationship was negative but the effect was statistically significant ($\beta = - 0.033$, $p = 0.002$). To ensure the extent of subjective norms in academic dishonesty, the variance accounted for (VAT) was analyzed and the result presented in Table 32 and Figure 11.

Table 32: Results of Mediating Effect of Intention on Subjective-Norm-AD Relationship

	Path	Estimate	t-statistics	p-Values
Direct effect	SN → AD	-0.022	0.629	0.536
Total effect	SN → INT	-0.123	3.456	0.001
	INT → AD	0.265	7.617	0.000
Indirect effect	SN→ AD	-0.033	3.122	0.002
VAF	0.60			

Note: VAF=indirect/ (direct effect + indirect effect)
Source: Field survey, (2016).
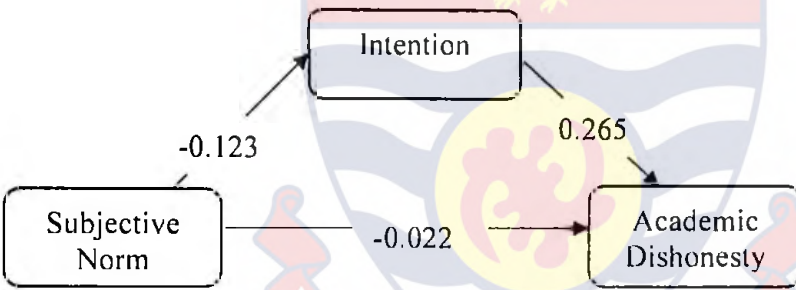
Figure 11: Mediating effect of intention on Subjective Norm to Academic Dishonesty link

From Table 32 and Figure 11, with the results shown and the indirect effect been statistically significant, it could be concluded that intention was a statistically significant mediator in the relationship between subjective norms and academic dishonesty. This implies that subjective norms could boldly make one have the intention to engage in academic dishonesty. Subjective norms accounted for 0.60(60%) of the variance in academic dishonesty giving reason to believe that the mediating role of intention was partial since it was less than 0.8(80%) threshold

183

level. This gives an indication that intention played a key role in the relationship and the effect of subjective-norm on academic dishonesty among university students. It also means that an enhancement in the links between subjective norms and intention as well as intention and academic dishonesty will result in an improvement in the link between subject-norm and academic dishonesty link.

It was not surprising when the direct link between subjective-norms (groups or individuals) and academic dishonesty was not statistically significant. This is because when subjective norms (groups and individuals) approve of a behaviour it might not edge one to directly engage in the behaviour rather it will give an individual the intention to engage in the behaviour. Perhaps that explained why the indirect effect of subjective norms on academic dishonesty was statistically significant (having intention as a mediation).

This was an expected outcome based on the theory of planned behaviour which suggests that students who hold favorable attitudes towards cheating, perceive that subjective norms support cheating and persevere that they have the ability to control the outcome of their cheating (i.e.. not get caught) will perceive lower costs associated with academic dishonesty which in turn, makes them more likely to engage in academic dishonesty. What was expected was the inverse relationship between subjective norms and academic dishonesty intention. The theory of planned behaviour suggests that high levels of subjective-norms should predict stronger intention to cheat (Harding et al., 2007). This study found the opposite effect.

One explanation for this finding is that students may perceive that subjective norms support academic dishonesty but may decide not to cheat because they have strong negative attitude towards academic dishonesty. Generally, students who believe that most referents (parents, spouse, and close friends) with whom they are motivated to comply think they should engage in academic dishonesty will perceive social pressure to do so. Conversely, students who believe that most referents with whom they are motivated to comply would disapprove academic dishonesty would have subjective norms that put pressure on them to avoid academic dishonest behaviour.

Cost and academic dishonesty

The proposed model suggest that cost related to academic dishonesty and have effect on academic dishonesty. From Table 29 and Figure 8, the direct effect of cost on academic dishonesty was explored and it was discovered to be negative and statistically significant at the alpha level of 0.05 ($r = -.28$, $\beta = -0.069$, $p = 0.043$). This means that an increase in consequences will lead to a decrease in academic dishonest behaviour even though the relationship was a weak one. Furthermore, the model mediated the relationship between cost and academic dishonesty with intention which resulted into an indirect effect of consequences on academic dishonesty. The indirect effect of cost on academic dishonesty was also negative and statistically significant at the alpha level of 0.05 ($\beta = 0.101$, $p = 0.000$). This means that an increase in cost will lead to a decrease in students' intention to cheat.

The Variance Accounted For (VAF) by cost in academic dishonesty having intention as a mediator of the relationship between cost and academic dishonesty was determined and the results presented in Table 33 and Figure 12.

Table 33: Mediating Effects of Intention on Cost- Academic Dishonesty Relationship

	Path	Estimate	t-statistics	p-Values
Direct effect	Cost → AD	-0.069	2.172	0.030
Total effect	Cost → INT	-0.379	12.411	0.000
	INT → AD	0.265	7.617	0.000
Indirect effect	Cost→ AD	-0.101	0.015	0.000
VAF	**0.594**			

Note: VAF=indirect/ (direct effect + indirect effect)
Source: Field survey, (2016).
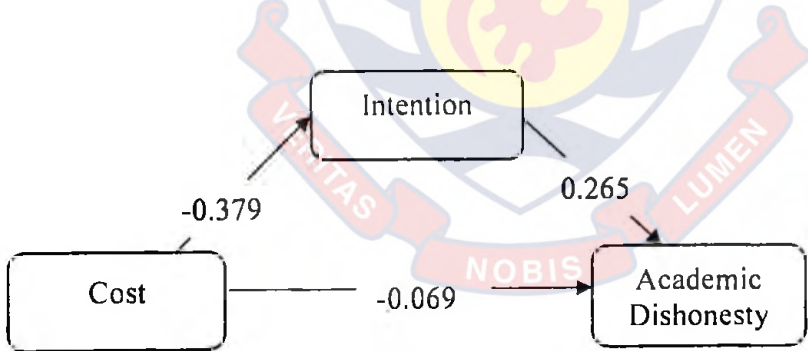
Figure 12: Mediating effect of intention on cost to Academic Dishonesty link

Results from Table 33 and Figure 12 shows that intention was statistically a significant mediator in the relationship between cost and academic dishonesty. The variance Accounted For (VAF) in academic dishonesty by cost amounted to 0.594 (59%) which is an indication that partial mediation had occurred. This implies that an improvement in cost-intention and intention-academic dishonesty

186

relationship would result into an improvement in the cost-academic dishonesty relationship.

The result showed that cost in the proposed model was a good predictor of intention and moderately good predictor of academic dishonesty (VAF 59%). These values are similar to those obtained in studies that used the theory of planned behaviour to explain academic dishonesty (Harding et al., 2007; Ward & Belk, 1990). The current study was able to distinguish between cost variable on intention to be academically dishonest and actual academic dishonest behaviour.

It cannot be over-emphasised that when cost associated with academic dishonesty is low, students are more likely to form an intention to be academically dishonest, which in turn, makes them more likely to actually engage in academic dishonest behaviour itself. This finding confirmed Murdock and Anderman's (2006) assertion that the decision of which strategy to adopt, will be influenced by the perceived potential cost associated with a given behaviour. When the costs outweigh the previous gains, the behaviour is less likely to occur. Although academic dishonesty can reduce the amount of time spent completely on school work, it is not without its own potential costs. Murdock and Anderman (2006) hold the view that academic dishonesty is more likely to occur when students can minimise the potential costs associated with having to perceive oneself as dishonest. Indeed, it is easier to be dishonest on academic work in some situations than others, and the fact that academic dishonesty is more difficult also appears to lower the rates of academic dishonest behaviour.

Graham et al. (1994) indicated that the chances of getting caught and penalties associated with getting caught were two of the top three reasons for not engaging in academic dishonesty. In Spephens' (2004) study, the fear of getting caught and punished was rated as the second more preventive reason why students did not cheat. Academic dishonesty is also prevalent when a student can reduce the potential costs of being caught and punished severely.

Self-Efficacy and Academic Dishonesty

The proposed model considered academic self-efficacy as one of the variables which might relate to and have an effect on academic dishonesty. In Table 29 and Figure 8, the direct effect of self-efficacy on academic dishonesty was negative and not statistically significant ($r = -.18$, $\beta = 0.014$, $p = 0.081$). The negative direction of the relationship, however, depicts an inverse relationship. This implies that self-efficacy had no direct effect on academic dishonesty. The indirect relationship and effect of self-efficacy which was also explored by the proposed model however, was statistically significant at the alpha level of 0.05 but also had a negative direction ($\beta = -0.022$, $p = 0.008$). This indirect effect was mediated by intention to engage in academic dishonesty. Again, the negative direction of the indirect effect means that an increase in self-efficacy will lead to a decrease in intentions to be academically dishonest and vice-versa. The variance accounted for (VAF) by self-efficacy in academic dishonesty was explored and the result presented in Table 34 and Figure13.

188

Table 34: Mediating Effect of Intention on the Self –Efficacy-AD Relationship

	Path	Estimate	t-statistics	p-Values
Direct effect	SE→ AD	-0.014	0.629	0.781
Total effect	SE→ INT	-0.082	4.517	0.004
	INT → AD	0.265	7.617	0.000
Indirect effect	SE→ AD	-0.022	0.284	0.776
VAF	**0.611**			

Note: VAF=Indirect effect/ (Direct+ Indirect Effects)
Source: Field survey, (2016)
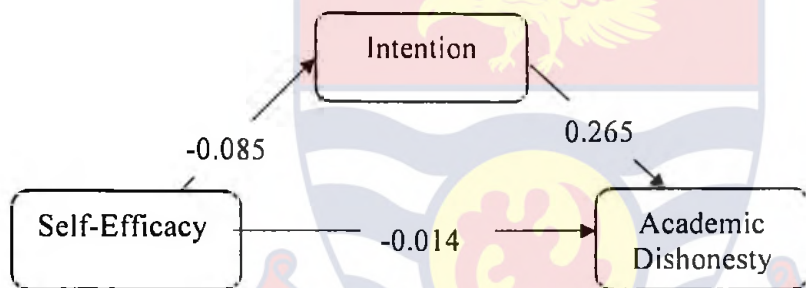
Figure 13: Mediating effect of intention on self-efficacy to Academic Dishonesty link

The results from Table 34 and Figure 12 show that intention was statistically a significant mediator in the relationship between self-efficacy and academic dishonesty. The variance accounted for (VAF) by self-efficacy in Academic dishonesty was 0.61(61%) which was above 0.20 (20%) threshold but less than 0.80 (80%), hence the conclusion was that intention played a partial mediation role in the relationship and the effect of self-efficacy on academic dishonesty. It also depicts that an improvement in self-efficacy and intention relationship as well as an improvement in intention and academic dishonesty relationships would result in

189

an improvement in the self-efficacy and academic dishonesty relationship. Academic self-efficacy having negative direction in both direct and indirect relationship was not surprising because students do evaluate the ease or difficulty of engaging in academic dishonesty and it will be weighed against past experience as well as anticipated impediment as obstacle (Ajzen, 2005). When academic self-efficacy is high, it provides individual students with confidence to try new strategies and therefore possess the "I can do it" spirit. On the other hand, when self-efficacy is low the students would like to "cut-corners" to meet expectations. Thus, when faced with challenging tasks, students with self-efficacy are likely to try new things and work harder in order to achieve this goal (Shunk & Pajares, 2002). In contrast, when faced with challenging tasks, students with low self-efficacy doubt their abilities and stop trying as soon as they perceive that their low efforts will not end in success. Finn and Frone (2004) pointed out that in academic settings students with low self-efficacy are more likely to resort to using shortcuts and other maladapted strategies to accomplish their goals (i.e., Cheating)

Evaluation of the coefficient of determination, R^2

The coefficient of determination (R^2) is a measure of the variance in each endogenous construct that is explained by the model or simply the predictive power of the model (Chin, 2010; Sarstedt et al., 2014). R^2 values range from 0 to 1 or 0 % to 100 % with values closer to 1 or 100% indicating a greater degree of predictive power. For the predictive power of an endogenous variable to have practical and statistical significance, it is recommended that R^2 values should be ≥ 0.10 (Lee,

Petter, Fayard, & Robinson, 2011). R^2 values of 0.670, 0.33 and 0.19 represent substantial, moderate and weak predictive power, respectively.

From Table 29, R^2 for intention was 0.431, representing moderate predictive power. The result implies that 43.1% of the variation in Intention is accounted for by the proposed variables predicting it. The coefficient of determination (R^2) for the target variable (academic dishonesty) was 0.161(16.1%). This implies that the model has a weak predictive power for the target variable.

Evaluation of Predictive Relevance, Stone-Geiser Q^2

In addition to assessing the predictive power of the model, the researcher employed the Stone-Geiser Q^2 to assess the predictive relevance of the proposed model. The Stone-Geiser Q^2 is a measure of how accurately the model predicts observed data points. Table 35 presents the results of the Stone-Geiser Q^2 statistics.

Table 35: Coefficient of Determination and Predictive Relevance of Endogenous Variables

Endogenous Latent Variable	R^2	Stone-Geiser Q^2
Intention	0.431	0.431
Academic Dishonesty	0.161	0.162

Source: Field survey, (2016).

From Table 35, the values of Q^2 were obtained using the blindfolding technique. Stone-Geiser Q^2 values larger than zero (0) is indicative of predictive relevance. It is also evidence from Table 35 that the proposed model reports Q^2 of

0.431 and 0.162, Intention and Academic dishonesty, respectively. This indicates that the proposed model has a moderate predictive relevance.

Model Fit

The analysis provided a number of fit indices for evaluating the fitness of the estimated model. The overall model fit was assessed using the standardized root mean square residual (SRMR) composite factor model (Henseler et al., 2014), unweighted least squares discrepancy (d_ULS) and geodesic discrepancy (d_G) Dijkstra and Henseler (2015a). According to Hu and Bentler (1999), SRMR values less than 0.08 indicate a good model fit. Table 36 presents the analysis for the model fit indices.

Table 36: Model Fit Indices for the Proposed Model

Fit Index	Estimates	t-Statistics	p-Values	Result
SRMR	0.055	50.984	0.000	Significant
d_ULS	0.516	45.421	0.000	Significant
d_G	1.008	39.646	0.000	Significant

Source: Field survey, (2016).

From Table 36 it can be seen that SRMR for the estimated model was 0.055. According to Kock (2013), this value is well below the recommended threshold, indicating a good model fit. Also, according to Dijkstra and Henseler, (2015a), d_ULS and d_G values must be significant to indicate good model fit. The values of d_ULS and d_G are 0.515 and 1.008 respectively and are significant. From the results, it could be seen that all the model fit indices used to evaluate the fitness of the estimated model show that the estimated model exhibits a good model fit as far

192

as the endogenous variables (intention and academic dishonesty which were mediation and criterion variables respectively), were concerned.

The results of this study provide additional support for the use of expectancy-value theory, specifically the theory of planned behaviour, as a tool for understanding students' intention to engage in academic dishonesty and actual academic dishonesty during examinations or assignments. These findings provide support for the work of previous researchers who have also used the theory of planned behaviour to explain student cheating (Beck & Ajzen, 1991; Conner & Armitage, 1998; Genereux & McLeod, 1995; Harding et al., 2007; Whitley, 1998).

Results showed that the relationships among all the variables in the proposed model are significant with two exceptions; First, the direct effect relationship between subjective norms and academic dishonesty and the direct effect/relationship between self-efficacy and academic dishonesty.

The finding that subjective norms do not have direct significant effect on academic dishonesty is not surprising because the conduct and behaviour of the subjective norms may not automatically hatch the intention to commit academic dishonest behaviour. The students weigh pros and cons for the behaviour and an intention is built before behaviour is executed in line with the subjective norms hence the significant effect of subjective norms on behaviour intention. This suggests that the interaction effects between the subjective norm and intention in the proposed model do influence the relationship between subjective norms and academic dishonesty.

The second finding that self-efficacy is not related to academic dishonesty is also not surprising because this relationship was found to be significant with the interaction effect of intention. This finding suggests that a student's ability to successfully be academically dishonest is not an important consideration in his or her decision, when all other motivational factors are considered. This finding, however, does support the previous work of Harding et al. (2007), who also found no relationship between perceived behavioural control (self-efficacy) and cheating frequency.

Another possible explanation for this finding could be that students with either high or low academic self-efficacy for success may view academic dishonesty as a viable strategy for achieving their academic goals after taking into account all other motivational factors. Students with low self-efficacy may choose to engage in academic dishonest behaviour because they do not believe that they have any other option (Calabrese & Cochran, 1990; Evans & Craig, 1990; Norton et al., 2001; Zajacova et al., 2005). On the other hand, students with high academic self-efficacy for success (i.e., those who are generally high achievers) may choose to engage in academic dishonesty simply because it is an easy strategy for achieving their academic goals (Stephens, 2004).

This study extended the previous work of Harding et al. (2007) by examining the individual effects of the cost variable on intention to cheat. The results of this study showed that both direct and indirect influence or effect of cost on intention was negative. This finding is important because it suggests that the most effective way to reduce students' intention to academic dishonesty and

194

subsequent academic dishonest decisions is to change how students think and feel about consequences of academic dishonesty.

When the relationship between intention to cheat and actual cheating was explored, results showed that intention to be academically dishonest predicted 26.5% of the variance in academic dishonesty. This finding supports the work of Harding et al. (2007) who also found that intention predicted a significant portion (21.9%) of the variance in cheating.

Moderation Effect of Moral Obligation on Intention

This section was to find out whether the relationship between the mediation variable (intention) and academic dishonesty could be moderated significantly by moral obligation. To find out the moderation effect of moral obligation on the relationship between intention and academic dishonesty and more specifically to ascertain whether moral obligation moderates the relationship between intention and academic dishonesty, the SEM analysis was employed. The results showed that exogenous variables (attitude, goal, cost, self-efficacy and subjective norms) had significant indirect effect on academic dishonesty. The relationship between the mediation variable and the criterion variable also yielded a statistically significant result (0.265). Table 37 and Figure 14 presented the result of moderation effect of intention and academic dishonesty.

195

Table 37: Moderation Effect of Moral Obligation on The Link Between Intention and Academic Dishonesty

Variable	Coefficient	t	P	LLCI	ULCI
Constant	9.3740	103.2884	.000	9.1960	9.5521
Moral Obligation	-.0747	-2.0904	.0368	-.1449	.0046
Intention	.2084	6.6766	.000	.1472	.2696
Interaction	-.0387	-2.7857	.0054	-.0114	-.0114

Source: Field survey, (2016).
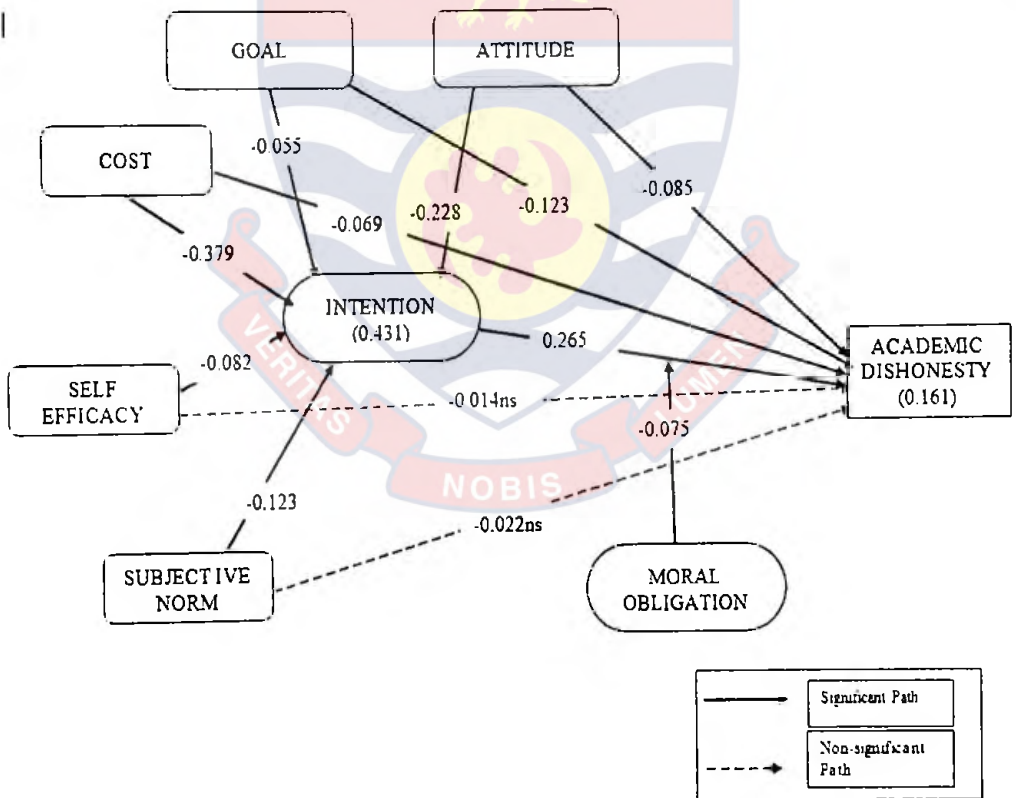
Figure 14: Proposed model with both the mediator (intention) and moderator (moral obligation)

Table 37 and Figure 14 also presented interaction effect of moral obligation on the relationship between intention and academic dishonesty. It is obvious that moral obligation and intention are significant predictors of academic dishonesty with [t (3, 1196 = 2.09, p < 0.005] and [t (3, 1196 = 6.68, p < 0.000)] respectively. The interaction effect [t (3, 1196 = 2.79, p < 0.005] of moral obligation on the link between intention and academic dishonesty is statistically significant. The interaction is less than 0.05 alpha level so there was a significant moderation. Moral obligation is a significant moderator of intention to engage in academic dishonesty. Both the upper and the lower level confidence interval did not include zero, so there was a statistically significant moderation effect in the population.

To further examine the moderation effects of moral obligation on the link between intention and academic dishonesty, the conditional process analysis was used and the result presented in Table 38.

Table 38: Conditional Effect of Intention on Academic Dishonesty at Value of the Moderator (Moral Obligation)

Model obligation	Effect	t	P
Low (-3.529)	.3264	6.5268	.000
Moderate (.000)	.2.84	6.6766	.000
High (3.0529)	.0904	1.6394	.1014

Source: Field survey, (2016).

Table 38 shows that the conditioned effect of moral obligation ranges from -3.529 to higher 3.053. However, a lower level of moral obligation (-3.053) means that intention had a significant effect on academic dishonesty and with an average

level (.000) of moral obligation, intention had a positive significant effect on academic dishonesty and finally at higher level of moral obligation (3.053), intention to engage in academic dishonesty was not significant. This implies that as one moves from a lower level of moral obligation, there is high statistically significant positive relationship between intention and academic dishonesty to statistically not significant level with high moral obligation. This means that the relationship between intention and academic dishonesty moved from positive statistically significant to statistically no significant as moral obligation increases. This implies that if an individual has a higher moral obligation his intention to engage in academic dishonesty reduces but with low moral obligation, intention to engage in academic dishonesty increases.

Statistically significant inverse effect was found between moral obligation and intentions to engage in academic dishonesty. This finding contradicts similar studies on academic dishonesty which found a positive effect (Ajzen, 1991; Rethinger & Kramer, 2009). Moral obligation in this study was a significant moderator for the intention to engage in academic dishonesty. More importantly, it either increases or decreases the intention to engage in academic dishonesty. This confirms the findings of Beck and Ajzen (1991) and Hardings et al (2007). Indeed, moral obligation is key in informing intention to engage in examination malpractices, plagiarism, falsification or any form of academic dishonest behaviour because of the belief system (Ajzen & Fishbein 2005) and their ethics. The effect and the inverse relationship of moral obligation with intention whether to engage in academic dishonesty or not, indicated that students with a weak sense of moral

198

obligation to avoid cheating will be more likely to cheat in a given situation. So therefore, it is obvious that the model statistically significantly fits the data.

Indeed, the model offers a useful conceptual framework to think about the effects of attitude, goal, cost, self-efficacy and subjective norms as predictors of academic dishonesty and the role of intention in mediating the effect of these predictor variables on the criterion variable (academic dishonesty). However, the model provided an explanation that the level of the moderating variable that one possesses (moral obligation) determines whether the individual will ultimately end up engaging in academic dishonesty or not. It is therefore no longer very meaningful to ask whether attitude, goal, self-efficacy, subjective norms and cost predict behaviour, they clearly do.

Summary of findings

The results and the findings of the study can be summarised in relation to the research questions and the hypothesis as follows;

1. Research question 1 sought to examine the prevalence of academic dishonesty (examination malpractices and plagiarism) among university students. The findings of the study showed that the prevalence rate of academic dishonesty among the undergraduate university students was 48% thus almost half of the students that participated admitted engaging in one of the 19 academic dishonest behaviours presented.

    The most prevalent situation was 'seeing another student coping in a quiz/exam but failing to report him or her to the authorities' and the least prevalent act of academic dishonesty was 'using camera phones during

semester examination'. Lecturers disagreed with students on the prevalence rate of academic dishonesty among the students. The prevalence rate of academic dishonesty among students as indicated by lecturers was at 99.3%. Lecturers indicated that the highest prevailing act was 'copying from one another's work without proper references' and the lowest was 'using camera phones during semester examination'. The variation in the prevalence rate might be due to students under reporting their academic dishonest behaviour.

2. Research question 2 sought to ascertain the reaction of lecturers to academic dishonest behaviours. It was realised that almost half of the lecturers were reluctant or did nothing to deter candidates from engaging in academic dishonesty. Some lecturers gave warnings to the candidates. This is an indication that many lecturers were also condoning and conniving with students to be academically dishonest. The majority of the lecturers were reluctant to bring dishonest academic behaviour before university authorities making the academic dishonesty almost invisible in the university documents and thus unknown to the university authorities.

3. Research question 3 sought to find out the measures taken by lecturers of the universities to prevent academic dishonest behaviour in assignments and examinations. The findings revealed that the majority of the lecturers did something to prevent students' academic dishonest behaviour. Most of them subscribed to 'moving around the classroom vigilantly during a test' as what they usually do to prevent students' academic dishonest behaviour.

200

However, few lecturers indicated that they did nothing to curb the behaviour from occurring.

4. Hypothesis One sought to find out the influence of gender on students' academic dishonest behaviour. The results of an independent sample t - test revealed that there was no statistically significant difference in academic dishonesty when students were classified according to their gender. The eta squared calculated to show the effect of gender on academic dishonesty indicated only 2% (small effect) of the variance in prevalence of academic dishonesty examined by gender.

5. Hypothesis 2 sought to ascertain the influence of programme on academic dishonesty when students are classified according to their age. The results drawn from the data analysed showed that all the age groupings (16 – 20, 21 – 24, 25 – 28, and 29 – 32), have mean ranging from (1.67 – 1.62) except the age group of 33 and above, which had the highest mean of 2.03. From the analysis, academic dishonesty was more prevalent among the older students with age group of 33 and above than any other age group of students. A one- way ANOVA test revealed a statistically significant influence of age on student's academic dishonesty. The eta square calculated showed quite a small percentage of variance contributed by age to academic dishonesty. Tukey Post Hoc test showed that students with age group between 25–28 and 29 – 32 no statistically significant difference in their age, influencing the academic dishonest behaviours but 33 and above

differs and did engage in academic dishonest behaviour more than the rest of the age groups.

6. Hypothesis 3 investigated the influence of programme on undergraduates' academic dishonesty. It was to determine whether there existed a statistically significant difference in academic dishonesty when undergraduates are classified according to their programme. The results drawn from the data analysed showed that the influence of programme on academic dishonest behaviour was statistically significant. A further analysis using Tukey HSD post hoc test revealed that Arts and Education programme varied significantly in their academic dishonest behaviour with Arts students likely to engage in academic dishonesty more than any other programme investigated. Education students were the least likely to engage in academic dishonesty.

7. The fourth hypothesis sought to ascertain the predictive effects of gender, age and programme. Multiple regression analysis revealed that the combination of gender, age and programme statistically significantly predict academic dishonesty. However, gender as a single variable was not statistically significant predictor of academic dishonesty but a combination of gender and age results were statistically significant. This means that a student who advanced from age group 16-19 to 33+ could increase his academic dishonesty level by 39.8%. A change from age range of 16-19 to 33+ was the highest predictor of academic dishonesty.

8. Hypothesis 5 explored the relationship between students' attitude towards academic dishonesty and their real academic dishonest behaviour. The partial correlation showed a weak, negative but meaningful relationship existed between attitude towards academic dishonesty and actual academic dishonesty itself. Even though the inverse relationship was weak, it suggested that as students hold positive attitude towards academic dishonesty, the highly likelihood it is that academic dishonest behaviour will occur but when they hold negative attitude towards academic dishonesty the highly likelihood is that academic dishonest behaviour will not occur.

9. The sixth hypothesis tested the extent to which the proposed model fit the observed data. The results of the structural equation modelling analysis demonstrated that the proposed model provided an adequate fit for the observed data. The variable that accounted for academic dishonesty most was self- efficacy. Thus, if students' self-efficacy is higher, it gives the individual student the confidence to try novel strategies to succeed and vice versa. Goal accounted for the lowest variance shared by academic dishonesty indicating that students with higher expectations for academic success would less engage in academic dishonesty. Intention appeared in the proposed model as a moderate mediator between the exogeneous variables and the final endogenous variable (academic dishonesty). Furthermore, the strength of the intention to engage in academic dishonesty was significantly moderated by moral obligation not to engage in academic

dishonesty. The model had a weak predictive power for the target variable

of academic dishonesty.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to ascertain the prevalence and predictors of academic dishonesty among students in public universities in Ghana. The study was conducted in three public universities in Ghana. Three research questions were formulated;

1. What is the prevalence of students' academic dishonesty among undergraduate university students?

2. How do lecturers respond to academic dishonest behaviours in assignments or in examinations?

3. What measures are taken by lecturers of the universities to prevent academic dishonest behaviours in assignments or the examinations?

In addition to the research questions, six hypotheses were generated and tested at 0.05 level of significant. They were;

1. H_0: There is no statistically significant differences in academic dishonesty (self-reported) when students are classified according to gender.

   H_1: There is a statistically significant difference in academic dishonesty (self-reported) when students are classified according to their gender.

2. H_0: There is no statistically significant difference in academic dishonesty (self-reported) when students are classified according to their age.

H_1: There is a significant difference in academic dishonesty (self-reported) when students are classified according to their age.

3. H_0: There is no statistically significant difference in academic dishonesty (self-reported) when undergraduates are classified according to their programme.

H_1: There is a significant difference in academic dishonesty (self-reported) when undergraduates are classified according to their programme.

4. H_0: Gender, age, and programme are not statistically significant predictors of academic dishonesty (self-reported).

H_1: Gender, age, and programme are the significant predictors of academic dishonesty (self-reported).

5. H_0: There is no statistically significant relationship between students' attitude towards academic dishonesty and their actual academic dishonest behaviour (self-reported).

H_1: There is a significant relationship between students' attitude towards academic dishonesty and their actual dishonesty behaviour (self-reported).

6. H_0: The proposed model does not statistically and significantly fit the data.

H_1: The proposed model statistically and significantly fit the data.

A total of three research questions and six hypotheses were answered and tested respectively. The study used a survey-inferential design. One thousand three hundred and forty-four respondents comprising 1,200 university students and 144 university lecturers participated the study. Convenient sampling, purposive

sampling and simple random sampling techniques were used to select the respondents for the study.

Two types of instruments were used in data collection. These were Prevalence and Predictors of Academic Dishonesty Instrument for Students (PPADIS) and Prevalence and Predictors of Academic Dishonesty Instrument for lecturers (PPADIL). Prevalence and Predictors of Academic Dishonesty Instrument for Students (PPADIS) consisted of two parts. Part one had three items that deal with demographic data of the student respondents and part two had 80 items, with items on the eight variables in the proposed academic dishonesty model. Prevalence and Predictors of Academic Dishonesty Instrument for lecturers PPADIL also had two parts; Part A was made up of 4 items soliciting demographic characteristics of lecturers and Part B consisted of 25 items which were divided into three sections; A, B and C. Section A sought information on how often lecturers identified academically dishonest behaviour among students and Section B sought the reaction of lecturers upon identification of academically dishonest behaviour. Section C ascertained the measures put in place by the lecturers to prevent academic dishonesty from occurring. All the items on the two instruments; PPADIS and PPADIL were closed-ended items. The items were both dichotomously and polytomously scored depending on the information it sought to elicit. The polytomous items were of Likert type scale. Part one of PPADIS had a reliability index of .94 and Part two had an internal reliability index of .84. The overall reliability index for both parts of PPADIS was .89. The Part one of PPADIL had a

reliability of .92 and Part two had a reliability index of .70. The overall reliability index for PPADIL (both Part one and two) was .81.

Data collection was carried out personally by the researcher. The administration and collection of the instruments were done simultaneously to ensure prompt response and effective delivery from the students and the lecturers. However, lecturers who could not respond to the instrument the same day had theirs collected few days later. The data collection lasted for three weeks.

The data collected to answer the three research questions were analysed using frequencies and percentages. The data collected to test Hypothesis one was tested using independent t-test. Hypotheses two and three were tested using one-way analysis of variance (ANOVA). Tukey's HSD was used as a post hoc test. Hypotheses four and five were analysed using multiple regression and partial correlation, respectively. Hypothesis six was tested using Structural Equation Modelling (SEM) and Conditional Process Analysis (CPA). The main variables of interest were the prevalence of academic dishonesty and intention to engage in academic dishonesty (endogenous variables). Other variables of interest included attitude, goal, subjective norms, cost, moral obligation and academic self-efficacy. The rest of the variables were the demographic variables such as gender, age and undergraduate academic programmes.

Summary of the Main Findings

1. Almost half of the undergraduate students in the universities that participated in the study admitted ever engaging in academic dishonesty putting the prevalence rate at 48%. The highest ranked academic dishonest

behaviour indicated by the student was "seeing another student copying in quiz/exam but failing to report him or her to the authorities" and the least academic dishonesty item subscribed to was "using camera phones during semester examination". Lecturers however, revealed that almost every student, a little over 99% engaged in academic dishonesty. Lecturers ranked "copying from one another's work without proper references" as the highest and "using camera phones during semester examination" as the lowest prevailing academic dishonest behaviour.

2. Some lecturers were reluctant to take measures to punish academic dishonesty. About 50% of the lecturers admitted doing nothing to deter students from engaging in academic dishonesty. Some of them however, gave warning to the students to deter them.

3. Lecturers prefer "moving around the classroom vigilantly during a test" as a measure to prevent students' academic dishonest behaviour. However, lecturers indicated that they did nothing to curb the behaviour from occurring.

4. There was no statistically significant difference in academic dishonesty when undergraduate students were classified according to their gender. Undergraduate students' gender had statistically contributed 2% (small effect) to the prevalence of academic dishonesty.

5. Academic dishonesty was more prevalent among the older students with age 33 and above than any other age group of students. However, age of the students contributed a small percentage of variance to the prevalence

of academic dishonesty. There was no statistical significant variation in prevalence of academic dishonesty among the rest of the age groups.

6. Academic Programmes had significant influence on students' academic dishonest behaviour statistically. Though the effect was small, it was significant. Arts students ranked highest in academic dishonest behaviour and Education students were the least ranked on the academic dishonest scale.

7. Gender as a single variable did not have a statistical significance influence on the dishonest scale. However, a combination of gender, age, and programme was a significant predictor of academic dishonesty. A change in students' age range from 16-19 to 33+ could have a statistically significant influence on their academic dishonest behaviour. Similarly, a change from Education programme to Business programme (negative t-value) by students could have a statistically significant effect on their academic dishonest behaviour.

8. Undergraduate students' attitude is statistically significantly related to their academically dishonest behaviour. Even though the relationship was however a weak inverse relationship, it suggested that positive attitude of students would slightly lead to an increase in academic dishonest behaviour and negative attitude of students might decrease academic dishonesty.

9. Directly, goal contributed the highest variance towards academic dishonesty inversely while self-efficacy contributed the lowest variance

also inversely. The indirect effect, having intention as a mediator, 'cost' contributed more significantly than any other variable whilst 'goal' was the least contributor. The variable that contributed the highest variance, in terms of VAF, was academic self-efficacy and the least was goal.

10. The mediating variable "intention" was a mediator between all the exogenous (attitude, cost, self-efficacy, subjective norms, and goal) variable and the endogenous variable (academic dishonesty).

11. Moral obligation statistically significantly moderated the intention to engage in academic dishonesty.

Conclusions

The study was conducted against the background of frequently reported cases of academic dishonest behaviours in the Ghanaian educational system. Academic dishonesty occurs at both pre-tertiary and tertiary levels. These take the form of bringing foreign materials into examination hall (cheat sheets), collusion by examination supervisors, impersonation, foreknowledge about the examination item, use of mobile phones in examination halls and plagiarism among others. The ramifications of academic dishonesty include;

1. Students who are academically dishonest are more likely to receive higher grades than students who are not academically dishonest

2. Students who see others cheating without being punished learn to believe that such behaviour is acceptable.

3. Observing cheating promotes demoralisation of students who do not cheat.

4. Students who cheat in school might tend to cheat in their careers.

5. Publicity about academic dishonesty can hurt the institution's reputation.

6. Persistence of academic dishonest behaviour among students can ultimately lead to lack of confidence in education and the entire higher education system could lose support from the public.

On the strength of the findings, the following conclusions were drawn. It is concluded that the majority of the students abhor academic dishonesty and the damages caused by it in the school system, surprisingly, about half of the students admitted to have indulged in academically dishonest behaviour during their study in the university. The highest academic dishonest behaviour they engaged in was 'seeing another student copying in a quiz/exam but failing to report him/her to the authorities' and the least academic dishonest behaviour was 'the use of camera phones in the examination hall'. Lecturers reported that almost all the students in the university had indulged in academic dishonest behaviour before. This perhaps suggested that the prevalence rate was under-reported by the students. It was clear from the study that most of the academic dishonest behaviours go unreported.

It is worrisome to note that though academic dishonesty is a familiar problem for any university, most lecturers are reluctant to bring academic dishonest behaviours before the university authorities and those lecturers who would not ignore the behaviour prefer to handle the problem informally rather than using formal university procedures and policies. Those lecturers who ignore the practice as it occurred were not interested in preventing the academic dishonesty but rather might consider it as a help being rendered to the candidates and also to cater for

212

their teaching inadequacies. They do not see anything wrong in condoning the practice of academic dishonesty.

Among the undergraduate students, gender as a control variable did not play a role in their academic dishonest behaviour. However, age of the students had influence on students' academic dishonesty with older students likely to indulge in academic dishonesty than any of the age group. It is believed that this might result from pre-occupied responsibilities of managing their family, affording them less time for actual study. Again, undergraduate programme influences their academic dishonesty with arts students most likely to engage in academic dishonesty. This might be due to the subjective nature of their assessment tasks.

The model used in the study was developed from the theory of planned behaviour and expectancy-value theory. The model which had cost, attitude, subjective norm, self-efficacy and goals as predictors as well as intentions and moral-obligation as mediator and moderator respectively, was found to provide an adequate fit for the assessed data.

It is worthy to note that due to the large amount of variance in students' response, only weak relationships/effects were found in the direct relationship between the predictor variables (attitude, goal, cost, self-efficacy, and subjective norm) and criterion variable (academic dishonesty).

On the other hand, the indirect relationship between the predictors and the mediating variable(intention) in the model yielded appreciable results with cost and attitude having a moderate relationship with the mediating variable (intention). However, the mediating variable (intention) for the predictor variables (attitude,

213

goal, cost, self-efficacy, subjective norm) had a moderate relationship with criterion variable (academic dishonesty). This was followed by a subjective norm. The least predictor variable in terms of the overall variable accounted for in the criterion variable was goal. However, goal was found to account for the largest amount of the variable- students' academic dishonesty directly.

The moderating variable, moral obligation moderated immensely the relationship between intention and academic dishonesty. an intention to engage in academic dishonesty decreases as moral obligation increases in the individual students. Similarly, an intention to engage in academic dishonesty in increases as moral obligation decreases among the students. In examining the variance accounted for, the predictor variables, self-efficacy accounted for the highest variance in the criterion variable (academic dishonesty) even though its direct relationship with predictor variable was not statistically significant. This was followed by subjective norm. The least predictor variable in terms of the overall variable accounted for in the criterion variable was goal. However, goal was found to account for the largest amount of the variance in students' academic dishonesty directly.

The moderating variable, moral obligation moderated inversely the relationship between intention and academic dishonesty. An intention to engage in academic dishonesty decreases as moral obligation increases in the individual student. Similarly, an intention to engage in academic dishonesty increases as moral obligation decreases among the student.

214

Recommendations

Based on the findings and the conclusions of this study, the following recommendations are made:

1. In order to forestall or reduce academic dishonesty, university authorities should increase the barriers to academic dishonesty. An example of these barriers could be stricter monitoring of examinations by the university authorities. This could take the form where students should be checked thoroughly into the examination hall, seated at designated places, well-spaced out and supervised by vigilant invigilators.

2. University authorities should introduce computer-based testing to eliminate many opportunities to cheat (for example, copying another student's work) that are inherent in paper-and-pencil tests.

3. University authorities should procure electronic plagiarism software (i.e., universities without plagiarism software) and make these available to lecturers. They should also enforce the use of the software by lecturers to compare uploaded document with other previously published documents on the internet and are available online. Indeed, using this plagiarism software could help receive a full report about referenced sources and get preliminary assessment, as to which part of the assignments, project works and other academic writings is original, which is referenced and which is plagiarised.

4. Regardless of the size, and the type of institution, most students had seen other students copying in a quiz or exams but failed to report to university authorities. So, it is therefore suggested that lecturers could use separate forms of the test

and vary their assignments every semester to minimise academic dishonesty behaviours among students.

5. University authorities should institute honour codes or examination codes of conduct and make concerted efforts to disseminate information about students who resisted opportunities to engage in academic dishonesty, and are awarded as well as actively support in diverse ways a culture of academic integrity.

6. Self-efficacy has been shown to affect intention to engage in academically dishonest behaviour largely. This calls for lecturers to make their students aware of the goals that need to be attained in their courses and provide them with feedback on progress made on the goals. This will instil the need to study hard and get well-prepared for academic tasks.

7. It might be motivating also for students to set their proximal goals, to enhance their commitment and help them avoid putting things off. Lecturers should develop instructional programmes that train students on the use of certain strategies to improve their performance. This might keep students to be more systematic in their work, as well as being more in control of their learning. Lecturers should provide students with a model that uses a given cognitive strategy for solving an exercise and have a positive effect on students' motivation and learning towards examinations or any assessment task.

8. University authorities should drive the campaign to change subjective norms around academic dishonesty. This can be done, for example, through quarterly and annual reports at seminars, matriculation and congregation ceremonies.

9. University authorities, academic counsellors and counselling centres in the universities should organise seminars, workshops and other educative and sensitisation programmes for students, especially older students to keep a daily planner to assist in scheduling time for each academic work as well as other family responsibilities. Time management when capitalised on may yield to the benefit of these older students to maximise their academic success and by so doing minimise, if not eradicate, academic dishonesty.

10. University authorities should enforce the rules and regulations against academic dishonesty fully, without fear or favour. In addition, authorities should intensify publication of names and pictures of culprits who are involved in academic dishonesty in the national media, on university notice boards and all public places to minimise academic dishonesty. This is because the direct costs of being caught and punished, and the psychological costs that come from being seen or seeing oneself, as a person who does something unethical are enough to scare probable culprits.

11. Since moral obligation moderated the link between intention and academic dishonesty, university authorities should introduce moral education as a core course among undergraduate students. This will instil in them a higher moral obligation in order to curb the academic dishonesty menace.

Suggestion for Future Research

The following are suggested for future research;

1. The study looked at academic dishonesty with specific reference to examination malpractices and plagiarism; it is recommended that future

217

studies should look at other academic dishonest behaviours such as fabrication and falsification.

2. This study relies on one-time self-report data. It is suggested that a more thorough understanding of the ways in which specific classroom practices such as observation data be used to triangulate the self-report data.

3. This study provided support for the use of expectancy-value theory, specifically, the theory of planned behaviour, as a possible framework. While the model used in this study provided a reasonable fit for the observed data, it did not provide an ideal fit. This study should be replicated using larger and more diverse samples in an effort to improve the fit of the proposed model and increase its validity and generalisation.

4. This study was grounded in theory of planned behaviour framework. However, further studies could be undertaken based on Deviance Theory (Michaels & Miethe,1989) since students who engage in academic misconduct depart from compliance with standard normal norms.

5. The study provided evidence that students' decisions to engage in academic dishonesty vary across contexts. The three-demographic variables of the respondents that were explored in this study were gender, programme and age. Future studies should examine whether differences exist in students' decisions to engage in academic dishonesty across other contexts such as

218

type of institution (public vs. private universities) religious affiliation and grade level (undergraduate vs. graduate school) etc.

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240

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APPENDICES

APPENDIX A: Letter of Introduction

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF EDUCATIONAL FOUNDATIONS
DEPARTMENT OF EDUCATION AND PSYCHOLOGY

Telephone: 233-3321-32440/4 & 32480/3
Direct.   033 20 91697
Fax: 03321-30184
Telex   2552, UCC , GH.
Telegram & Cable   University Cape Coast
Email edufound/a u.c edu gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref:

10th November, 2016

TO WHOM IT MAY CONCERN

LETTER OF INTRODUCTION
MR. YAYRA DZAKADZIE

We confirm that the above-mentioned name is a Ph.D Educational Measurement and Evaluation Student at the Department of Education and Psychology, UCC.

Currently, he is at the theses writing stage writing on the topic "*Prevalence and predictor of Academic dishonesty among students in public Universities in Ghana*". He would like to collect data for his work.

We would be very grateful if you could assist him with any information he may need for his research. All information retrieved would be treated confidentially.

Thank you.

Yours faithfully,

(Georgina Nyantakyiwaa Thompson)
Principal Administrative Assistant
For: Head

250

APPENDIX B: Prevalence and Predictors of Academic Dishonesty Instrument for Students (PPADIS)

Introduction

This questionnaire is specifically designed to find out the prevalence and predictors of academic dishonesty among students in public universities in Ghana. You are requested to respond to the items on the questionnaire with honesty, sincerity and independence. Note that there are no wrong or right answers to the questions/statements. Please, your responses will be treated with strict confidentiality and anonymity since the data gathered are only for research purpose. Please read each item carefully and make a tick (√) in the column (on your right) that is applicable to you.

Thank you.

PART ONE

Please tick (√) the response/option that is appropriate or applicable to you.

1. Gender: Male [   ]; Female [   ]

2. Programme: Arts [   ]; Business [   ]; Education [   ]; Science [   ]

3. Age: 16-20 [   ]; 21-24 [   ]; 25-28 [   ] 29-32 [   ] 33 and above [   ]

4. Indicate the current range of your *CGPA: 3.5-4.0 [   ] 3.0-3.49 [   ] 2.5-2.99 [   ] 1.0-1.99 [   ] less than 1.0 [   ]

Cumulative Grade Points Average (CGPA)

251

PART TWO: SECTION A- PREVALENCE OF ACADEMIC DISHONESTY

Please read each item carefully and make a TICK ($\sqrt{}$) from the list of scenario, the number of times you were involved in each scenario. **Very often (6+); Often (3-5); Sometimes (1-2); Never (0)**

N/S	SCENARIO	RESPONSES			
		Very often	Often	sometimes	Never
1	Copying from another student during a quiz/exam.				
2	Allowing another to copy from you in quiz/exam.				
3	Taking unauthorised material/ using a "cheat sheet" during a quiz/exam.				
4	Giving answers to another student by signals in a quiz/exam.				
5	Receiving answers from another student by signals in a quiz/exam.				
6	Writing and using expected answers on body parts during quiz/exams				
7	Using technologically stored information during a quiz/test (graphing, calculator, etc.)				
8	Using camera phones during semester examination				
9	Getting someone else to write the exam for me – impersonating.				
10	Continuing to write after time allotted for quiz/exam is over.				
11	Gaining unauthorised access to test material - test paper, marking scheme etc. before the quiz or exam.				
12	Paying another person to complete an assignment.				
13	Writing an assignment for someone else.				
14	Paraphrasing information from a web site, book or periodical without referencing the source.				
15	Copying information directly from a web site, book or periodical with reference to the source but no quote marks.				
16	Copying information directly from a web site, book or periodical without indicating and/or referencing the source.				

17	Copying information directly from another student's assignment (current or past) without acknowledging source.				
18	Seeing another student copying in a quiz/exam but failing to report him/her to the authorities.				
19	Working together on an assignment when it should be individual				

SECTION B: TICK from the list of reasons why you engaged in academic dishonesty behaviour (tick as many that apply to you)

N/S	REASON FOR THE DISHONEST ACT	YES	NO
20	I wasn't likely to be caught.		
21	I wanted to help a friend		
22	The assessment was too time-consuming		
23	The assessment was too difficult for me.		
24	I had a personal crisis.		
25	I didn't think it was wrong.		
26	The examination environment was loose.		
27	The due date for the assignment was too soon.		
28	I was under pressure to get good grades.		
29	Other students urged me to do it.		
30	I thought the assessment was unfair.		
31	I thought if I helped someone else, they might help me.		
32	I hadn't heard of other students being penalized for such behaviours before.		
33	The due date coincided with other assignments/tests.		
34	The content of the assignment/test was not of interest to me.		
35	My lecturer encouraged it.		
36	Cheating is a victimless crime – it doesn't harm anyone.		
37	I was not well prepared.		

SECTION C

Kindly answer each question as sincerely as possible by ticking [√] in the appropriate box the number (1-6) that corresponds with **Not at all true (1) Not true (2) Somewhat not true (3) Somewhat true (4) True (5)** Very true (6) that best describes you.

S/N	ITEMS	Very true	true	Somew hat true	Somewhat not true	Not true	Not at all true
	GOAL/EXPECTATIONS						
50	One of my goals in my programme is to learn as much as I can						
51	It's important to me that I learn a lot of new concepts this year in this programme						
52	One of my goals is to master a lot of new skills this year in my programme						
53	It's important to me that I thoroughly understand my course work						
54	It's important to me that I improve my skills this year in my programme						
55	One of my goals is to show others that I'm good at my course work						
56	One of my goals is to show others that course work is easy for me						
57	One of my goals is to look smart in comparison to the other students in my programme						
58	It's important to me that I look smart compared to others in my programme						
59	It's important to me that I don't look stupid in my programme						
60	One of my goals is to keep others from thinking I'm not smart in my programme						
61	It's important to me that my lecturers don't think that I know less than others in the Programme						

255

S/N	ITEMS	Very true	true	Somewhat true	Somewhat not true	Not true	Not at all true
62	One of my goals in the programme is to avoid looking like I have trouble doing the work						

Kindly answer each question as sincerely as possible by ticking [√] in the appropriate box the number (1-6) that corresponds with **Not at all true (1) Not true (2) Somewhat not true (3) Somewhat true (4) True (5) Very true (6)** that best describes you.

	SELF- EFFICACY	Very true	true	Somewhat true	Somewhat not true	Not true	Not at all true
63	I believe I will receive an excellent grade in my courses						
64	I am certain I can understand the most difficult material presented in my programme						
65	I'm confident I can learn the basic concepts taught in my programme						
66.	I'm confident I can understand the most complex material presented by the lecturers in my programme						
67	I'm confident I can do an excellent work on the assignments, tests and examinations in my programme						
68	I expect to do well in my programme						
69	I'm certain I can master the skills being taught in my programme						
70	Considering the difficulties of my programme, the teacher, and my skills, I think I will do well in programme						

256

	INTENTION	Very true	true	Somewhat true	Somewhat not true	Not true	Not at all true
71	I would try to cheat on an in-class test or exam/assignment in my course work						
72	I intend to cheat/plagiarise on an in-class test or exam/assignment in my course work						
73	I do NOT plan to cheat/plagiarise on an in-class test or exam/assignment in my course work						
74	I will NOT cheat/plagiarise on an in-class test or exam/assignment in in my course work						
75	If I had the opportunity, I would cheat/plagiarise on an in-class test or exam or assignment in a course work						
	COST/CONSEQUENCES						
76	I consider how things might be in the future and try to influence those things with my day to day behaviour.						
77	Often, I engage in a particular behaviour in order to achieve outcomes that may not result for many years						
78	I only act to satisfy immediate concerns, after all, the future will take care of itself						
79	My behaviour is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions						
80	My convenience is a big factor in the decisions I make or the actions I take						

	SELF- EFFICACY	Very true	true	Somewhat true	Somewhat not true	Not true	Not at all true
81	I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes						
82	I think it is important to take warnings about negative outcomes seriously even if the negative outcome will not occur for many years						
83	I think it is more important to perform a behaviour with important distant consequences than a behaviour with less-important immediate consequences						
84	I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level						
85	I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time						
86	I only act to satisfy immediate concerns, knowing that I can take care of future problems that may occur at a later date						
87	Since my day-to-day work has specific outcomes, it is more important to me than behaviour that has distant outcomes						
88	When I make a decision, I think about how it might affect me in the future.						
89	My behaviour is generally influenced by future consequences.						

SECTION D

Kindly answer each question as sincerely as possible by ticking [√] in the appropriate box the number (1-6) that corresponds with **Very Strongly Agree (VSA), Strongly Agree (SA); Agree (A); Disagree (D); Strongly Disagree (SD); Very Strongly Disagree (VSD)** that best describes you.

S/N	ITEMS	V SA	SA	A	D	S D	VSD
	MORAL OBLIGATION						
90	Academic dishonesty in the form of (exam malpractice/plagiarism) is against my principles.						
91	I would feel guilty if I engage in academic dishonesty in whatever form.						
92	It would NOT be morally wrong for me to engage in academic dishonest behaviour						

S/N	Statement	VSA	SA	A	D	SD	VSD
	ATTITUDE						
93	I see nothing wrong in a student cheating in examination/plagiarising to help himself/herself to pass the course.						
94	It is okay for a student to help a fellow student answer some questions during an examination.						
95	There is nothing wrong in copying material without referencing the author in an assignment to pass a course.						
96	I find nothing wrong to cheat or plagiarise to make a name for myself.						
97	There is nothing wrong in students putting machinery in place including plagiarism /examination malpractice to ensure they get "As" at the end of the semester.						
98	It is better for a student to cheat and pass than to fail and be withdrawn.						
99	Every person should do all that is possible, including examination malpractice/plagiarism to have good 'class' as a means of survival in the university						
100	Cheating/plagiarism is a means of compensating for the poor teaching /learning facilities in the university.						
101	Examination malpractice/plagiarism presents a false assessment of candidates.						
102	On the whole, I see examination malpractice as a crime against the nation, just like armed robbery						

SUBJECT NORMS

		Statement	VSA	SA	A	D	SD	VSD
103		If I cheated on an in-class test or exam, most of the people who are important to me (e.g., my family, friends, colleagues, teachers, etc.) would approve of my behaviour.						
104		The people in my life whose opinions I value (e.g., my family, friends, colleagues, teachers, etc.) would be willing to cheat on an in-class test or exam if they were in my situation.						
105		Most people who are important to me (e.g., my family, friends, colleagues, teachers, etc.) would be willing to cheat on an in-class test or exam if they were in my situation.						
106		The people in my life whose opinions I value (e.g., my family, friends, colleagues, teachers, etc.) would NOT approve of my cheating on an in-class test or exam.						
107		Most people who are important to me (e.g., my family, friends, colleagues, teachers, etc.) think I should NOT cheat on an in-class test or exam.						
108		People whose opinions I value (e.g., my family, friends, colleagues, teachers, etc.) expect me to cheat on an in-class test or exam.						
109		Most people who are important to me (e.g., my family, friends, colleagues, teachers, etc.) will look down on me if I cheat on an in-class test or exam.						
110		Anyone who is important to me (e.g., my family, friends, colleagues, teachers, etc.) thinks it is OK to cheat on an in-class test or exam.						

APPENDIX C: Prevalence and Predictors of Academic Dishonesty

Instrument for lecturers (PPADQL)

Introduction

This instrument is specifically designed to find out prevalence and predictors of academic dishonesty among students in Public Universities in Ghana. You are requested to respond to the items on the instrument with honesty, sincerity and independence. Note that there are no wrong or right answers to the questions/statements. Please, your responses will be treated with the strict confidentiality and anonymity since the data gathered are only for research purpose. Thank you.

PART ONE

Please tick (√) the response/option that is appropriate or applicable to you.

5. Number of years of lecturing 0-5 [   ] 6-10 [   ] 11 and above [   ]
6. Gender: Male [   ]; Female [   ]
7. Academic Qualification: M.Ed/M.Phil [   ]; Ph. D/Ed.D [   ]
8. Rank: Assistant lecturer [ ]; lecturer [ ];Senior Lecturer [ ]; Professor [   ]
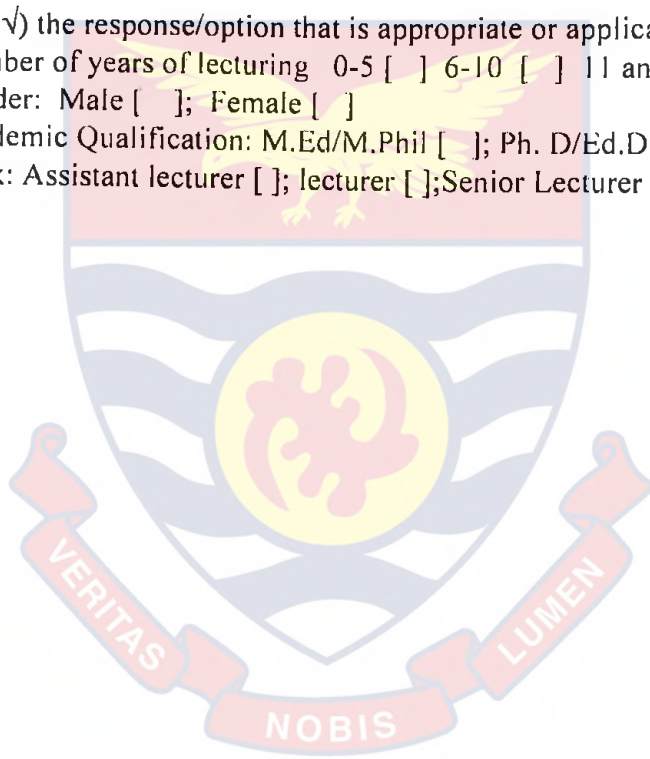
PART TWO
INSTRUCTIONS.

Please read each item carefully and make a tick (√) in the column (on your right) number (1-6) that corresponds with **Very often (6+) often (3-5) sometimes (1-2) never (0)** that best describes your view.

A. **How often have you noticed the following academically dishonest behaviour among your students?**

S/N	Scenario	Very often	often	sometimes	Never
1	Copying another student's homework				
2	Looking on another student's paper during a quiz/test				
3	Using a foreign material during a quiz/test				
4	Turning in another student's work				
5	Falsifying research references				
6	Copying from another work without proper references				
7	Stealing an answer key/making scheme				
8	Stealing a copy of a test in advance				
9	Using technologically stored information during a quiz/test (graphing calculator, etc.)				
10	Text messaging exam questions during semester examination				
11	Using cell phones during semester examination				
12	Using camera phones during semester examination				

The following are items in the form of statements of which your genuine and honest responses are required. Please read each item carefully and make a tick (√) in the column (on your right whether "YES" or "NO"

B. How did you respond the last time you were certain academic dishonesty occurred?

S/N	scenario	Yes	No
13	Confronted student but didn't pursue the matter further		
14	Dealt with the student one-on-one		
15	Gave the student a warning		
16	Lowered the grade on the item in question		
17	Gave a "fail" on the assignment		
18	Reported the incident to a higher authority in the university		
19	Did nothing		

C. Which of the following measures have you taken to prevent academic dishonesty?

S/N	scenario	Yes	No
20	Move around the classroom vigilantly during a test		
21	Distribute different forms of the same test		
22	Lock tests in secure locations		
23	Protect test software with passwords		
24	Use plagiarism detecting software		
25	Check references on research papers		

APPENDIX D: Independent T-Test Analysis of Gender and Academic Dishonesty

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
PREVALENCE OF ACADEMIC DISHONESTY	Male	709	1.63	.394	.015
	Female	491	1.59	.342	.015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PREVALENCE OF ACADEMIC DISHONESTY	Equal variances assumed	3.579	.059	1.726	1198	.085	.038	.022	-.005	.081
	Equal variances not assumed			1.771	1138.154	.077	.038	.021	-.00	.080

APPENDIX E: Oneway Anova Result on the Influence Of Age on Students' Academic Dishonesty.

Descriptives

PREVALENCE OF ACADEMIC DISHONESTY

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
16-20	92	1.62	.370	.039	1.55	1.70	1	3
21-24	838	1.61	.341	.012	1.59	1.63	1	4
25-28	179	1.57	.376	.028	1.52	1.63	1	3
29-32	62	1.57	.331	.042	1.49	1.65	1	3
33 and above	29	2.03	.856	.159	1.71	2.36	1	4
Total	1200	1.61	.374	.011	1.59	1.64	1	4

Test of Homogeneity of Variances

PREVALENCE OF ACADEMIC DISHONESTY

Levene Statistic	df1	df2	Sig.
24.089	4	1195	.000

ANOVA

PREVALENCE OF ACADEMIC DISHONESTY

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.515	4	1.379	10.174	.000
Within Groups	161.947	1195	.136		
Total	167.462	1199			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: PREVALENCE OF ACADEMIC DISHONESTY

	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Tukey HSD	16-20	21-24	.012	.040	.998	-.10	.12
		25-28	.050	.047	.828	-.08	.18
		29-32	.053	.060	.908	-.11	.22
		33 and above	-.410*	.078	.000	-.62	-.20
	21-24	16-20	-.012	.040	.998	-.12	.10
		25-28	.038	.030	.720	-.04	.12
		29-32	.041	.048	.919	-.09	.17
		33 and above	-.422*	.070	.000	-.61	-.23
	25-28	16-20	-.050	.047	.828	-.18	.08
		21-24	-.038	.030	.720	-.12	.04
		29-32	.003	.054	1.000	-.15	.15
		33 and above	-.460*	.074	.000	-.66	-.26
	29-32	16-20	-.053	.060	.908	-.22	.11
		21-24	-.041	.048	.919	-.17	.09
		25-28	-.003	.054	1.000	-.15	.15
		33 and above	-.462*	.083	.000	-.69	-.24
	33 and above	16-20	.410*	.078	.000	.20	.62
		21-24	.422*	.070	.000	.23	.61
		25-28	.460*	.074	.000	.26	.66
		29-32	.462*	.083	.000	.24	.69
Bonferroni	16-20	21-24	.012	.040	1.000	-.10	.13
		25-28	.050	.047	1.000	-.08	.18
		29-32	.053	.060	1.000	-.12	.22
		33 and above	-.410*	.078	.000	-.63	-.19
	21-24	16-20	-.012	.040	1.000	-.13	.10
		25-28	.038	.030	1.000	-.05	.12
		29-32	.041	.048	1.000	-.10	.18
		33 and above	-.422*	.070	.000	-.62	-.23
	25-28	16-20	-.050	.047	1.000	-.18	.08
		21-24	-.038	.030	1.000	-.12	.05
		29-32	.003	.054	1.000	-.15	.16
		33 and above	-.460*	.074	.000	-.67	-.25
	29-32	16-20	-.053	.060	1.000	-.22	.12
		21-24	-.041	.048	1.000	-.18	.10
		25-28	-.003	.054	1.000	-.16	.15
		33 and above	-.462*	.083	.000	-.70	-.23
	33 and above	16-20	.410*	.078	.000	.19	.63
		21-24	.422*	.070	.000	.23	.62
		25-28	.460*	.074	.000	.25	.67
		29-32	.462*	.083	.000	.23	.70

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

PREVALENCE OF ACADEMIC DISHONESTY

			Subset for alpha = 0.05	
	Age	N	1	2
Tukey HSD[a,b]	29-32	62	1.57	
	25-28	179	1.57	
	21-24	838	1.61	
	16-20	92	1.62	
	33 and above	29		2.03
	Sig.		.910	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 73.248.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Means Plots
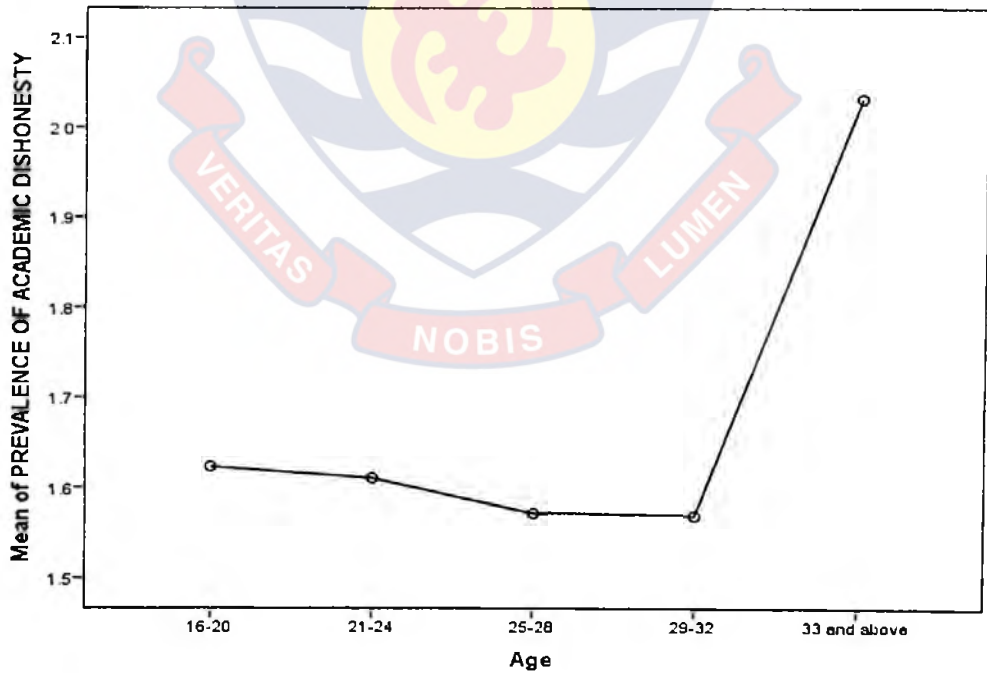
APPENDIX F: Oneway ANOVA Results of the Influence of Programme on Academic Dishonesty

Descriptives

PREVALENCE OF ACADEMIC DISHONESTY

	N	Mean	Std. Dev.	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Min	Max
Arts	395	1.67	.478	.024	1.63	1.72	1	4
Business	186	1.63	.328	.024	1.58	1.68	1	4
Education	463	1.56	.300	.014	1.54	1.59	1	3
Science	156	1.60	.295	.024	1.55	1.64	1	3
Total	1200	1.61	.374	.011	1.59	1.64	1	4

Test of Homogeneity of Variances

PREVALENCE OF ACADEMIC DISHONESTY

Levene Statistic	df1	df2	Sig.
20.770	3	1196	.000

ANOVA

PREVALENCE OF ACADEMIC DISHONESTY

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.722	3	.907	6.588	.000
Within Groups	164.740	1196	.138		
Total	167.462	1199			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: PREVALENCE OF ACADEMIC DISHONESTY

	(I) Programme	(J) Programme	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Arts	Business	.043	.033	.562	-.04	.13
		Education	.111*	.025	.000	.05	.18
		Science	.078	.035	.117	-.01	.17
	Business	Arts	-.043	.033	.562	-.13	.04
		Education	.068	.032	.152	-.02	.15
		Science	.035	.040	.819	-.07	.14
	Education	Arts	-.111*	.025	.000	-.18	-.05
		Business	-.068	.032	.152	-.15	.02
		Science	-.033	.034	.777	-.12	.06
	Science	Arts	-.078	.035	.117	-.17	.01
		Business	-.035	.040	.819	-.14	.07
		Education	.033	.034	.777	-.06	.12
Bonferroni	Arts	Business	.043	.033	1.000	-.04	.13
		Education	.111*	.025	.000	.04	.18
		Science	.078	.035	.157	-.01	.17
	Business	Arts	-.043	.033	1.000	-.13	.04
		Education	.068	.032	.212	-.02	.15
		Science	.035	.040	1.000	-.07	.14
	Education	Arts	-.111*	.025	.000	-.18	-.04
		Business	-.068	.032	.212	-.15	.02
		Science	-.033	.034	1.000	-.12	.06
	Science	Arts	-.078	.035	.157	-.17	.01
		Business	-.035	.040	1.000	-.14	.07
		Education	.033	.034	1.000	-.06	.12

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

PREVALENCE OF ACADEMIC DISHONESTY

	Programme	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,b]	Education	463	1.56	
	Science	156	1.60	1.60
	Business	186	1.63	1.63
	Arts	395		1.67
	Sig.		.183	.094

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 242.747.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Means Plots
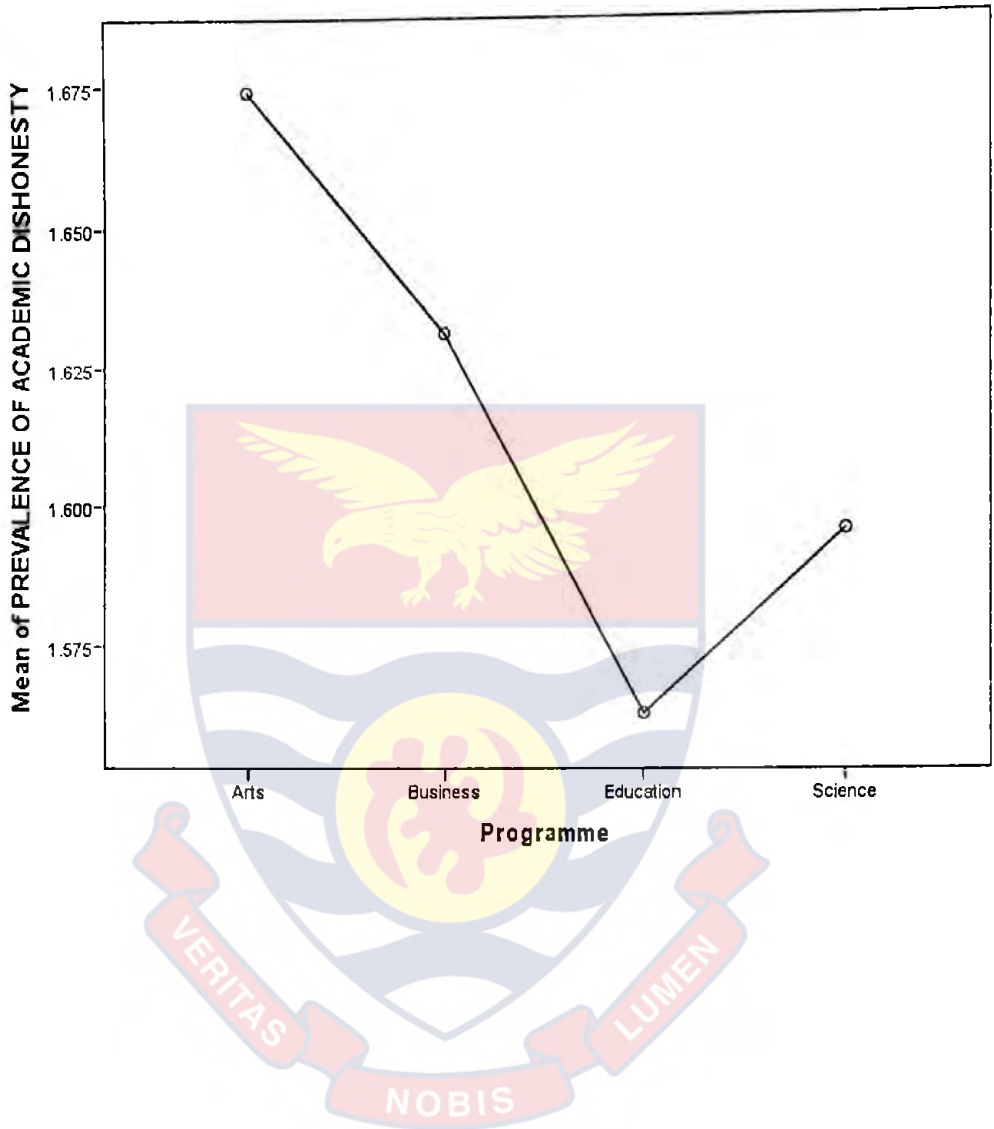
APPENDIX G: Regression Results of the Demographic Variables and Academic Dishonesty

Descriptive Statistics

	Mean	Std. Deviation	N
PREVALENCE OF ACADEMIC DISHONESTY	1.61	.374	1200
MALE VS FEMALE	.5908	.49189	1200
16-20 VRS 33 ABOVE	.0242	.15363	1200
16-20 VRS 29-32	.0517	.22145	1200
16-20 VRS 25-28	.1492	.35640	1200
16-20 VRS 21-24	.6983	.45917	1200
Business vrs Arts	.3292	.47011	1200
Business vrs Education	.3858	.48699	1200
Business vrs Science	.1300	.33644	1200

271
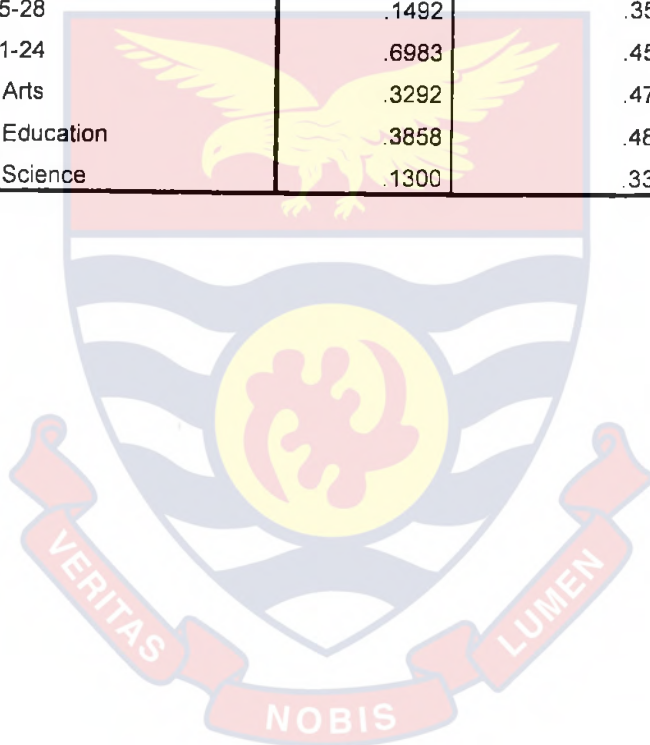
Correlations

		PREVALENCE OF ACADEMIC DISHONESTY	MALE VS FEMALE	16-20 VRS 33+	16-20 VRS 29-32	16-20 VRS 25-28	16-20 VRS 21-24	Bus vrs Arts	Bus vrs Edu	Bus vrs Sci
Pearson Correlation	PREVALENCE OF ACADEMIC DISHONESTY	1.000	.050	.176	-.027	-.046	-.014	.112	-.109	-.019
	MALE VS FEMALE	.050	1.000	.098	.064	.163	-.167	-.070	.009	.100
	16-20 VRS 33 ABOVE	.176	.098	1.000	-.037	-.066	-.239	.028	-.002	.004
	16-20 VRS 29-32	-.027	.064	-.037	1.000	-.098	-.355	-.091	-.015	.190
	16-20 VRS 25-28	-.046	.163	-.066	-.098	1.000	-.637	-.124	.206	.026
	16-20 VRS 21-24	-.014	-.167	-.239	-.355	-.637	1.000	.024	-.080	-.108
	Business vrs Arts	.112	-.070	.028	-.091	-.124	.024	1.000	-.555	-.271
	Business vrs Education	-.109	.009	-.002	-.015	.206	-.080	-.555	1.000	-.306
	Business vrs Science	-.019	.100	.004	.190	.026	-.108	-.271	-.306	1.000
Sig. (1-tailed)	PREVALENCE OF ACADEMIC DISHONESTY		.042	.000	.171	.054	.319	.000	.000	.253
	MALE VS FEMALE	.042		.000	.013	.000	.000	.008	.384	.000
	16-20 VRS 33 ABOVE	.000	.000		.102	.011	.000	.163	.171	.449
	16-20 VRS 29-32	.171	.013	.102		.000	.000	.001	.304	.000
	16-20 VRS 25-28	.054	.000	.011	.000		.000	.000	.000	.185
	16-20 VRS 21-24	.319	.000	.000	.000	.000		.205	.003	.000
	Business vrs Arts	.000	.008	.163	.001	.000	.205		.000	.000
	Business vrs Education	.000	.384	.471	.304	.000	.003	.000		.000
	Business vrs Science	.253	.000	.449	.000	.185	.000	.000	.000	
N	PREVALENCE OF ACADEMIC DISHONESTY	1200	1200	1200	1200	1200	1200	1200	1200	1200
	MALE VS FEMALE	1200	1200	1200	1200	1200	1200	1200	1200	1200
	16-20 VRS 33 ABOVE	1200	1200	1200	1200	1200	1200	1200	1200	1200
	16-20 VRS 29-32	1200	1200	1200	1200	1200	1200	1200	1200	1200
	16-20 VRS 25-28	1200	1200	1200	1200	1200	1200	1200	1200	1200
	16-20 VRS 21-24	1200	1200	1200	1200	1200	1200	1200	1200	1200
	Business vrs Arts	1200	1200	1200	1200	1200	1200	1200	1200	1200
	Business vrs Education	1200	1200	1200	1200	1200	1200	1200	1200	1200
	Business vrs Science	1200	1200	1200	1200	1200	1200	1200	1200	1200

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	MALE VS FEMALE[b]	.	Enter
2	16-20 VRS 29-32, 16-20 VRS 33 ABOVE, 16-20 VRS 25-28, 16-20 VRS 21-24[b]	.	Enter
3	Business vrs Science, Business vrs Arts, Business vrs Education[b]	.	Enter

a. Dependent Variable: PREVALENCE OF ACADEMIC DISHONESTY

b. All requested variables entered.

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.050[a]	.002	.002	.373	.002	2.980	1	1198	.085
2	.186[b]	.035	.031	.368	.032	9.952	4	1194	.000
3	.221[c]	.049	.043	.366	.014	5.992	3	1191	.000

a. Predictors: (Constant), MALE VS FEMALE

b. Predictors: (Constant), MALE VS FEMALE, 16-20 VRS 29-32, 16-20 VRS 33 ABOVE, 16-20 VRS 25-28, 16-20 VRS 21-24

c. Predictors: (Constant), MALE VS FEMALE, 16-20 VRS 29-32, 16-20 VRS 33 ABOVE, 16-20 VRS 25-28, 16-20 VRS 21-24, Business vrs Science, Business vrs Arts, Business vrs Education

d. Dependent Variable: PREVALENCE OF ACADEMIC DISHONESTY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.416	1	.416	2.980	.085[b]
	Residual	167.047	1198	.139		
	Total	167.462	1199			
2	Regression	5.805	5	1.161	8.575	.000[c]
	Residual	161.657	1194	.135		
	Total	167.462	1199			
3	Regression	8.209	8	1.026	7.674	.000[d]
	Residual	159.254	1191	.134		
	Total	167.462	1199			

a. Dependent Variable: PREVALENCE OF ACADEMIC DISHONESTY

b. Predictors: (Constant), MALE VS FEMALE

c. Predictors: (Constant), MALE VS FEMALE, 16-20 VRS 29-32, 16-20 VRS 33 ABOVE, 16-20 VRS 25-28, 16-20 VRS 21-24

d. Predictors: (Constant), MALE VS FEMALE, 16-20 VRS 29-32, 16-20 VRS 33 ABOVE, 16-20 VRS 25-28, 16-20 VRS 21-24, Business vrs Science, Business vrs Arts, Business vrs Education
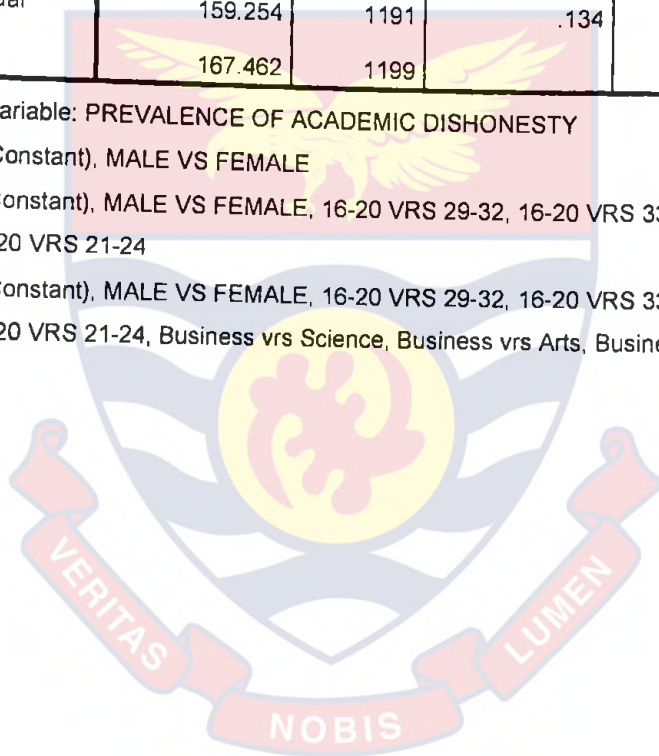
Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1 (Constant)	1.592	.017		94.471	.000	1.559	1.625			
MALE VS FEMALE	.038	.022	.050	1.726	.085	-.005	.081	.050	.050	.050
2 (Constant)	1.606	.040		40.093	.000	1.528	1.685			
MALE VS FEMALE	.032	.022	.043	1.463	.144	-.011	.076	.050	.042	.042
16-20 VRS 33 ABOVE	.398	.079	.163	5.045	.000	.243	.552	.176	.144	.143
16-20 VRS 29-32	-.059	.061	-.035	-.975	.330	-.178	.060	-.027	-.028	-.028
16-20 VRS 25-28	-.058	.048	-.056	-1.227	.220	-.152	.035	-.046	-.035	-.035
16-20 VRS 21-24	-.012	.040	-.015	-.308	.758	-.092	.067	-.014	-.009	-.009
3 (Constant)	1.598	.049		32.675	.000	1.502	1.694			
MALE VS FEMALE	.034	.022	.045	1.549	.122	-.009	.077	.050	.045	.044
16-20 VRS 33 ABOVE	.420	.078	.173	5.351	.000	.266	.574	.176	.153	.151
16-20 VRS 29-32	-.017	.062	-.010	-.282	.778	-.138	.103	-.027	-.008	-.008
16-20 VRS 25-28	-.010	.049	-.009	-.197	.844	-.105	.086	-.046	-.006	-.006
16-20 VRS 21-24	.011	.041	.014	.272	.786	-.069	.091	-.014	.008	.008
Business vrs Arts	.038	.033	.048	1.157	.248	-.027	.103	.112	.033	.033
Business vrs Education	-.069	.032	-.090	-2.130	.033	-.133	-.005	-.109	-.062	-.060
Business vrs Science	-.039	.041	-.035	-.965	.335	-.119	.041	-.019	-.028	-.027

a Dependent Variable: PREVALENCE OF ACADEMIC DISHONESTY

275

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	16-20 VRS 33 ABOVE	.173[b]	6.054	.000	.172	.990
	16-20 VRS 29-32	-.031[b]	-1.064	.288	-.031	.996
	16-20 VRS 25-28	-.056[b]	-1.914	.056	-.055	.973
	16-20 VRS 21-24	-.005[b]	-.187	.852	-.005	.972
	Business vrs Arts	.116[b]	4.026	.000	.116	.995
	Business vrs Education	-.109[b]	-3.804	.000	-.109	1.000
	Business vrs Science	-.024[b]	-.843	.400	-.024	.990
2	Business vrs Arts	106[c]	3.648	.000	.105	.945
	Business vrs Education	-.105[c]	-3.597	.000	-.104	946
	Business vrs Science	-018[c]	-634	526	-.018	.955

a. Dependent Variable: PREVALENCE OF ACADEMIC DISHONESTY

b. Predictors in the Model: (Constant), MALE VS FEMALE

c. Predictors in the Model: (Constant), MALE VS FEMALE, 16-20 VRS 29-32, 16-20 VRS 33 ABOVE, 16-20 VRS 25-28, 16-20 VRS 21-24

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.51	2.09	1.61	.083	1200
Residual	-.878	2.319	.000	.364	1200
Std. Predicted Value	-1.246	5.750	.000	1.000	1200
Std. Residual	-2.400	6.341	.000	.997	1200

a. Dependent Variable: PREVALENCE OF ACADEMIC DISHONESTY

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APPENDIX I: Letter to Request Data on Examination Malpractices from WAEC

Professor Francis Kodzo Amedahe, PhD

DEPARTMENT OF EDUCATIONAL FOUNDATIONS
UNIVERSITY OF CAPE COAST

TELEPHONE: (233) 020- 817 - 4301 (Cell)   UNIVERSITY POST OFFICE
        (233)-033-213-6037 (Dept.)   CAPE COAST, GHANA
E-Mail:fkamedahe@yahoo.com

                                                January 6, 2016

The Head of National Office
WAEC
Accra, Ghana

Attn.: Mr. Akufo Baadoo

Dear Sir,

REQUEST FOR DATA ON EXAMINATION MALPRACTICES IN THE BECE AND WASSCE

I, humbly, write to introduce to you a graduate student, Mr. Yayra Dzakadzie, pursuing a programme in Educational Measurement and Evaluation at the University of Cape Coast whose thesis I am supervising. He is working on the perception and prevalence of examination malpractices and other related issues in Ghana and needs data on examination malpractices in BECE and WASSCE for the past five years (2010-2015) to substantiate the growing issue of examination malpractices in Ghana.

I shall be grateful if you will provide him with available data. For the avoidance of doubt, I assure you that the data provided will be used only for academic purposes and the source of the data will be dully acknowledged in the thesis.

Furthermore, when completed, I will encourage the student to present his findings at one of your monthly seminars in the future.

Thank you for your cooperation and assistance.

Yours faithfully,

Prof. F. K. Amedahe

APPENDIX J: WAEC Response to the Data Request Letter

The West African Examinations Council

EXAMINATION LOOP, RIDGE
P. O. BOX 917 ACCRA, GHANA.
CABLE: EXAMS ACCRA.
TEL.: 0302-208201 - 9
TELEFAX: 0302-208200
EMAIL. info@waecgh.org

Our Ref: HNO/MISC. CORR/VOL. 13/118   **Date**: January 18, 2016

Prof. F. K. Amedahe
Department of Education Foundation
University of Cape Coast
Cape Coast

Attn: Mr. Yayra Dzakadzie

RE: REQUEST FOR DATA ON EXAMINATION MALPRACTICES
IN THE BECE AND WASSCE

Your letter dated 6th January, 2016, on the above refers.

Please find enclosed the data as per your request.

Many thanks.

D. Nii Djan Mensah
PA to HNO

279

APPENDIX K: University of Ghana Introduction Letter to its Departments

UNIVERSITY OF GHANA
ACADEMIC AFFAIRS DIRECTORATE
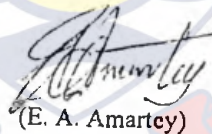
Ref. No.:...... AA.18..... ....   November 15, 2016

Dear Sir/Madam,

COLLECTION OF DATA
MR. YAYRA DZAKADZIE
PH.D EDUCATIONAL MEASUREMENT
AND EVALUATION STUDENT

The above-named is a Ph.D student in the Department of Education and Psychology, University of Cape Coast. His thesis topic is "Prevalence and Predictor of Academic Dishonesty Among Students in Public Universities in Ghana". He is collecting data for his work.

I would appreciate it if he could be assisted with any information he may need for his research work.

(E. A. Amartey)
Director (Academic Affairs Directorate)

cc: Pro-Vice-Chancellor (ASA)
        Registrar

Distribution
Heads of Departments

APPENDIX L: ERB Clearance Letter

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES/ERB/CR/vol.1/001

Your Ref: ....

Date: March 17, 2016

Chairman, CES-ERB
Prof. J. A. Omotosho
jomotosho@ucc.edu.gh
0243784739

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

The bearer, MR. YAYRA DZAKADZIE .... Reg. No .... is an M.Phil./Ph.D student in the Department of Education and Psychology ...., College of Education Studies, University of Cape Coast, Cape Coast, Ghana. He/She wishes to undertake a research study on the topic , Prevalence and predictors of academic dishonesty in public universities in Ghana ....

Vice-Chairman, CES-ERB
Prof. K. Edjah
kedjah@ucc.edu.gh
0244742357

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed the proposal submitted by the bearer. The said proposal satisfies the College's ethical requirements for the conduct of the study.

In view of the above, the researcher has been cleared and given approval to commence his/her study. The ERB would be grateful if you would give him/her the necessary assistance that may be needed to facilitate the conduct of the said research.

Secretary, CES-ERB
Dr. (Mrs.) L. D. Forde
lforde@ucc.edu.gh
0244786680

Thank you.
Yours sincerely.

Dr. (Mrs.) Linda Dzama Forde
(Secretary, CES-ERB)

281

APPENDIX M: Abstracts of Plagiarised Theses

"Baabereyir, Anthony (2009): Urban environmental problems in Ghana: A case study of social and environmental injustice in solid waste management in Accra and Sekondi-Takoradi. Ph.D. thesis, University of Nottingham". core.ac.uk/download/pdf/98863.pdf

Unsustainable urbanization in Ghana has resulted in poor environmental conditions in urban settlements in the country. Solid waste disposal, in particular, has become a daunting task for the municipal authorities who seem to lack the capacity to tackle the mounting waste situation. This study investigates the nature of the solid waste problem in two Ghanaian cities, Accra and Sekondi-Takoradi. It describes the waste situation in the study areas and identifies the causes of the problem from the perspective of key stakeholders in the waste sector. The delivery of solid waste collection services across different socioeconomic groups of the urban population and the siting of waste disposal facilities are also examined in relation to the concepts of social justice and environmental justice respectively. For the empirical investigation, a mixed methodology was used which combined questionnaire and interview data from stakeholders in the waste sector, together with documentary and observational data, to examine the issue of solid waste disposal in the two study sites. The key issues identified by the study include: that Ghanaian cities are experiencing worsening solid waste situations but the municipal governments lack the capacities in terms of financial, logistical and human resources to cope with the situation; that while several causes of the urban waste crisis can be identified, the lack of political commitment to urban environmental management is the root cause of the worsening solid waste situation in Ghanaian cities; and that social and environmental injustices are being perpetuated against the poor in the delivery of waste collection services and the siting of waste disposal facilities in Ghanaian cities. Based on these findings, it has been argued that the solution to the worsening environmental conditions in Ghanaian cities lies in the prioritization of urban environmental management and commitment of Ghana's political leadership to urban settlement development and management.

Mohammed Zakaria Asaria (2014): Types of solid waste generated, their storage and disposal in Pobaga, Bolgatanga municipality in the Upper East Region, Ghana. MSc thesis, Kwame Nkrumah University of Science and Technology". http//hdl.handle.net/123456789/6643

Uncontrolled urbanization in Ghana has resulted in poor environmental conditions in urban settlements in the country. Solid waste disposal, in particular, has become a daunting task for the municipal authorities who seem to lack the capacity to tackle the mounting waste situation. The study investigated the nature of solid waste problem in Pobaga, a suburb of Bolgatanga in the Upper East Region, Ghana. It described the waste situation in the study area and identified the causes of the problem from the perspective of key stakeholders in the waste sector. The delivery of solid waste collection services across different socio-economic groups of the urban population. A mixed method approach including questionnaires, interviews, field observation, and documentary analysis from stakeholders in the waste sector was adopted. The key issues identified by the study were: that Pobaga is experiencing worsening solid waste situations but the municipal authorities lack the capacity to cope with the situation; that while several causes of the urban waste crisis can be identified, data gathered showed that the major waste item generated in Pobaga is organic waste and the least waste item generated is metals. The increase in organic waste could be attributed to the fact that Bolgatanga's economy is agro-based. As population increases, it is projected that there would be an increased in solid waste output in the near future. This means that the average per capita waste of 0.5kg generated in urban areas will be exceeded and therefore the need for a more pragmatic ways of dealing with the solid waste collection and disposal. Based on these findings, it is suggested that the solution to the worsening environmental conditions in Pobaga and in Ghana lies in recycling by converting the waste (biodegradable) into a useful resources, the appropriate technology and resources have to be employed.